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AQUATIC ETHICS SCHOOL: LEARNING TO PROTECT THE COASTAL ENVIRONMENT AT SMP NEGERI 6 BOZIHONA, IDANOGAWO DISTRICT

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Abstract:

Background. Coastal areas are among the most productive ecosystems on Earth, yet they are also among the most exposed to human carelessness, particularly the steady inflow of plastic waste.

Aims. This activity was carried out to build the knowledge, attitude, and moral responsibility of young people toward coastal sustainability through the "Aquatic Ethics School: Learning to Protect Coastal Environments" program, held on 18 June 2026 at SMP Negeri 6 Idanogawo, Nias Regency, North Sumatra.

Methods. The program combined interactive talks, small-group discussion, an open Q&A session, and a closing commitment declaration written and read by the students themselves. Before the session, most participants could not clearly connect everyday habits with the condition of the coast near their school; afterward, they were able to explain microplastic formation, the logic behind Reduce-Reuse-Recycle, and where they personally fit into the problem.

Conclusion. The enthusiasm shown during discussion, together with the willingness to sign the commitment declaration, suggests that ethics-based environmental education can move students from passive awareness toward a felt sense of responsibility for the coastline they live beside.

Keywords: environmental ethics, coastal education, plastic waste, youth awareness, aquatic ethics school



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INTRODUCTION

No aspect of human life is truly independent of the environment. The economy, social relations, and even the culture of a society ultimately depend on the health of the environment in which they live. Among the various types of environments that support life, aquatic environments, marine, coastal, river, lake, swamp, and other bodies of water have a somewhat unique position because they provide something irreplaceable: food, water, transportation routes, and other often overlooked ecological services. (Odum dan Barrett 2005).

The coastal area itself is part of the aquatic environment, whose position is quite unique, because it stands at the meeting point between land and sea. (Dahuri et al. 2008) stated that this area has high biological productivity and plays a vital role in maintaining ecosystem balance. It's where fish, mollusks, crustaceans, seagrass, mangroves, and coral reefs thrive and reproduce. Its role extends beyond the ecological aspect; economically, the coast supports many people through fishing, tourism, and maritime transportation.

Unfortunately, such enormous potential is met with a far-from-ideal reality. Indonesia, with the second-longest coastline in the world, faces increasing pressure on its coastal environment. Plastic waste, household waste, industrial waste, and even indiscriminate

littering are the main causes of declining coastal water quality. (Fransisca 2011) recorded millions of tons of plastic entering the ocean every year, and according to (Kastilon et al., 2024), Plastic that is not managed properly will eventually fragment into microplastics that pollute sediments, water, and even biota in coastal ecosystems, something that is difficult to restore even if the source of pollution is stopped.

Interestingly, the root of these problems is rarely purely technical or infrastructure-related. (Kerap 2010) shows that environmental issues often stem from a human perspective that treats nature merely as an object to be exploited, without considering its sustainability. From this point on, environmental ethics becomes relevant not as an abstract theory but as a way of thinking that places human moral responsibility towards nature on a par with that towards other human beings. (Kerap 2010).

The question then is, how can these values be instilled, especially in the generations who will inherit this environmental condition? Environmental education is one answer. (Nadiroh 2018) emphasizes that environmental education ideally does not stop at transferring knowledge, but also shapes students' attitudes and skills in protecting the environment on a daily basis. In line with this, (Maryati et al. 2024).

