

Evaluating the Effectiveness of the Adiwiyata Program in Strengthening Environmental Culture in Madrasah through the CSE–UCLA Model

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Abstract

This study aims to evaluate the effectiveness of the Adiwiyata Program in strengthening environmental culture at MTs PPMI Assalaam using the CSE–UCLA evaluation model. A qualitative research method with a descriptive-analytical approach was applied through interviews with the madrasah principal, Adiwiyata coordinator, teachers, students, and employees, as well as program observation and documentation. The results show that the Adiwiyata program has been implemented systematically, starting from system assessment, planning, implementation, improvement, and certification. The integration of Islamic values and Islamic boarding school culture is an important factor in shaping environmentally conscious character. This program has succeeded in creating a sustainable, participatory, and innovative school culture, as well as improving the institution's reputation through Adiwiyata certification. Recommendations are provided for strengthening curriculum integration, digital innovation, post-certification program sustainability, and highlighting this research's contribution to advancing evaluation practices in Islamic education.

Keywords: adiwiyata, environmental culture, CSE–UCLA, islamic education, program evaluation

Introduction

Environmental education is a strategic issue in sustainable development, particularly in Islamic educational institutions such as madrasah, which have a moral responsibility to shape a generation with ecological character. The global environmental crisis, marked by increasing pollution, climate change, and natural resource degradation, demands an educational approach that is not only cognitive but also affective and conative in its focus on nature. (UNESCO, 2024) in Indonesia, the phenomenon of environmental damage is still quite high and is often triggered by human behavior that is not environmentally friendly (Kurniawan dkk., 2021; Lingga dkk., 2024; Muljaningsih dkk., 2023). Environmental education in madrasah is a crucial part of building ecological awareness based on Islamic values. Through internalizing eco-literacy values, students are expected to develop awareness, responsibility, and sustainable practices in their daily lives (Jamaludin dkk., 2024; Prasetyo dkk., 2020). The role of madrasah in this regard is strategic because, in addition to instilling environmental knowledge, they also foster a religious character that respects God's creation (environmental stewardship). Thus, environmental education is not only based on curriculum instruments but also on the formation of a school culture that cares about and is environmentally aware (Amelia & Ramadan, 2021; Permana & Ulfatin, 2018).

As a manifestation of the government's commitment to environmental education, the Ministry of Environment and Forestry (KLHK), in collaboration with the Ministry of Education and Culture, developed the Adiwiyata Program as a tool for developing environmentally

conscious schools. This program emphasizes four main components: environmentally conscious policies, implementation of an environmentally based curriculum, participatory activities, and management of environmentally friendly supporting facilities (Apriliani dkk., 2024). Since its national launch in 2006, the Adiwiyata Program has been implemented at various levels of education, including madrasahs under the Ministry of Religious Affairs. This program provides a contextual learning platform for students to apply environmentally friendly values in real-life settings (Irawati dkk., 2024; Wardani, 2020). In addition, Adiwiyata functions as a catalyst for the formation of a school environmental culture that involves the entire school community, including the principal, teachers, students, and the surrounding community in efforts to maintain cleanliness, save energy, and manage waste independently (Sidik dkk., 2021; Wardani, 2020). However, implementation at the madrasah level faces challenges, such as limited resources, lack of monitoring, and low understanding of the concept of sustainability (Fikri dkk., 2022). This requires systematic evaluation to assess the extent to which the program is effectively meeting its initial objectives.

MTs PPMI Assalaam, a madrasah in Central Java, has implemented the Adiwiyata Program as an effort to strengthen environmental culture. This school has empirically demonstrated its commitment to creating a clean, green, and sustainable environment through various activities, such as a school waste bank, reforestation, and the integration of environmental values into subjects (Ardianti dkk., 2024; Nuzulia & Purnomo, 2019). However, there are several important reasons why an evaluation of this program is necessary. First, the madrasah community's understanding of the meaning of environmental culture still varies; most only see Adiwiyata as a physical activity of cleanliness, not as a value system embedded in daily behavior. Second, there are conceptual challenges in making this program a deep-rooted culture, so its effectiveness in shaping ecological character is uncertain. Third, the development of environmental culture in madrasahs is often hampered by various factors, including the need to align school policies and practices with broader sustainability principles (Iskamto dkk., 2022). Fourth, it is important to determine the extent to which this program truly influences the transformation of the ecological behavior of madrasah residents, beyond simply changing their physical appearance or routines. Therefore, this research is crucial for evaluating the extent to which the Adiwiyata Program truly influences the transformation of the ecological behavior of madrasah residents.

