

Implementation of Environmental Education in Improving The Environmental Ethics of Madrasah Ibtidaiyah Students To Support SDGs 2030

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Abstract:

Madrasah Ibtidaiyah (MI) as an educational institution has an important and strategic role in implementing environmental education for its students so that it can improve students' environmental ethics as a form of support for the SDGs 2030. The purpose of this research is to describe the concept and implementation of environmental education in MI and its support for SDGs 2030. This study is qualitative, with field research being conducted in two MI, namely MI NU Rowolaku and MIN Pekalongan. Data obtained by using the methods of observation, interviews, and documentation. The data obtained was then analyzed using Miles and Huberman's qualitative analysis method, which included data collection, data reduction, data presentation, and verification or drawing conclusions. The results showed that MI NU Rowolaku, which has not yet received the status of an adiwiyata school, already has a simple concept of environmental education, but its implementation is good enough so that its carrying capacity for sustainable development goals is classified as moderate. Meanwhile, MIN Pekalongan, which already holds the title of Adiwiyata school, has a clear and measurable concept of environmental education and excellent implementation, so that it has the carrying capacity for sustainable development goals in the high category.

Keywords: environmental ethics; environmental education; SDGs 2030

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Introduction

The environment plays a significant role and directly impacts human life. Vice versa, humans play an important role in the sustainability of the environment. Whether or not the quality of the environment depends on how humans behave towards the environment in everyday life. The quality of human life also depends on the environment where humans live. It shows that humans and the environment have a relationship of interdependence. Given the close interdependence relationship between humans and the environment, humans as *khalifa fi al ardh* must have a sense of care for the environment (Supadmini et al., 2020).

Nowadays, caring for the environment is very urgent, considering the environmental conditions where humans live are increasingly experiencing a decline in quality. The existence of waste dramatically affects the quality of the environment. The Ministry of Environment and Forestry (KLHK) stated that our country's national waste production in 2020 was 67.8 million tons. It means that 270 million Indonesians generate 185,753 tons of waste every day, or in other words, 0.68 kilograms of waste is produced per day per person (Rahayu et al., 2022). It makes Indonesia the largest waste-producing country after China. Uncontrolled and untreated waste production can impact the global climate, namely the greenhouse effect, where the earth's temperature becomes warmer. In addition, waste can reduce the quality of land and water ecosystems.

This waste problem needs a real solution, one of which is waste management. Waste processing begins with sorting waste based on its type so that it is not mixed and can be adequately processed. Waste sorting needs to be educated as early as possible to continue to be applied throughout life. Elementary school age is the right time to educate waste sorting as a basic form of concern for the environment. Environmental education in schools is proven to be able to develop students' socio-emotional attitudes so that students become responsible, caring, responsive and independent individuals (Majdi, 2019).

Character education about caring environment through habituation and acculturation in junior high schools (Sitorus & Lasso, 2021). His research explained that role models formed by school leaders primarily drive environmental awareness programs. The school culture created by this initiative has succeeded in making schools healthier and cleaner and raising environmental awareness among students. Given the importance of an example, it is crucial to have leaders which ready to initiate change (Sitorus & Lasso, 2021). Khoirul Anam also conducted research to describe students' attitudes towards environmental ethics through learning activities in class. The results show that most students already have good environmental ethics (Khoirul Anam & and Sudarti, 2020).

Another research is about implementing participatory-based *adiwiyata* programs to foster character values in elementary schools. The results show that under the principles of participatory-based environmental action, SDN Bareng 3 Malang has practised the *Adiwiyata* program. Such as maintenance and repair of school buildings and their surroundings, participating in environmental care activities with external parties and forging partnerships and leveraging resources from various parties to enhance environmental learning. The characteristics developed by students at SDN Bareng 3 Malang include respecting others, caring for the environment, independence, creativity, discipline, nationalism, and responsibility (Aini et al., 2021).

Furthermore, research of the application of environmental care character education through the *adiwiyata* program at Kalibaru State Vocational School to support the Banyuwangi movement for independence from plastic. It showed that the character education concerned with the environment in the *Adiwiyata* program was in line with the Banyuwangi Regency Government's initiative to eradicate plastic, and

the program ran effectively. These program activities include daily and weekly pickets, clean Friday programs, healthy Fridays, pious Fridays, and programs without plastic waste. In addition, the regulation limits the sale of food packaged in plastic and encourages students to bring their food and drink containers. The clean and beautiful environment of the Kalibaru Vocational School is proof that students are more concerned about preserving and keeping the environment clean thanks to this program (Harjianto et al., 2021).