A community outreach project in Bone Bolango demonstrated that direct education effectively raises students' awareness regarding waste management; similarly, (Lahabu et al. 2024) observed increased understanding among elementary students regarding the dangers of plastic waste. (Atikawati, Suryani, dan Rahmawati 2018) further emphasized that integrating environmental ethics into coastal management is crucial for balancing human needs with ecosystem sustainability, while (Faqih, Nurhayati, dan Putra 2025) Noted that successful coastal management requires the involvement of all segments of society—including, and perhaps especially, the younger generation who will eventually steward these resources. Given the importance of coastal areas, the reality of pollution threats, and the need for an early ethical foundation, our implementation team felt compelled to engage directly with coastal youth rather than merely documenting the issue in a study. Consequently, we conducted the "Aquatic Ethics School: Learning to Protect the Coastal Environment" program at SMP Negeri 6 Idanogawo (Idanogawo State Junior High School) in Nias Regency. Our goal was simple: to ensure that students not only recognize the importance of coastal areas but also feel a sense of responsibility for their preservation.

METHOD

The "Aquatic Ethics School: Learning to Protect the Coastal Environment" activity is conducted using educational and participatory methods, including lectures, discussions, a Q&A session, and a commitment declaration. Time and Location: The activity will take place on June 18, 2026, starting at 08:00 WIB (Western Indonesian Time) until completion, at SMP Negeri 6 Bozihona, Idanogawo District, Nias Regency, North Sumatra. Figure 1: Location Map Target Participants The activity targets students from SMP Negeri 6 Idanogawo, selected because the younger generation plays a crucial role in ensuring the future sustainability of the coastal environment. Implementation Stages The methods employed in this activity include: 1. Lectures: delivery of material via direct presentation using visual aids. 2. Discussions: participants are given the opportunity to share their opinions and experiences regarding environmental issues. 3. Q&A Session: conducted to assess the participants' level of understanding regarding the material presented. 4. Commitment Declaration: participants are invited to make a collective commitment to protect the environment.

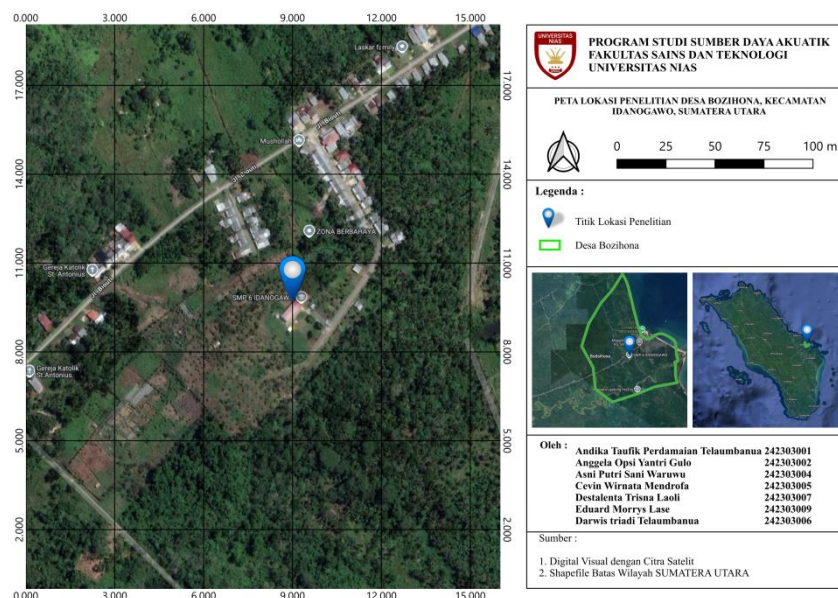


Figure 1: Location Map

RESULTS AND DISCUSSION

Activity Implementation The Aquatic Ethics School activity was held as scheduled on June 18, 2026, at SMP Negeri 6 Idanogawo. The event began with an opening session

and an introduction of the organizing team to the participants. The first topic covered was the definition of ethics, introducing participants to ethics as a guide for determining proper actions (Siswanto et al., 2016). Next, material on environmental ethics was presented, emphasizing that humans are not the absolute owners of nature but rather part of an ecosystem and must ensure its preservation (Keraf, 2010).

