Implementation of the Adiwiyata School Program in Building Environmental Care Character at Elementary School

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Abstract. This study aims to describe the implementation of the Adiwiyata School Program in building environmental care character at SD Negeri 1 Ngrandu, Trenggalek. The Adiwiyata Program, jointly initiated by the Ministry of Environment and Forestry and the Ministry of Education and Culture, seeks to create schools as learning centers that cultivate environmental responsibility. This research employed a qualitative approach with a case study design. Research subjects included the school principal, Adiwiyata team, seven teachers, school committee, and twelve students from grades 4, 5, and 6. Data were collected through participatory observation, in-depth interviews, and documentation studies, then analyzed using Miles and Huberman's interactive model encompassing data condensation, data display, and conclusion drawing. Data validity was verified through source triangulation and technique triangulation. The findings reveal that: (1) planning was conducted in a participatory and systematic manner through the Environmental Potential and Problem Identification (IPMLH) process involving all stakeholders; (2) implementation covered all four main components—environmental policy, environment-based curriculum, participatory environmental activities, and eco-friendly facility management; (3) changes in students' environmental character progressed across the knowing, feeling, and acting domains; (4) integration of Islamic spiritual values such as the concepts of khalifah fil ardh and amanah strengthened intrinsic motivation and behavioral consistency; and (5) key supporting factors included exemplary leadership and teacher commitment, while inhibiting factors encompassed budget constraints, high teacher workload, and inconsistency between school and home habits.

Keywords: Adiwiyata Program, Environmental Care Character, Elementary Education, Environmental Education, Case Study

1 Introduction

Environmental crises have emerged as an urgent global concern, marked by escalating natural resource degradation, climate change, solid waste accumulation, and widespread pollution whose impacts are increasingly felt across all segments of society [1]. In this context, cultivating environmental awareness and responsibility from an early age has become not merely desirable but imperative. Rahmawati et al. (2023) affirm that value-based environmental approaches contribute meaningfully to global efforts addressing climate change, biodiversity loss, and other pressing ecological challenges, thereby equipping future generations to confront environmental threats [2].

Education, as the foremost institution in shaping human resources, holds a pivotal role in instilling environmental care character. The formation of this character in elementary school students can be effectively pursued through the Adiwiyata Program, which promotes the concepts of green school and green curriculum [3]. Jointly initiated by the Ministry of Environment and Forestry (KLHK) and the Ministry of Education and Culture, the program aims to transform schools into environments where all members are cultivated to take responsibility for environmental preservation and sustainable development.

The Adiwiyata Program is grounded in four main components as stipulated in the Regulation of the Minister of Environment and Forestry Number P.52/MENLHK/SETJEN/KUM.1/9/2019 on the Movement of Environmental Care and Culture in Schools (PBLHS): (1) Environment-Based Policy; (2) Implementation of Environment-Based Curriculum; (3) Participatory Environmental Activities; and (4) Management of Eco-Friendly Supporting Facilities [4]. The comprehensive implementation of these four components is expected to transform environmental knowledge and awareness into concrete actions that reflect genuine environmental care character.

SD Negeri 1 Ngrandu is one of the elementary schools implementing the Adiwiyata School Program. Implementation at the elementary level is especially critical given that this age group represents the golden age for character formation and habit building [5]. However, preliminary field observations revealed an apparent gap between teachers' perceptions of program success and students' actual behavior. In informal interviews, five of seven teachers reported that the Adiwiyata Program was running well and students demonstrated high environmental awareness, yet field observations still found litter scattered in canteen areas, backyards, and several classrooms.

Studies on the implementation of the Adiwiyata Program in elementary schools have been conducted extensively, but most focus on a single stakeholder perspective, either from the teacher's viewpoint or the student's perspective, examined separately [6, 7]. Research that comprehensively explores the perceptual gap between teachers as implementers and students as program subjects remains limited. Against this background, this study aims to: (1) describe the planning of the Adiwiyata Program in building environmental care character at SD Negeri 1 Ngrandu; (2) describe program implementation based on its four main components; (3) describe changes in students' environmental care character from the teacher's perspective; (4) describe changes in students' character from the students' own perspective; and (5) identify supporting and inhibiting factors of implementation.