The research above focuses more on environmental care character education. Meanwhile, this research focuses on implementing environmental education to improve the environmental ethics of MI NU Rowolaku and MIN Pekalongan students in supporting the 2030 sustainable development goals (SDGs). MI NU Rowolaku is an Islamic elementary school in Pekalongan Regency, Central Java Province. Meanwhile, MIN Pekalongan is the only State Islamic Elementary School in Pekalongan Regency and already has the title of Adiwiyata school. In general, students at the two MIs have demonstrated environmental ethics indicators. Going deeper, the researcher is interested in studying environmental education and environmental ethics for students in Islamic madrasah under different conditions and statuses mentioned in the previous explanation.

Also, the research focuses on how environmental education is implemented at MI NU Rowolaku and MIN Pekalongan and how environmental education supports the achievement of sustainable development goals. Caring for the environment can be instilled through environmental education in schools. Environmental education should be carried out from the elementary level because, during elementary school, children are in a period of rapid cognitive, affective and psychomotor development. Environmental education at the basic education level aims to raise students' awareness to care more about their environment, which is reflected in environmental ethics (Yusmanila, 2021).

Based on the observations at the Rowolaku Islamic Elementary School Nahdlatul Ulama (MI NU), Kajen District, Pekalongan Regency and Pekalongan State Islamic Elementary School (MIN). The two madrasas already have the concept of environmental education, although not specifically and focused on entering into school programs. It can be seen from several activities that reflect environmental education, such as the implementation of class pickets and posters that educate students and madrasa residents to protect the environment and others. MIN Pekalongan is the only public madrasa in Pekalongan Regency. Regarding environmental education, MIN Pekalongan is a madrasah which already has the predicate of Adiwiyata School at the provincial level. Regarding environmental ethics or environmental ethics of students in the two madrasas, based on the results of observations by researchers, students in both schools are quite good at applying ethical values of environmental. However, they still need improvement due to the age factor of MI children who still like to play and need to be continuously supervised and others.

Based on the background, the authors found the limitation and need further research to explore the concept and implementation of environmental education in order to improve the environmental ethics of students at Madrasah Ibtidaiyah Nahdlatul Ulama (MI NU) Rowolaku Kajen and Madrasah Ibtidaiyah Negeri (MIN) Pekalongan as a form of participation active in supporting sustainable development goals or *sustainable development goals*.

Research Method

This research used a field research method using a descriptive qualitative approach because the data obtained is in the form of descriptions and illustrations, not numbers. This research was conducted to answer how the concept and

implementation of environmental education to improve *the environmental ethics* of MI NU Rowolaku and MIN Pekalongan students in supporting the 2030 *sustainable development goals* (SDGs). The data collection used observation, interviews and documentation. This study's data sources are school principals, teachers, students and the community as *stakeholders*.

Three steps of the data analysis process in this study are data collection, data reduction, data presentation, and verification or conclusion. Data collection was carried out through several techniques previously mentioned. Data reduction is a process by which researchers retrieve and select information from observations, interviews, and documentation. The information is then processed to make it easier for researchers to convey this information. Presentation of data is the next stage. After the data is collected and reduced, it is then presented in the form of a story. The next stage is to provide conclusions. Based on the data that has been presented, this is also called the researcher's argument. Figure 1 shows about data analysis.