Previous research shows that the Adiwiyata Program has a positive impact on increasing students' environmental awareness. A study by Aprilianti (2023) found that Adiwiyata schools tend to have high participation in environmental conservation activities. On the other hand, research by Wibowo dkk. (2023) emphasizes that the program's success depends on leadership support and the active participation of all school members. A number of qualitative studies have shown that Adiwiyata often stops at the administrative level without addressing changes in the ecological behavior of school members (Maulana dkk., 2021). Furthermore, program effectiveness evaluations are rarely conducted comprehensively with a strong theoretical approach. Most use the CIPP (Context, Input, Process, Product) model, which, while comprehensive, tends to be descriptive and does not provide direction for continuous program improvement (Pelita & Widodo, 2020).

Analysis of these studies shows that the effectiveness of the Adiwiyata Program has not been thoroughly evaluated using an approach that emphasizes program improvement and systematic feedback. The predominant use of the CIPP (Context, Input, Process, Product) evaluation model in existing studies focuses more on measuring outcomes than on developing systems that adapt to changes in the educational environment. This indicates an urgent need to shift the focus of evaluation from simply assessing goal achievement to more comprehensive

development to continuously improve program quality (Hatami & Ratnawati, 2024; Safitri & Oktaviansyah, 2024). Meanwhile, madrasah have unique characteristics that combine religious, social, and ecological values, thus requiring a contextual and dynamic evaluation approach. AJ Putri et al. (2022) Studies show that character education in madrasah relies heavily on the integration of religious and social values into daily practice. Within the framework of environmental education, this underscores the need for an evaluation approach that can capture the impact of these values on students' habits and attitudes in the context of environmental management. This program must be able to transform ecological behavior as part of students' character. On the other hand, several studies have shown a gap between the Adiwiyata policy and its implementation in the field, particularly regarding student participation and the sustainability of activities after the Adiwiyata assessment is completed. Mufthia Fajar & Darta Putra (2021) revealed that program implementation often does not reflect established policies, with student participation in environmental activities often declining after the program is declared complete. This situation reinforces the need for an evaluation model that not only assesses effectiveness in terms of goal achievement but also provides strategic recommendations for improving program quality (Divayana dkk., 2019; Gede & Divayana, 2017; Semadi dkk., 2019). Thus, research based on the CSE-UCLA model can fill this gap by providing a new perspective in evaluating the effectiveness of environmental education programs.

The CSE-UCLA model developed by Marvin C. Alkin (1969) offers an evaluation approach that emphasizes System Assessment, Program Planning, implementation, improvement, and certification (Divayana dkk., 2019). This model not only assesses outcomes, but also traces how programs are designed, implemented, improved, and their effectiveness recognized (Malana dkk., 2024; Sianipar dkk., 2023). In the context of the Adiwiyata Program, the application of the CSE-UCLA model allows for a more comprehensive analysis of the planning dimensions through to implementation follow-up (Sianipar dkk., 2023). This approach also provides space for reflection-based evaluation and continuous improvement, thus aligning with the character of madrasah that prioritize the development of values and behavior (Sousa, 2022). Thus, research using this model will provide theoretical and practical contributions to a deeper understanding of the effectiveness of the Adiwiyata Program and open up opportunities for innovation in environmental education policies in madrasah.

Although many studies have discussed the effectiveness of the Adiwiyata program, most have focused on descriptive aspects and have not explored a comprehensive evaluative process within a specific conceptual framework. For example, research by Wibowo dkk. (2023) only measuring students' environmental attitudes can provide an indication of the impact of environmental education on attitudes. Another study by Hermawan & Mahmudah (2023) demonstrated an increase in environmental awareness in Adiwiyata schools, but also noted challenges in its implementation. Thus, there is a research gap in the evaluation dimension of the Adiwiyata program based on a systematic and structured model. This study attempts to fill this gap by analyzing the program's effectiveness using the CSE-UCLA model, which is designed to evaluate the entire system comprehensively. This approach is important because it can explain the extent to which the program's success is not only seen from the final results, but also from the suitability of the system and its implementation. This indicates the urgency of new, more in-depth and holistic research on the effectiveness of Adiwiyata in the madrasah context. Thus, this research gap opens up opportunities to strengthen conceptual and applicable understanding of sustainable environmental education in religious institutions.

