

THE ROLE OF MADRASAH RESIDENTS IN THE IMPLEMENTATION OF ENVIRONMENTAL EDUCATION AT MTSN MANGGARAI, EAST NUSA TENGGARA

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Received: 2026-05-01; Accepted: 2026-05-20; Published: 2026-05-29

ABSTRACT

Under Article 65, paragraph 4, of Law No. 32 of 2009 concerning Environmental Protection and Management, every individual has both the right and the responsibility to participate in environmental management. Schools are expected to play a significant role in this regard. However, in reality, many schools still pay insufficient attention to implementing Environmental Education. This is reflected in conditions such as the absence of green spaces, scattered litter, damaged facilities, and other related problems. This study aims to examine the roles of madrasah residents in implementing Environmental Education at MTsN Manggarai, East Nusa Tenggara, as well as the supporting and inhibiting factors they encounter. This research employs a qualitative descriptive approach, designed to explore and comprehensively capture the social situation in depth and breadth. The data sources utilized consist of primary and secondary data. The findings indicate that in implementing Environmental Education, madrasah residents—including the head of the madrasah, the deputy head for facilities and infrastructure, teachers, and students—each have distinct roles. The primary supporting factor is the awareness among madrasah residents of the need to execute the cleanliness programs. Conversely, the inhibiting factors are the lack of awareness among some residents and inadequate facilities.

Keywords: Role of Madrasah Residents; Environmental Education; Awareness Among Madrasah

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INTRODUCTION

Environmental degradation has emerged as one of the most pressing global challenges of the twenty-first century. Climate change, pollution, biodiversity loss, and ecosystem degradation continue to accelerate at an alarming rate, threatening the well-being of current and future generations (Intergovernmental Panel on Climate Change (IPCC, 2023). The latest IPCC report (2023) highlights that the world is already experiencing the tangible impacts of

climate change, underscoring the urgent need for collective action. In response to these escalating environmental crises, governments, international organizations, and civil society have increasingly recognized the pivotal role of education in fostering environmental awareness, shaping responsible behaviors, and building a sustainable future (UNESCO, 2021).

Environmental Education (EE) plays a crucial role in addressing global environmental challenges by equipping individuals with the knowledge, skills, attitudes, and values necessary to understand and respond to environmental issues (Palmer, 2013). Education fosters environmental literacy, critical thinking, and problem-solving skills from an early age, shaping responsible citizens who can make sustainable decisions throughout their lives (Hungerford & Volk, 2013). UNESCO (2024) emphasizes the need to integrate environmental education into school curricula as it is crucial in preparing informed and responsible citizens capable of addressing complex environmental challenges. Furthermore, environmental education goes beyond simply raising awareness; it empowers future generations to protect the environment and actively participate in shaping a more sustainable future that lives in balance with nature (UNESCO, 2021). Schools, as primary institutions of formal education, bear a unique responsibility in this endeavor, serving as incubators of environmental innovation and sites where sustainable practices can be modeled, taught, and reinforced.

In Indonesia, the legal and policy framework for environmental education is firmly established. Law No. 32 of 2009 concerning Environmental Protection and Management provides the foundational legal mandate for environmental education and public participation in environmental governance. Article 65, paragraph 2 of this law explicitly affirms that every citizen has the right to obtain environmental education. The law further stipulates in Article 65, paragraph 4 that every individual has both the right and the responsibility to participate in environmental management (Undang-Undang Republik Indonesia Nomor 32 Tahun 2009). Building upon this legal foundation, the Indonesian government has launched various initiatives to promote environmental education in schools.

The Adiwiyata program, initiated by the Ministry of Environment and Forestry in 2006, represents one of the government's strategic policies to mainstream environmental education at the educational unit level. The program aims to create environmentally conscious schools through education and practical actions, with more than 20,000 schools across Indonesia having received Adiwiyata status by 2024 (Kementerian Lingkungan Hidup dan Kehutanan, 2024). Schools implementing the Adiwiyata program have demonstrated marked improvements in waste segregation, composting, and recycling, as well as enhanced environmental awareness among students (Rusdiana, 2015). The program operates through four pillars: environmentally friendly policies, environment-based curriculum, participatory environmental activities, and sustainable management of facilities (Kementerian Lingkungan Hidup dan Kehutanan, 2012).