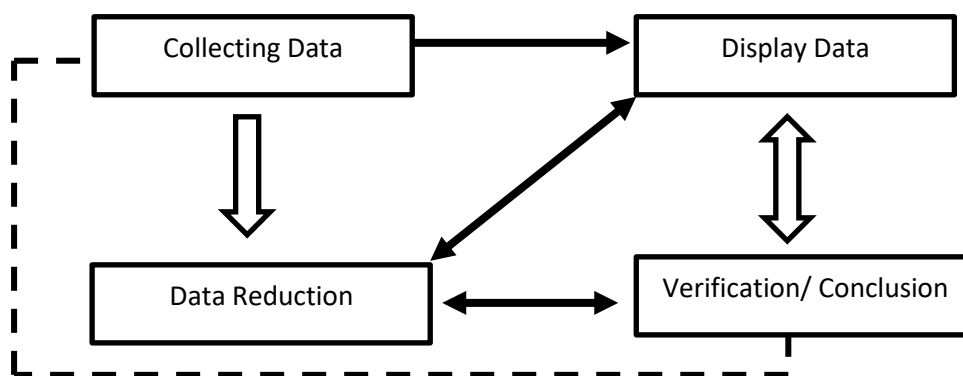


Figure 1. Data Analysis Chart

The indicators and categories are explained in the Table 1 to assess the carrying capacity of sustainable development goals.

Table 1 Categorization of Carrying Capacity for Sustainable Development Goals

Concept and Implementation of Environmental Education	Category
Less planned and poorly implemented	Rendah
Planned but poorly implemented	Sedang
Planned and well-implemented	Tinggi

The environmental education carrying capacity category is assessed based on the concept and implementation carried out by schools. High category for well-planned and well-implemented concepts. Medium category if the concept has been planned but not implemented properly. The low category is if the concept is not well planned and the implementation is not good either.

Finding and Discussion

The results of this research show on Table 2 below.

Table 2. Concept and Implementation of Environmental Education

Name of school	Environmental education concept	Implementation of environmental education
MI NU Rowolaku	Simple through the agreement of the principal	a. Putting up posters to protect the environment together

	and teacher at the beginning of the year meeting	<ul style="list-style-type: none"> b. Alternate class cleaning schedule c. Do community service d. Has its own waste processing facility e. Invite students to bring and plant plants in the school environment
MIN Pekalongan	More mature under the Adiwiyata school program	<ul style="list-style-type: none"> a. Adiwiyata program up to the provincial level b. Integrating with thematic learning c. Make a daily picket schedule in class d. Provide trash cans in strategic places e. Garbage is managed in collaboration with the cleaning service f. Installation of hygiene posters g. Invite students to plant and care for plants



Figure 3. Organic and Non-Organic Trash Cans in Every Class



Figure 4. Environmental Love Poster

Environmental Ethics

According Sandler “*environmental ethics is the study of ethical relationships between human beings and the natural environment, including the nonhuman individuals that populate/constitute it*” (Yanti & Yusliani, 2020). Meanwhile, Taylor said that environmental ethics is a moral relationship that relates to humans and nature. Sonny Keraf, in his book, reveals that environmental ethics is considered a scientific discipline that discusses moral values and rules that govern human actions and their interactions with nature and the surrounding environment. It also relates to moral values and principles that give primacy to human actions in interaction with nature. Based on the opinions of these experts, it can be concluded that environmental ethics or environmental ethics is a study that focuses on how humans interact with nature or the environment (Tampubolon, 2022). Ethics towards the environment must be used as a lifestyle because humans are responsible for overcoming problems that occur in the surrounding environment (Omran, 2014).

Sustainable Development Goals (SDGs) 2030

Environmental ethics is one of the ways to achieve *sustainable development goals* (SDGs) 2030. The SDGs or Sustainable Development Goals result from an agreement between world leaders, including Indonesia, to take comprehensive actions to eliminate poverty, reduce inequality and provide environmental protection

(Rehman et al., 2022). Sustainable development goals have a goal scope of 17 points and 169 targets. These goals and targets are expected to be achieved by 2030. Apart from that, the SDGs also have four pillars. The four pillars of development are (1) social; (2) environmental; (3) economy; and (4) law and governance. The second pillar, environmental development, is closely related to environmental ethics. Environmental ethics also contributes to achieving the SDGs goals, namely the 13th goal on climate change management (climate action), the 14th goal to protect marine ecosystems (*life below water*) and the 15th goal to protect terrestrial ecosystems (*life on land*) (Khuzaimah et al., 2021).