The novelty of this research lies in the application of the CSE-UCLA (Center for the Study of Evaluation–University of California, Los Angeles) model developed by (Alkin dkk., 2025) In the context of evaluating the Adiwiyata program in madrasah, this model emphasizes five main

components: System Assessment, Program Planning, Implementation, Program Improvement, and Program Certification, which provide a holistic view of the entire program cycle (Alkin & Chritie, 2023). Not many studies in Indonesia have adopted this model to evaluate environment-based programs, especially in the context of Islamic education. Most studies use the CIPP (Context, Input, Process, Product) model, which tends to be linear and less flexible in assessing interactions between program components (Mukarromah dkk., 2024). By adapting the CSE-UCLA model, this study not only assesses the success of the final results but also explores the suitability of the planning, implementation, and continuous improvement systems. This approach is expected to provide a new, more reflective and dynamic perspective, in line with the spirit of Alkin's formative evaluation, which emphasizes use-oriented evaluation. This theoretical innovation makes this study not merely a replication but also a scientific contribution to expanding the application of educational evaluation models in Indonesia. Thus, the novelty of this research lies in the combination of the local context of madrasahs and the application of international evaluation models based on empirical theory.

Empirically, the implementation of the CSE-UCLA model at MTs PPMI Assalaam is unique because it integrates Islamic values into all aspects of learning and boarding life. The Adiwiyata program is not only an administrative policy but also part of the moral and character development of students. This aligns with the findings of (Salasabila dkk., 2024). Students in environmentally focused schools have higher levels of environmental literacy than their peers in public schools. However, there has been no systematic evaluation assessing the integration of Islamic values with indicators of environmental program effectiveness. Therefore, the application of CSE-UCLA allows for a multi-layered analysis, from the planning system and the implementation of Islamic boarding school-based activities to the madrasah environmental certification process. This approach provides a novel empirical contribution by placing religious values as an integral part of the program evaluation system. In this way, the research results can provide a more comprehensive picture of the effectiveness of Adiwiyata in religious-based madrasahs. This model also has the potential to become a new evaluation framework that can be applied to other Islamic schools in Indonesia.

This study aims to evaluate the effectiveness of the Adiwiyata Program in strengthening environmental culture at MTs PPMI Assalaam through the CSE-UCLA evaluation model approach. Specifically, this study aims to: (1) analyze the suitability of the environmental systems and policies implemented by the madrasah (System Assessment), (2) assess Adiwiyata-based program planning (Program Planning), (3) describe the program implementation empirically (program implementation), (4) identify improvement efforts that have been made (program improvement), and (5) evaluate the certification process and the impact of program sustainability (program certification). These objectives are formulated to produce a comprehensive understanding of the effectiveness of Adiwiyata from the input to the outcome stage. This study also seeks to identify best practices that can be used as models for developing environmental programs in other madrasahs. Thus, the results of this study will provide data-based recommendations that are relevant to national environmental education policies. In addition, this study is expected to bridge the gap between educational evaluation theory and implementation practices in the field.

Theoretically, this study contributes to enriching the literature on educational evaluation, particularly the application of the CSE-UCLA model in the context of Islamic education. Practically, the results of this study are useful for madrasah principals, teachers, and environmental managers in understanding the strengths and weaknesses of the Adiwiyata implementation system in their educational institutions. This knowledge can be used to design more effective and sustainable strategies for improving environmental culture. Furthermore, this

study also benefits policymakers as a reference in formulating national guidelines for strengthening environmental character based on empirical evaluation. With these benefits, this research is strategically positioned to support the transformation of education towards ecological and spiritual sustainability.

The significance of this research lies in the integration of modern educational evaluation theory with contextual practices in madrasah. By applying the CSE-UCLA model, this study not only measures program success but also evaluates the extent to which Islamic systems and values can strengthen environmental culture sustainably. This significance is increasingly important because Islamic educational institutions have great potential in fostering ecological awareness rooted in the teachings of monotheism and the responsibility of the caliph towards nature. Furthermore, this research provides an evaluation model that can be replicated by other madrasah in Indonesia to improve the quality of environmental education. Thus, this research contributes not only to the development of theory but also to the practice of sustainability-oriented educational policies. The results are expected to serve as an important reference in developing a new paradigm for environmental education based on spiritual values and systemic evaluation.