2 Methods

This study employed a qualitative approach with a case study design. The qualitative approach was chosen because the research aims to deeply understand the process of implementing the Adiwiyata Program and the formation of environmental care character, which cannot be adequately quantified [8]. A case study design was used to obtain comprehensive and in-depth understanding of the phenomenon within its real-life context, namely SD Negeri 1 Ngrandu, Trenggalek, East Java.

Research subjects were selected through purposive sampling based on the relevance of their roles and capacity to provide rich information. The subjects comprised: the school principal represented by the Head of the Adiwiyata Team; Pokja Coordinators; seven teachers (five class teachers for grades 2–6 and two subject teachers, namely the Physical Education teacher and the Islamic Religious Education teacher); the school committee chairperson; and twelve students consisting of four students each from grades 4, 5, and 6.

Data collection was conducted through three techniques: (1) partial participatory observation of Adiwiyata Program activities during the period January to February 2026; (2) semi-structured in-depth interviews with all research subjects; and (3) documentation studies examining program documents including Decree of the Adiwiyata Team Number 800/056/406.009.14.112/2023, activity plans, activity photographs, and program archives. The primary research instrument was the researcher herself, supported by interview guides and observation sheets.

Data analysis followed Miles and Huberman's interactive model [9], consisting of: (1) data condensation, involving selecting and focusing relevant data from the totality of information gathered; (2) data display, organizing information into structured narratives and matrices to facilitate pattern recognition; and (3) conclusion drawing and verification, involving the interpretation of findings against theoretical frameworks. Data validity was ensured through source triangulation, comparing data from multiple informants including teachers, students, the Adiwiyata team, and school committee members; and technique triangulation, comparing results of interviews, observations, and documentation.

3 Results and Discussion
3.1 Planning of the Adiwiyata Program

The planning of the Adiwiyata Program at SD Negeri 1 Ngrandu was conducted systematically and participatorily, commencing with the Environmental Potential and Problem Identification (IPMLH) process that engaged all school stakeholders. The Head of the Adiwiyata Team stated: "Everything began from our shared concern upon observing school conditions and the results of the IPMLH. We observed that students' plastic waste production was quite high and the green areas were not optimally managed. From that point, we held a work meeting involving all parties—from the principal, all teachers, the school committee, to parent representatives."

Based on IPMLH findings, the school formulated a vision and mission for the Adiwiyata Program, integrated with the school's overall institutional vision and mission. This vision was not only understood by teachers and students but was also disseminated to parents through various media, including WhatsApp groups of parent associations. The organizational structure of the implementation team was formed through Decree (SK) of the School Principal Number 800/056/406.009.14.112/2023, with a functional Working Group (Pokja) system encompassing: Pokja for Waste Management; Pokja for Tree and Plant Maintenance; Pokja for Networking; and Pokja for Sanitation and Drainage Cleanliness.

Annual work programs and activity plans are compiled at the beginning of each academic year based on School Self-Evaluation (EDS) data from the previous year. Primary program priorities encompass two aspects:

Sustainable Waste Management targeting zero plastic, and Educational Greening that transforms the school garden into a living laboratory with medicinal plants (TOGA) and harvestable vegetables. These findings align with Pahru et al. (2021), who assert that thorough planning involving multiple stakeholders from the outset constitutes the foundation for successful program implementation [10].

3.2 Implementation of the Adiwiyata Program

The implementation of the Adiwiyata Program at SD Negeri 1 Ngrandu is guided by four main components established by the Ministry of Environment and Forestry. First, Environment-Based Policy is realized through the issuance of the Adiwiyata Team Decree, implementing the Saturday Cleaning policy, and prohibiting the use of styrofoam and single-use plastics in the school canteen. This policy serves as a formal foundation binding all school members in creating a clean and healthy environment.