Implementation of Environmental Education in Madrasah Ibtidaiyah to Improve Environmental Ethics in Supporting (SDGs) 2030

In madrasah ibtidaiyah, environmental education is implemented to improve environmental ethics in support of (SDGs) 2030 carried out in several ways. These include:

1. Integration with school subject

The development of environmental education must be integrated with every subject. These values are contained in the syllabus and lesson plans. The development of these values in the syllabus is carried out in the following way: a) Assessing core competencies (KI) and basic competencies (KD) in primary education. b) Determine whether the implicit or explicit content of values and characters in SI and KD or competencies are included. c) Mapping the relationship between KI/KD/competence with values and indicators to determine the values to be developed. d) Determine the value/character in the syllabus that is compiled. e) Include the values listed in the syllabus in the RPP. f) Create active student learning strategies that allow children to internalize values and demonstrate them through acceptable behavior. g) Helping students who struggle to internalize principles and show them through behavior (Nainggolan, 2021).

The integration of environmental education in school subjects has been reflected in the teaching and learning activities (KBM) process in MIN Pekalongan. Environmental education is adjusted to the theme to be taught, or it could be to some religious content. Another example of integrating environmental education is carrying out activities using used materials in the learning process so that students maintain cleanliness and preserve the earth more (Mauluah et al., 2020). As for MI NU Rowolaku, environmental education has not appeared clearly in its integration with subjects. Environmental education integrated with subjects looks limited to utilizing the environment as a place for learning (*outdoor class*).

2. Habituation of students through school culture

According to the Ministry of National Education, school culture is the environment in which students interact with each other, principals, teachers and other school personnel. Generally, school culture includes rituals, expectations, connections, extracurricular and curricular activities, policies, and social interactions between school constituents. School culture is the environment in which students, teachers, counsellors, and other staff members interact with one another and with other members of the school's community organization. The different rules, norms, values, and ethical principles common in schools govern interactions within groups and between groups. Superior leadership, kindness, tolerance, work ethic, discipline, concern for the environment and society, a sense of national identity, and responsibility (Vita Fitriatul Ulya, Adhiesta Kurnia F. R., 2021).

Following with school culture that students are accustomed to every day. It will instill cultural values, one of the efforts to instill environmental education in students. School culture at MI NU Rowolaku and MIN Pekalongan has been carried

out massively in supporting environmental education. For example, schools work with students and parents to bring together and plant seeds in the school environment. Students also have to look after and care for plants at school.

3. Exemplary

Environmental ethics must not only be owned by students but also must be owned by teachers at school (Karakaya & Yilmaz, 2017). Teachers can set an example in front of students to instill environmental education. Teachers at MI NU Rowolaku and MIN Pekalongan set an example by giving direct examples; if they find scattered trash, the teacher picks it up and throws it in the trash. The teacher gives an example: watering plants so students would participate and care for the plants and the environment.

Students will always see the teachers' and staff's gestures and actions in the school environment. What students see will be considered an example and become role models. Likewise, in terms of environmental education and ethics, students will imitate everything their teacher does. Therefore, it is a crucial exemplary factor in terms of environmental education. Exemplary environmental education can be exemplified by when the teacher walks and sees trash, and the teacher picks it up and throws it in the trash that has been provided.

Exemplary refers to a mindset and being an example as role model for other students, teachers, and education staff. Students set an example through their behavior and attitudes by setting a positive example for others. Students who excel are expected to be role models for other students. It includes teachers, education personnel, and students. Teachers and other educators must set standards of behavior if they want students to act and act in ways that reflect the character values of caring for the environment. They must do this by modelling this behavior for students first and foremost. For example, present yourself well, be on time, and keep yourself neat (Romualdi & Kumalasari, 2022). In schools, school principals, educators and education staff carry out exemplary examples in implementing environmental education. However, because students also live in the home environment, environmental education should also be the responsibility of parents at home (Mizani & Ramli, 2022).

4. Spontaneous activity

Activities that occur suddenly are referred to as spontaneous activities. When teachers and other education personnel become aware of a student's negative behavior, which must be corrected at the time, they usually do this exercise. When a teacher sees inappropriate behavior or attitude, it is his responsibility to correct it so that children do not repeat it (Nantara, 2022). For example, improper trash disposal, shouting so loudly that it disturbs others, fighting, yelling, acting violently, and inappropriate clothing. Behavior and attitudes of students who are bad and good, and therefore require recognition, can be applied to spontaneous activities, such as achieving good grades, helping others, and many others

Examples of spontaneous activities related to environmental education at MI NU Rowolaku include if there is scattered trash, it will be picked up and put in a trash can. By disposing of trash in its place, students help protect the soil from pollution, so this spontaneous activity is closely related to one of the SDGs' goals, which is protecting ecosystems on land. As for the spontaneous activities at MIN Pekalongan, for example, when you see a plant that is wilting or dead, the teacher and students will deal with it together because it is a form of student responsibility for the environment. Thus this is a reflection of students' environmental ethics while at the same time helping to achieve the SDGs goal of protecting ecosystems on land.