Method

Research methods

This study uses a qualitative approach with an evaluative design oriented towards the CSE-UCLA (Center for the Study of Evaluation – University of California, Los Angeles) model developed by Alkin. This model was chosen because it provides a comprehensive assessment of program effectiveness through five evaluation components: System Assessment, Program Planning, Program Implementation, Program Improvement, and Program Certification (Alkin dkk., 2025). A qualitative approach allows researchers to understand the empirical reality that occurs in the field in depth through the interpretation of meaning from participants (Creswell, 2009). A qualitative evaluative design is relevant for assessing the effectiveness of the Adiwiyata Program in shaping an environmental culture in Islamic-based madrasah. Furthermore, this method allows researchers to identify supporting and inhibiting factors in program implementation, as well as the dynamics of social interactions within the school environment (Sugiyono, 2020). Thus, this research is not only descriptive, but also reflective of environmental sustainability practices that are carried out systematically.

Location and Time of Research

This research was conducted at MTs PPMI Assalaam Sukoharjo, one of the Islamic schools committed to implementing the Adiwiyata Program at the district, provincial, and national levels. This location was chosen purposively because the school possesses characteristics relevant to the research focus, namely the implementation of an environmental education program based on Islamic values and a participatory approach. The research was conducted over a one-month period, starting from the pre-research stage, field data collection, analysis, and preparation of the research report. This research timeframe was chosen to allow the researcher to obtain rich and in-depth data and observe social phenomena naturally without intervention (Miles dkk., 2014). In the context of qualitative research, sufficient time is also needed to build trust (rapport) with informants so that the information obtained can be more accurate and authentic (Creswell, 2009).

Data Sources and Subjects

The data sources in this study consist of primary and secondary data. Primary data were obtained through in-depth interviews, participant observation, and direct documentation at the

madrasah. Interviews with principals, coordinators, teachers, and students explored their experiences, roles, challenges, and environmental awareness. Observations focused on the implementation of activities, student engagement, and the condition of school facilities. Documentation included activity reports, program guidelines, school policies, assessment results, and visual records, which were used to triangulate and validate the data. This combination provided a holistic and contextual insight into program implementation. The research informants were selected using purposive sampling based on their relevance to the implementation of the Adiwiyata Program, consisting of 1 principal, 1 program coordinator, 4 teachers, and 6 students from grades 7 to 9. This selection aimed to obtain representative data on the experiences, perceptions, and roles of each stakeholder in the program's implementation. Secondary data were obtained from supporting documents such as activity reports, program guidelines, madrasah policies, and Adiwiyata assessment results from relevant agencies. The use of this combination of data sources aims to gain a more holistic understanding of the program's implementation (Sugiyono, 2020). Each informant is treated as a subject who has his or her own experience, perception, and interpretation of the program implementation, so that data interpretation is carried out in a dialogical and contextual manner.

Data collection technique

Data collection techniques included in-depth interviews, participant observation, and documentation. Interviews were used to explore informants' perceptions and experiences regarding the effectiveness of the Adiwiyata Program in shaping the madrasah's environmental culture. Direct observations were made of student and teacher activities, such as waste management, reforestation, and joint cleaning activities. Documentation was used to supplement empirical data through activity archives, photographs, reports, and administrative records. According to Moleong (2012) the use of various data collection techniques simultaneously (method triangulation) can increase the depth and validity of the data. All data is collected systematically, with attention to research ethics, including informant consent and confidentiality of identity (Miles dkk., 2014).

Data Validity Test

The validity of the data was tested using source triangulation, method triangulation, and time triangulation techniques (Miles dkk., 2014). Source triangulation was conducted by comparing data from various informants to ensure consistency. Method triangulation was conducted by verifying interview data through observation and documentation. Meanwhile, time triangulation was used to ensure data stability across time periods, considering that the dynamics of environmental activities in madrasah tend to change according to the academic calendar. Furthermore, member checking was conducted to reconfirm the findings with informants to ensure the validity of the researcher's interpretation. All validation processes were conducted with the principles of transparency and openness so that the research results can be scientifically accounted for (Creswell, 2009).