Despite these legal and policy frameworks, the implementation of environmental education in Indonesian schools faces significant challenges. Research indicates that while schools have implemented environmental education, its impact on sustainability and execution often falls short of expectations (Syaikhudin, 2016). The sustainability of environmental education has received little attention, and the consistency and commitment of teachers and schools to environmental education efforts have declined (Muslich, 2015). A 2021 UNESCO analysis of 100 national curriculum frameworks revealed that nearly half (47%) did not mention climate change, and only one-third of teachers felt able to explain its effects in their

regions properly (UNESCO, 2021). In the Indonesian context, the implementation of environmental education faces various obstacles, including limited resources, lack of institutional support, low teacher readiness, and insufficient time allocation in the curriculum (Rusdiana, 2015). Additional challenges include limited integration of environmental education into formal curricula, teachers' insufficient expertise in environmental education, weak evaluation mechanisms, and a lack of coordination among relevant institutions (Syaikhudin, 2016; Wihardjo & Rahmayanti, 2016). The absence of green open spaces in schools, an environmental vision and mission, and extracurricular activities and environmental programs clearly demonstrates that not all schools prioritize environmental education (Muslich, 2015).

Schools are strategic sites for environmental education because they reach children during their formative years and can shape attitudes and behaviors that persist into adulthood (UNESCO, 2024). Schools can play an important role in helping younger generations respond to climate and environmental challenges—not only by providing information but by giving students confidence and agency to take action (Hungerford & Volk, 2013). The new Indonesian National Curriculum (Merdeka Curriculum) offers flexibility, enabling teachers to expand the scope of environmental education subjects and adopt student-centered approaches such as project- and problem-based learning (Falaq, 2022). However, despite these transformative teaching approaches, many educators consider these efforts insufficient to improve pro-environmental behavior among pupils, likely due to the many variables that influence environmental awareness (Syaikhudin, 2016). The gap between policy aspirations and on-the-ground implementation remains a persistent challenge that warrants further investigation.

Within this broader context, madrasahs—Islamic educational institutions—occupy a unique position in Indonesia's education system. Madrasahs serve not only as centers of academic learning but also as communities where religious values, moral character, and social responsibility are cultivated (Falaq, 2022). The integration of environmental education within madrasahs presents both opportunities and challenges, as these institutions must balance religious education with contemporary concerns such as environmental sustainability. MTsN Manggarai, located in East Nusa Tenggara Province, represents one such madrasah that has committed to implementing environmental education within its school community. The madrasah is situated at Jalan Kompleks Pendidikan Barangkolo, Reo Village, Reok District, Manggarai Regency. It has developed specific programs, such as the "LISA" (Lihat Sampah Ambil or "See Trash, Pick It Up") initiative, to promote environmental awareness and action among its residents.

Given the identified gaps between policy frameworks and actual implementation, as well as the limited research on environmental education in madrasah settings, this study aims to examine the roles of madrasah residents in implementing Environmental Education at MTsN Manggarai, East Nusa Tenggara. Specifically, this research seeks to: (1) identify the distinct roles played by the head of the madrasah, the deputy head for facilities and infrastructure, teachers, and students in environmental education implementation; and (2) analyze the supporting and inhibiting factors that affect the effectiveness of these roles. By employing a qualitative descriptive approach, this study intends to explore and comprehensively capture the social situation in depth and breadth, providing insights that may inform policy and practice in environmental education within madrasah and school contexts more broadly.

METHOD

This study employs a qualitative research design. Qualitative research is often referred to as naturalistic inquiry because it is conducted in natural conditions (Margano, 2010). In this study, the researcher adopted a qualitative descriptive approach. Descriptive research guides the researcher in exploring and portraying the social situation comprehensively, broadly, and in depth. Data analysis was conducted inductively using field-collected data.

This research was conducted by the researcher at MTsN Manggarai, East Nusa Tenggara, to collect data. An initial observation was conducted via the madrasah's social media platforms, focusing on the surrounding environment. Observing the lush green environment of the madrasah sparked the researcher's interest in investigating the madrasah community's role in its environmental education efforts.