Second, the Environment-Based Curriculum is implemented without adding to the existing subject hours but by integrating environmental content into relevant subjects. The Pokja Coordinator stated: "We do not add to the lesson hours, but we insert environmental content into existing subjects. For instance, in Mathematics, students calculate waste volume or garden area. In Indonesian Language, they write compositions about the environment. Science has the most content." This approach is reinforced by the Islamic Religious Education teacher who integrates Islamic environmental values, enabling students to understand the concepts of mizan (balance of nature), khalifah fil ardh (steward of the earth), and the prohibition against causing destruction on the earth [11].

Third, Participatory Environmental Activities include scheduled cleaning duties, separation of organic and inorganic waste, the 'Semut Lisah' program (One Minute Waste Collection) conducted after every recess, Friday Cleaning, and 3R-based waste management (Reduce, Reuse, Recycle). As the school's flagship program, 'Semut Lisah' encourages students to collectively sort their own snack waste into designated sorted waste bins. The school garden is also utilized as a living laboratory where Science teachers bring students outdoors to study plant parts directly from real specimens.

Fourth, Management of Eco-Friendly Supporting Facilities includes the provision of sorted waste bins in every classroom and strategic locations, a compost house, a Waste Bank (Bank Sampah), a school garden with diverse plant varieties, and biopore facilities. The implementation of a healthy and eco-friendly canteen is one of the main priorities, albeit facing consistency challenges, as acknowledged by the Pokja Coordinator: "This is the greatest challenge. We prohibit canteen vendors from using plastic bags, replacing them with paper or banana leaves. But vendors sometimes still use plastic on rainy days, so ongoing mentoring is required."

3.3 Changes in Students' Environmental Care Character: Teachers' Perspective

Based on interviews and observations with seven teachers, significant changes in students' environmental care character were identified and analyzed across three main domains: knowledge (knowing), attitude (feeling), and action (acting) [12].

In the knowledge domain, teachers observed a transformation in students' understanding from mere normative compliance to deeper conceptual understanding. This development follows a tiered pattern: Grade 4 students understand basic concrete concepts such as the distinction between organic and inorganic waste and the impacts of pollution; Grade 5 students comprehend systemic interconnections between environmental elements such as the water cycle and food chains; while Grade 6 students are capable of connecting local issues to global concerns such as climate change and sustainable development. A class teacher stated: "Their knowledge has grown extensively. Previously, they only knew 'dispose of waste properly.' Now they understand why. They know the difference between organic and inorganic waste, the impact of plastic on soil and water, and the importance of saving energy."

In the attitude domain, teachers observed the emergence of empathy toward living organisms, the development of personal responsibility, and a shift in the locus of responsibility from external to internal. A Grade 4 teacher stated: "Previously, students considered a clean environment to be only the responsibility of cleaning staff. Now they feel personal responsibility. There is a sense of love and ownership toward their school environment." Grade 6 students even demonstrated moral commitment, viewing environmental care not as an obligation but as a personal conviction [13].

In the action domain, teachers observed the formation of new consistent habits, the emergence of spontaneous initiatives without being asked, and the transfer of learning to home and community settings. Spontaneous actions such as closing dripping taps without prompting indicate that environmentally conscious behavior has become part of students' self-identity. The trend of behavioral consistency increases progressively: Grades 1–3 approximately 50–70%, Grades 4–5 approximately 70–80%, and Grade 6 reaching 85–90%, reflecting a progressive internalization process consistent with Piaget's stages of cognitive development [14].

3.4 Changes in Students' Environmental Care Character: Students' Perspective

Character changes observed by teachers were confirmed by students' own statements through in-depth interviews with 12 students from Grades 4, 5, and 6. Grade 4 students reported increased knowledge about waste types and separation methods, with motivation still largely grounded in personal comfort and social recognition. Rina, a Grade 4 student, stated: "Yes, I have become more diligent in disposing of waste properly. Previously, I sometimes still littered. Now I no longer do so. I have also learned how to sort organic and inorganic waste."