Data Analysis Techniques

Data analysis was performed using an interactive model Miles dkk. (2014) which includes three main stages: data condensation, data display, and conclusion drawing/verification. Data reduction is carried out from the beginning of data collection by selecting, grouping, and focusing data relevant to the CSE-UCLA evaluation components. Data presentation is done in the form of a matrix and thematic narrative based on the five aspects of the evaluation model. Conclusions are then drawn through an inductive interpretation process to find patterns, relationships, and meaning from the program evaluation results. Validation of the analysis is carried out by comparing field findings with theory and previous research to ensure that the conclusions produced are credible and accountable. The analysis process is carried out

simultaneously and reflectively, in line with the qualitative paradigm that emphasizes the integration between researchers, context, and empirical data (Creswell, 2009).

Results

System Assessment (System Analysis)

The principal of MTs PPMI Assalaam emphasized that since the program's inception, the institution has maintained a strong commitment to instilling environmental values rooted in Islamic teachings and pesantren culture. He explained, *"We are implementing the Adiwiyata program not merely to fulfill administrative demands but as a form of environmental da'wah. We want all members of the madrasah to understand that protecting nature is part of worship."* This statement shows that ecological awareness has become a fundamental institutional value. The initial assessment revealed that the madrasah had mapped its environmental potential—green space, waste management capacity, and community involvement—indicating system readiness to sustain an ecological culture.

Teachers, students, and staff were all actively involved in environmental mapping, ensuring shared responsibility. As one teacher explained, *"We involve everyone in environmental mapping so that each person feels responsible for cleanliness and sustainability."* This participatory engagement demonstrates that stakeholder involvement has been internalized from the start. Similarly, a student's reflection—*"I used to litter, but now I feel ashamed when others keep the area clean"*—illustrates the behavioral transformation resulting from systemic value internalization. Staff members also expressed a sense of collective responsibility for maintaining cleanliness and composting activities.

Overall, these findings confirm that the System Assessment phase successfully identified environmental potentials, established strong leadership vision, and cultivated a collaborative culture aligned with Islamic moral principles.

Program Planning

At MTs PPMI Assalaam, program planning was conducted through participatory coordination meetings involving the principal, Adiwiyata coordinator, teachers, and boarding administrators. The principal stated, *"Every year we prepare an environmental action plan based on evaluations from the previous year and discuss it with all staff."* This planning process ensures that decisions are evidence-based and collectively owned.

The Adiwiyata coordinator further emphasized the integration of Islamic principles, explaining, *"We are guided by tawazun—the balance between humans and nature. Every program, whether reforestation or waste management, must contain educational and spiritual values."* This integration of ecological and Islamic concepts demonstrates the school's holistic approach. Teachers also contributed innovative ideas, such as integrating hydroponic projects in science and environmental-themed poetry in language classes.

Moreover, environmental values were embedded into curricular and extracurricular activities. Lessons in fiqh discussed purity and cleanliness, while social studies connected to resource management. This embedding reflects the Program Planning stage's success in aligning spiritual, pedagogical, and ecological dimensions within a single framework of sustainable education.

Program Implementation

Implementation of the Adiwiyata program was conducted across intracurricular, co-curricular, and extracurricular domains. The coordinator explained, *"We instill environmental values in all school activities. Inside the classroom, teachers connect lessons to environmental issues; outside, we have Clean Saturdays, class competitions, and waste bank management."*

Teachers applied experiential learning through hands-on environmental practices such as creating biopores and composting leaf litter. Students expressed pride and motivation in following teachers' examples, as one stated, *"Our teacher doesn't just tell us to clean; they help us sweep and plant trees."* This exemplary behavior (uswah hasanah) strengthened students' intrinsic motivation to care for the environment.

Cleaning staff also reported a shift in work culture: *"It's no longer just us cleaning—the students and teachers take responsibility now."* This indicates successful behavioral transformation at the institutional level. Additionally, Islamic boarding activities, including Quranic sermons on nature and stewardship (khalifah), enriched the program with theological meaning. Hence, the Program Implementation phase effectively translated planning into concrete ecological and spiritual actions.