RESULT

Based on observations, interviews, and documentation, the data reveal two key aspects regarding the implementation of Environmental Education at MTsN Manggarai, East Nusa Tenggara: (1) the roles of madrasah residents, and (2) the supporting and inhibiting factors affecting their performance.

1. Roles of Madrasah Residents in the Implementation of Environmental Education

a. Role of the Head of Madrasah

1) Organizing Environmental Maintenance Programs

The head of the madrasah's role in implementing Environmental Education at MTsN Manggarai involves implementing specific programs. One program, named "LISA" (an acronym for *Lihat Sampah Ambil* or "See Trash, Pick It Up"), was established as an effort to care for the madrasah environment. This program can be considered effective in implementing Environmental Education. This effectiveness is evidenced by the reduced frequency of communal clean-up activities, a decrease in litter volume, and the cultivation of students' empathy and concern for their environment, thereby helping them reduce egocentric behaviors (Student, personal communication, August 12, 2024).

This aligns with Afandi's assertion as cited by Muslich (2015), who defines environmental education as an effort to preserve the environment through formal teaching in schools. Thus, schools are educational institutions that bear the greatest responsibility in shaping students' environmentally conscious character. This is because the inculcation of environmental attitudes and behaviors begins when students enter school, and children spend a significant portion of their time there. Consequently, teachers also play a major role in shaping students' character and fostering environmental awareness (Muslich, 2015).

2) Establishing Technical Guidelines for Environmental Programs

Technical guidelines (Juknis) have also been developed for the LISA program at MTsN Manggarai. The LISA program, initiated by the head of the madrasah, provides substantial benefits to the school by instilling the practice of picking up litter wherever it is seen—whether in the yard, classrooms, canteen, or parking area (Technical Guidelines for LISA, n.d.).

Technical guidelines, while not part of the formal regulatory hierarchy, are essential because they serve as operational manuals for executing specific tasks. They provide clear direction and ensure a shared understanding among all members of an organization (Kalbar, 2025).

3) Managing and Executing Environmental Protection Activities

The head of the madrasah is responsible for planning, organizing, implementing, supervising, and evaluating all environmental maintenance activities. The principal has the authority and obligation to establish specific regulations or programs to maintain the school environment. Management can be executed through various means, including meetings. Meetings facilitate the head's efforts to organize, plan, implement, supervise, and evaluate activities. Beyond formal meetings, socialization is also necessary to ensure that the madrasah's objectives are achieved (Mr. Jiyanto, personal communication, August 19, 2024).

These findings are consistent with Wahjosumidjo's perspective, as cited by Haryaka (2024), who states that a school principal, as a leader, must possess specific characteristics, including a strong personality, foundational skills, professional experience and knowledge, and proficiency in administration and supervision. A principal's leadership capabilities can be analyzed through their personality, knowledge of educational staff, vision and mission, decision-making skills, and communication abilities. As a manager, the principal plays a crucial role in coordinating, mobilizing, and harmonizing all available educational resources within the school (Haryaka, 2024).

4) Maintaining Collaboration with External Parties in Environmental Education

Sudjana (as cited in Syamsi, 2010) states that the development system for non-formal education is structured around a model designed to advance it. This model consists of several components: (1) instrumental input (facilities), (2) raw input (students), (3) environmental input, (4) the process (interaction between educators and students), (5) output, (6) other inputs, and (7) impact (the outcomes achieved by students and graduates) (Syamsi, 2010).

Currently, MTsN Manggarai frequently collaborates with external parties. For example, during annual routine events leading up to Independence Day (August 17), National Education Day, Teachers' Day, and other major holidays, all madrasah residents, along with surrounding schools and the community, engage in cooperation (*gotong royong*). Furthermore, the madrasah also collaborates with the Reok District Health Center (Puskesmas) (Mr. Irwan, personal communication, August 19, 2024).