Grade 5 students demonstrated heightened environmental sensitivity and awareness of long-term impacts, motivated by a concern for sustainability for future generations. Budi, a Grade 5 student, expressed: "My motivation is that I want future generations to still be able to enjoy a clean and healthy environment. I do not want to damage nature for our grandchildren." This indicates a transition from external motivation toward the internalization of values, consistent with the progression from Kohlberg's conventional to post-conventional stage of moral development [15].

Grade 6 students demonstrated critical understanding of the global climate crisis and a strong moral commitment. Cahaya, a Grade 6 student, stated: "In my view, maintaining the school environment is not merely important—it is obligatory. This is part of our moral responsibility as inhabitants of the earth. If we do not begin with ourselves and our immediate surroundings, who will?" Triangulation between teachers' and students' perspectives reveals strong convergence on the substance of character change, with teachers observing from a developmental vantage point while students articulate from an experiential vantage point, the two complementing and enriching each other's understanding [16].

3.5 Supporting and Inhibiting Factors

Supporting factors for the implementation of the Adiwiyata Program include: (a) total support from the school principal who acts as a transparent and exemplary role model; (b) the active role of teachers as consistent facilitators and exemplars; (c) parental and school committee participation through Class Parent Associations (Paguyuban Kelas) and voluntary fundraising; (d) collaboration with external parties such as the community health center (Puskesmas) and waste collector companies; (e) integration of Islamic spiritual values that creates higher-purpose motivation; and (f) the availability of adequate facilities and infrastructure. The integration of spiritual values constitutes a unique strength of this school, as expressed by the Islamic Religious Education teacher: "I integrate Quranic verses and hadiths about the environment—the concept of mizan, khalifah fil ardh, the prohibition of causing harm. Students come to understand that caring for the environment is part of their worship." [17]

Inhibiting factors include: (a) limited operational funding; (b) high teacher workload with insufficient time for pedagogical innovation; (c) cultural resistance and deeply ingrained habits that are difficult to change; (d) inconsistency in habitual practices between school and home environments; (e) challenges in implementing a healthy canteen requiring intensive cooperation with vendors; and (f) the need for ongoing supervision, particularly for lower-grade students. The school addresses these obstacles through community fundraising, clear task allocation among Pokja teams, continuous parent education, and a gradual age-appropriate approach that recognizes character formation as a long-term commitment [18].

Overall, the findings of this study align with Theodorio et al. (2024), who assert that the success of program implementation depends not only on the availability of resources but also on institutional support, educator readiness, and policy adaptation that is responsive to local context [19]. The uniqueness of this study lies in documenting the role of Islamic spiritual value integration in strengthening intrinsic motivation and behavioral consistency, as well as the evidence of learning transfer demonstrating students' function as agents of change in their families and communities—consistent with Lickona's (1992) theory of complete character encompassing knowing, feeling, and acting in an integrated manner [12].

4 Conclusion

This study concludes that the implementation of the Adiwiyata School Program at SD Negeri 1 Ngrandu has successfully built comprehensive environmental care character in students. Planning was conducted participatorily by involving all stakeholders through the IPMLH process, establishing a functional Pokja organizational structure, and developing systematic annual work programs. Program implementation covered all four main components in an integrated manner, with innovative programs such as 'Semut Lisah' and the utilization of the school garden as a living laboratory, enriching students' learning experiences.

Changes in students' environmental care character occurred progressively across three domains. In terms of knowledge (knowing), students' understanding developed from normative compliance to conceptual and critical comprehension according to grade level. In terms of attitude (feeling), motivation shifted from external-pragmatic in lower grades to intrinsic-value-based and morally committed in upper grades. In terms of action (acting), new

consistent habits were formed with spontaneous initiatives and learning transfer to family and community environments.

The integration of Islamic spiritual values constitutes a unique strength that strengthens intrinsic motivation and promotes sustainable behavioral consistency. This program demonstrates a multiplier effect extending from the school to families and the broader community. Future research is recommended to examine the long-term effectiveness of environmental care character formed through the Adiwiyata Program, as well as to explore optimal implementation models applicable to elementary schools with varying resource conditions.

Acknowledgments

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