Program Improvement

Continuous improvement was a central focus of the Adiwiyata program. The principal stated, *"At the end of each semester, we hold reflection meetings to evaluate what worked and what needs improvement."* For instance, when restroom cleanliness was found lacking, a new duty schedule and character-based hygiene initiative were introduced.

Innovations also included digital monitoring via Google Forms for reporting classroom conditions and partnerships with the Environmental Agency for waste management training. Teachers enhanced project-based learning to include student-led research on local environmental problems, making lessons more contextual.

Students and staff were also encouraged to propose ideas; for example, students requested rescheduling of tree-planting activities for convenience, and staff suggested clearer waste separation bins—both of which were adopted. The school further introduced a monthly *Cleanest and Most Innovative Class* award, motivating healthy competition.

These findings demonstrate that the Program Improvement phase fostered a culture of reflection, collaboration, and innovation—turning Adiwiyata into a dynamic learning system rather than a static administrative program.

Program Certification

The certification process served as both recognition and reflection of the madrasah's sustained environmental culture. The principal noted, *"Our goal is not the certificate itself, but to ensure everyone lives cleanly and cares for the environment."*

MTs PPMI Assalaam successfully met the Ministry of Environment and Forestry's four Adiwiyata indicators: eco-friendly policies, environmental curriculum, participatory activities, and green facility management. Internal audits and documentation preceded each external assessment. Teachers emphasized integrating Islamic values, citing the saying *"an-nazhafatu minal iman"* ("cleanliness is part of faith"), which became a living principle.

Adiwiyata certification elevated the madrasah's reputation, attracting visits from other schools seeking to replicate its model. However, the coordinator acknowledged post-award challenges: maintaining enthusiasm and continuity. To counter this, the school implemented semesterly evaluations to sustain momentum.

The results confirm that certification reflected not only administrative compliance but also internalized behavioral transformation and institutional sustainability.

Discussion

The findings above demonstrate that MTs PPMI Assalaam effectively implemented the Adiwiyata Program following the five evaluative components of the CSE–UCLA model.

System Assessment

The initial phase of the Adiwiyata Program at MTs PPMI Assalaam demonstrated the institution's readiness to instill environmental values as part of the Islamic boarding school's culture. The principal emphasized that this program is not simply an administrative requirement but also part of environmental outreach, instilling the message that preserving nature is a form of worship. This statement demonstrates a strong value orientation and visionary leadership, which aligns with Lestari & Salminawati (2021) findings regarding the principal's role in the success of environmental education programs. This approach ensures that the implementation of the Islamic boarding school-based program remains consistent with the mission of character and spiritual education.

The system assessment process was conducted systematically, including mapping environmental potential, such as green spaces, waste management, and the involvement of the entire school community. The involvement of teachers, students, and staff emphasized the collaborative principle, an indicator of system readiness according to the CSE-UCLA model (Alkin & Chritie, 2023). Practically, this participation fostered a sense of ownership and collective responsibility for the environment, in line with the findings of Niu dkk. (2022) regarding the importance of community participation in environmental management. This stage emphasized that system readiness is the foundation for the sustainability of school-based environmental education programs.

Program Planning

The Adiwiyata program planning at MTs PPMI Assalaam is carried out in a participatory and focused manner, involving teachers, Islamic boarding school administrators, and the principal. Each annual action plan is developed based on evaluations of previous programs, reflecting the principle of planning by evidence, which emphasizes the use of empirical data to develop realistic strategies (Alkin & Chritie, 2023; Samal dkk., 2024). This approach not only ensures the program's relevance but also increases the effectiveness of its implementation in the field.

In addition to administrative aspects, planning integrates ecological principles and Islamic values. The concept of tawazun, a balance between humans and nature, underpins every activity, including cleanliness, reforestation, and waste management. This approach broadens the dimensions of program planning by considering moral and spiritual aspects, in line with Anggraini dkk. (2022) findings that integrating Islamic values increases students' ecological awareness. Teacher involvement in regular discussion forums also emphasizes bottom-up and shared planning practices, ensuring that all parties feel a sense of responsibility for the program's success (Carvalho dkk., 2021).