5) Accommodating Creativity and Innovation from Madrasah Residents

The head of the madrasah plays a vital role in creating a supportive environmental atmosphere for the development of the school community. Through creative and innovative activities, students and other residents can learn new things and build readiness to face future challenges. Mr. Jiyanto (personal communication, August 19, 2024) noted that the construction of a gazebo and the planned creation of garden partitions using recycled materials provide outlets for madrasah residents to express their creativity and innovation.

Strengthening the implementation of the Pancasila Student Profile is not confined to classroom learning alone; extracurricular and school culture activities significantly help students develop and broaden their knowledge, which they can later apply in daily life. This is consistent with prior research indicating that project-based strengthening of the Pancasila Student Profile helps develop and tailor learning according to students' dimensions and

characteristics, providing space for innovation and creativity. A proper education system can drive a nation's progress (Falaq, 2022).

b. Role of the Deputy Head of Madrasah for Facilities and Infrastructure

1) Managing Facilities and Infrastructure

The duties of the facilities and infrastructure section include managing spatial arrangements—such as classrooms, school gardens, canteens, and health units (UKS)—and overseeing the institutional inventory. This aligns with the statement of Mr. Irwan (personal communication, August 19, 2024), the deputy head for facilities and infrastructure.

This is consistent with Sobri (as cited in Nurbaiti, 2015), who asserts that facilities and infrastructure management is necessary to support the smooth operation of the teaching and learning process. It involves the systematic coordination of planning, procurement, storage, distribution, utilization, maintenance, inventory, disposal, and the arrangement of land, buildings, equipment, and school furniture in an effective and targeted manner (Nurbaiti, 2015).

2) Managing the School Environment and Sanitation

School environmental sanitation emphasizes the control and supervision of physical environmental factors affecting humans, including the school's physical environment, the provision of clean water that meets health standards, waste disposal systems, and yard conditions (Departemen Kesehatan Republik Indonesia, 2012). School sanitation involves fostering and developing healthy schools through assessment of the physical school environment, students and educational staff, various activities, organizational management, and the reciprocal relationship between schools and the surrounding community, all aimed at achieving optimal educational goals.

Based on interviews with the deputy head for facilities and infrastructure, the deputy head's responsibilities are directly related to the environment, particularly school sanitation. Environmental management is handled directly by this section, particularly regarding the water supply for the madrasah community. The water at MTsN Manggarai originates from both the regional water company (PDAM) and a well drilled by the madrasah itself. Separate toilet facilities are available for teachers, male students, and female students (Mr. Irwan, personal communication, August 19, 2024).

c. Role of Teachers

1) Teachers as Mentors

As mentors, teachers are responsible for guiding students in implementing all programs established by the madrasah, including Environmental Education. Teachers are also individually responsible for embedding values of environmental cleanliness into the teaching and learning process (Mr. Ade, personal communication, August 19, 2024).

According to Wijaya (as cited in Simanjuntak & Melina, 2019), the role of a teacher is highly diverse, with one key role being that of a mentor. Teachers are not merely the sole source of knowledge but also motivators of learning. They can provide guidance in various activities, such as tree planting.

2) Teachers as Executors

In implementing Environmental Education, teachers function not only as mentors but also as executors. They participate directly in communal work activities, such as building

garden partitions and cleaning the madrasah, and they refrain from littering. Students confirmed this during interviews (Student, personal communication, August 12, 2024).

Barlia (as cited in Wihardjo & Rahmayanti, 2016) states that using the natural environment as a learning resource offers several advantages. Primarily, it significantly contributes to students' conceptual understanding. It allows for the development of measurement methods based on observation and tactile experience (Wihardjo & Rahmayanti, 2016).

d. Role of Students

The educational process is expected to help every student, as members of society, develop awareness and sensitivity toward environmental issues. Education plays a role in environmental preservation. The student's role in implementing Environmental Education is to execute the school's programs. Students are expected to maintain cleanliness and beauty by practicing the LISA program from the school gate, cleaning classrooms, watering plants, properly disposing of waste, and engaging in other environmental stewardship activities.