5. Collaboration with various parties

In implementing environmental education to improve students' environmental ethics, MI NU Rowolaku and MIN Pekalongan must work together and build cooperation with other parties. Parties involved in this include the parents of students and the surrounding community. MIN Pekalongan conducts environmental education with the Environmental Service to procure trash bins. Apart from that, MI NU Rowolaku and MIN Pekalongan are also working with students' parents to procure plants for the school garden.

6. Infrastructure and facilities

Environmental education can be done by putting up posters or aphorisms that contain invitations to protect the environment. In addition, supporting facilities and infrastructure such as trash cans, cleaning equipment and others also play a vital role in implementing environmental education in schools (Asih, 2021). MIN Pekalongan has better facilities and infrastructure to support environmental education when compared to MI NU Rowolaku. Such as the availability of trash cans, environmental education posters, and programs related to maintaining and caring for the school environment.

Supporting Capacity of MI NU Rowolaku and MIN Pekalongan towards SDGs 2030

MI NU Rowolaku has a moderate level of carrying capacity for the 2030 *Sustainable Development Goals* (SDGs). Classified as medium level because the environmental education conducted by MI NU Rowolaku has yet to be implemented optimally. In the *focus group discussions* conducted in the context of data triangulation, several teachers mentioned that students' environmental ethics in class were quite good, especially when they were with the teacher. However, when outside the classroom, students do not have consistent environmental ethics. There is still much trash scattered when the break is over. Apart from that, students' awareness of protecting the garden together is still very low. It is because of the limited facilities and infrastructure related to environmental education. Referring to the categorization of carrying capacity for *sustainable development goals*, MI NU Rowolaku is in the medium category because, conceptually, it has been planned but not implemented properly.

As a school that has the predicate of an adiwiyata school, MIN Pekalongan certainly has a clear and well-planned concept. In addition, the implementation of the concept is also good. Based on the indicators and categorization of carrying capacity for sustainable development goals, MIN Pekalongan has a high capacity for sustainable development goals (SDGs) 2030.

Environmental education conducted by Madrasah Ibtidaiyah can improve students' environmental ethics. It directly or indirectly has a positive impact on the 2030 sustainable development goals or SDGs. The impact provided is in the form of strengthening the second pillar of SDGs, namely environmental development. In addition to supporting these pillars, environmental education also contributes to achieving the SDGs goals, namely the 13th goal on climate change management (*climate action*), the 14th goal to protect marine ecosystems (*life water below*) and the 15th goal to protect land ecosystems. (*life on land*). In the future, students will contribute positively to handling climate change and protecting marine and terrestrial ecosystems because of their ethics towards the environment they have. Through environmental education and increasing environmental ethics, students will better protect and appreciate the environment in which they live. According to UNESCO's mandate, sustainable development is the ultimate goal of the relationship between

humans and the environment. Thus, it fits the ongoing educational process that can reshape sustainable development (Sauvé, 1996).

Conclusion

Environmental ethics is needed for the survival of creatures on this earth. Enhancing environmental ethics in the world of education can be done with environmental education. The concept of environmental education owned by MI NU Rowolaku is quite simple. However, its implementation is good enough to classify its carrying capacity for *sustainable development goals* as moderate. Meanwhile, MIN Pekalongan, which already has the title of an adiwiyata school, has a clear and measurable concept of environmental education and excellent implementation so that it has a carrying capacity for the high category of sustainable development goals. Some of the implementations of environmental education include integration with subjects, habituation to students through school culture, exemplary, spontaneous activities, cooperation with various related parties, and facilities and infrastructure. This research shows that every educational institution, whether an Adiwiyata school or not, has the same responsibility in implementing environmental education so that students have environmental ethics and can support the achievement of the 2030 *Sustainable Development Goals* (SDGs). Researchers see that students' environmental ethics are actually not only the responsibility of educational institutions or schools but also the responsibility of parents at home to instill environmental ethics in MI/SD children, so they have an awareness of how important it is to protect and preserve the environment.

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