Program Implementation

The Adiwiyata program is implemented in an integrated manner through intracurricular, cocurricular, and extracurricular activities. Students are involved in real-life activities such as Clean Saturdays, classroom cleanliness competitions, and waste bank management, ensuring that environmental learning is not merely theoretical. Experiential learning practices, such as biopore creation and composting, provide hands-on experience that enables students to understand the cycle of matter and the importance of maintaining soil fertility. This aligns with research by Nada dkk. (2021) which emphasizes practice-based learning to strengthen environmental stewardship.

In addition to practical experience, teacher role models and the collective participation of the entire school community are key to successful implementation. Students feel motivated because teachers and staff participate in cleaning activities, reflecting the principle of *uswah hasanah* in Islamic education (Anggraini dkk., 2022). Islamic boarding school activities, such as thematic religious studies on human responsibility as caliphs, expand the program's meaning

to foster theological awareness, so that Adiwiyata implementation not only shapes ecological behavior but also spirituality. The transformation of school culture from theory to practical practice demonstrates fidelity of implementation consistent with program objectives (Durlak & DuPre, 2018).

Program Improvement

Program improvements are carried out in a participatory and reflective manner through internal evaluation meetings involving the principal, teachers, students, and staff. At the end of each semester, a reflection is held to assess successes and areas for improvement, such as toilet cleanliness management. This feedback loop mechanism aligns with the formative evaluation principles of the CSE-UCLA model (Alkin & Chritie, 2023) and the practice of continuous improvement, which has been proven to improve the quality of program implementation (R. M. Putri & Rezania, 2024).

In addition to formal evaluation, improvements are realized through technological innovation and tailoring activities to be more contextual, such as a digital hygiene reporting system and a student research project on the impact of plastic waste. This approach emphasizes the principles of a learning organization, where institutions proactively learn and adapt to improve practices based on real needs (Ismail dkk., 2024; Sukma dkk., 2025). Student and employee involvement demonstrates participatory evaluation practices, which foster a sense of ownership and collective responsibility for program sustainability (Riambodo & Kurniawati, 2023).

Program Certification

Adiwiyata certification at MTs PPMI Assalaam is the final stage, assessing the program's effectiveness from an administrative, implementation, and cultural perspective. The principal emphasized that the goal of certification is not merely to earn an award, but to cultivate a clean and environmentally conscious lifestyle within the school community. The internal audit process, preparation of the reception team, and collection of physical evidence of activities emphasize a holistic evaluation encompassing work culture, documentation, and the involvement of all school components, in accordance with CSE-UCLA principles (Alkin & Chritie, 2023).

The integration of Islamic teachings into the certification program strengthens the spiritual dimension, where the concept of cleanliness as part of faith is embodied in daily practice. This increases the intrinsic motivation of school members and the sustainability of ecological behavior, in line with the findings of Arif dkk. (2025). The impact of certification is also seen in improving the madrasah's reputation, stakeholder engagement, and benchmarking function for other schools (Nursofah dkk., 2025). The challenge of maintaining program consistency post-certification emphasizes the need for ongoing management and regular internal monitoring to ensure a culture of environmental awareness remains alive and growing (Wulandari, 2023).

Conclusion

The Adiwiyata Program at MTs PPMI Assalaam has been effectively implemented following the CSE-UCLA evaluation model, encompassing system assessment, program planning, implementation, improvement, and certification. The integration of Islamic values and pesantren culture has strengthened students' ecological awareness and promoted a sustainable, participatory school environment. Continuous improvement practices and reflective evaluation have enhanced program quality, while certification has reinforced both behavioral transformation and institutional reputation. Overall, the program demonstrates that combining environmental education with religious and moral values can successfully cultivate an enduring environmental culture in madrasahs.

This study highlights the importance of integrating ethical, religious, and cultural values into environmental education to foster lasting behavioral change. It shows that systematic evaluation, participatory planning, and reflective improvement are critical for sustaining school-based environmental programs. The findings also suggest that Islamic educational institutions can serve as effective platforms for promoting environmental stewardship while simultaneously strengthening character and spiritual development.

Future studies could explore the long-term impact of the Adiwiyata Program on students' environmental behavior beyond the school context, such as in their households and communities. Research could also examine the integration of digital technologies and innovative pedagogical approaches to enhance program sustainability and engagement. Comparative studies across multiple madrasahs could provide broader insights into best practices and challenges in implementing environmentally oriented programs within Islamic educational settings.

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