According to Nurjhani and Widodo (as cited in Syaikhudin, 2016), environmental education is essential and should be provided to children from an early age to foster understanding and prevent environmental damage. Several aspects influence this: (a) Cognitive aspects—environmental education enhances understanding of environmental issues, as well as memory, application, analysis, and evaluation; (b) Affective aspects—it fosters acceptance, appreciation, organization, and personality characteristics that align life with nature; (c) Psychomotor aspects—it plays a role in imitation and manipulation of interactions with the surrounding environment to enhance a culture of environmental love; and (d) Interest aspects—it nurtures intrinsic interest in the environment within children (Syaikhudin, 2016).

2. Supporting and Inhibiting Factors in the Implementation of Environmental Education at MTsN Manggarai, East Nusa Tenggara

The supporting and inhibiting factors are described as follows:

a. Supporting Factors

The research identified several factors that support the roles of madrasah residents in implementing Environmental Education:

1) Awareness of Implementing Cleanliness Programs

Self-awareness among madrasah residents is crucial to optimizing established programs, as maintaining cleanliness is a fundamental duty for everyone. The research findings indicate that the school community at MTsN Manggarai already possesses awareness of environmental maintenance. This is evidenced by the positive outcomes observed in the LISA program throughout this study (Mr. Jiyanto, personal communication, August 19, 2024).

2) Adequate Facilities and Infrastructure

As previously discussed, a supporting factor is the availability of adequate facilities and infrastructure to implement Environmental Education. Observations confirm the presence of numerous supporting facilities, such as trash bins placed in front of nearly every classroom, as stated by both the principal and students (Mr. Jiyanto, personal communication, August 19, 2024; Student, personal communication, August 12, 2024).

Optimizing Environmental Education facilities and infrastructure supports the creation of a pleasant environment for learning, achievement, creativity, and communication. This

optimization can be achieved by utilizing libraries, laboratories, teaching aids, the surrounding environment, and other resources as sources of knowledge (Sudjoko, 2013).

3) Provision of Motivation

Motivation is the driving force behind fulfilling responsibilities and achieving goals. One of the principal's functions is to serve as a motivator, inspiring the school community to maintain the environment's beauty. Motivation is provided daily by emphasizing each morning that cleanliness is a component of the "7K" school culture program. Additionally, motivational posters are displayed throughout the classroom. Another form of motivation is the provision of awards for students who consistently maintain clean classrooms (Mr. Ihsan, personal communication, August 19, 2024).

This aligns with Sukmadewi (2022), who states that as a leader, the principal must be a source of motivation, encouraging teachers, staff, students, and parents to strive for and support the achievement of school goals.

b. Inhibiting Factors

1) Lack of Awareness Among a Minority of Madrasah Residents

Research on the implementation of environmental education in Indonesia generally reveals various issues, including low community participation due to limited understanding of environmental education problems, low skill levels, and weak commitment to addressing these issues (Rusdiana, 2015).

This corresponds with the field findings. Based on interviews, a minority of madrasah residents remain unaware of the implementation of environmental education. Some students are less engaged in their roles, and some teachers fail to set a good example, leading to students' reluctance to participate actively in Environmental Education activities (Student, personal communication, August 12, 2024).

2) Inadequate Facilities

Another obstacle encountered is the insufficient number of trash bins. This is due to limited bin procurement and their short lifespan. This aligns with statements from teachers and students, as well as the researcher's observations and documentation, which show that bins are often made only when specific class assignments require their production as part of practical assessments (Observation at MTsN Manggarai, 2024).

Facilities and infrastructure play a crucial role in Environmental Education. However, these aspects often receive insufficient attention from practitioners. The concept of environmental education facilities is frequently misinterpreted as high-technology physical infrastructure, which can hinder motivation in program implementation (Rusdiana, 2015).

CONCLUSION

Based on the research findings and discussion, the following conclusions can be drawn: First, the roles of madrasah residents in implementing environmental education include the head of the madrasah, the deputy head for facilities and infrastructure, teachers, and students. Second, there are several supporting and inhibiting factors for madrasah residents in implementing environmental education: a. Supporting factors include: (1) awareness of carrying out cleanliness programs, (2) adequate facilities and infrastructure, and (3) the provision of motivation. b. Inhibiting factors include: (1) a lack of awareness among a minority

of madrasah residents, and (2) inadequate facilities, such as a shortage of properly maintained trash bins and toilets.

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