The subsequent session focused on the coastal environment, introducing students to the ecological, economic, and social functions of coastal areas; these regions play a vital role as habitats for various marine organisms and as sources of livelihood for local communities (Dahuri et al. 2008). Participants were then presented with information on coastal pollution, highlighting plastic waste as a major threat, given that millions of tons enter the ocean annually (Jambeck et al. 2015), and noting that some of these waste fragments fragment into microplastics, contaminating sediments, water, and biota within coastal ecosystems (Kastilon et al. 2024). The final session addressed solutions and concrete actions, introducing the Reduce, Reuse, Recycle (3R) concept as a means to mitigate environmental pollution (Aromi, Putri, dan Rahayu 2024). The activity concluded with a collective declaration of commitment to environmental preservation by all participants.



Source: Personal Document 2026

Discussion: Prior to the activity, most students tended to view "protecting the environment" merely as a school rule, akin to an administrative obligation, rather than as something linked to personal values or morality. This mindset is understandable, given that environmental ethics education is rarely explicitly addressed in the junior high school curriculum. Following the presentation of the material, a shift in perspective occurred:

students began to understand that maintaining environmental cleanliness is, in fact, a form of moral responsibility toward something greater than themselves. This shift aligns with the view (Keraf, 2010) that environmental ethics fundamentally aims to foster an awareness of the need to treat nature responsibly, rather than simply complying with rules. This change in perspective is significant because it lays the foundation for more enduring behavioral change; an individual who protects the environment out of a sense of responsibility tends to be more consistent than one who does so merely to comply with mandates.

In this regard, the improvement in students' understanding occurred not only at the level of factual knowledge, such as recognizing the coast as a habitat for diverse marine life, but also at the level of grasping cause-and-effect relationships. Students began to connect coastal degradation to more than just the visual issue of a dirty beach; they recognized the cascading impacts on fishery resources and the livelihoods of local fishing communities an understanding that aligns with the explanation provided by (Dahuri et al. 2008) that coastal areas are among the most productive yet vulnerable ecosystems. Interestingly, during the discussion sessions, some students linked the material to their own observations of beaches near their homes, demonstrating that the information was not merely received passively but was being connected to their daily realities. The topic of pollution elicited one of the strongest reactions from participants.

Upon learning that plastic waste not only mars the beauty of beaches but also endangers marine organisms and that some of it fragments into microplastics that can enter the human food chain, several participants appeared surprised; some even spontaneously asked whether the fish they regularly consume were at risk of contamination. Such reactions indicate that presenting concrete, personal impacts, specifically those directly affecting the participants' own health, is more effective at fostering awareness than simply presenting statistical data. This finding aligns with the experiences of (Murtini dan Rahmadanik 2024) During a plastic waste reduction program in Surabaya, it was noted that the community was only truly motivated to change their behavior after understanding the tangible impacts on themselves, rather than merely receiving normative appeals to "care for the environment."

Introducing the "Reduce, Reuse, Recycle" (3R) concept helps students see that a massive issue like coastal pollution still offers simple entry points for action they can take themselves. (Aromi, Putri, dan Rahayu 2024) Note that participatory approaches, where the community, including students, is directly involved from the educational stage, prove more effective than top-down waste management policies that exclude target groups. This was

evident in the current activity: students did not merely receive a passive explanation of the 3R concept but were encouraged to identify practical actions they could take, such as bringing their own water bottles, using reusable shopping bags, and properly disposing of waste. In a similar activity at SD Labschool UNEJ, (Anis, Dewi, dan Finali 2024) also found that directly involving students in practical waste sorting moving beyond mere theory contributed significantly to fostering environmentally conscious character; a pattern that appears to hold true for the students at SMP Negeri 6 Idanogawo as well. The declaration of commitment served as a concluding step designed to be more than merely symbolic. (Nadiroh 2018) emphasizes that changes in environmental behavior are more effective and enduring when accompanied by individual commitment and active participation, rather than merely receiving information without follow-up action. In this instance, students did not simply sign or recite statements prepared by the organizing team; instead, they were involved in formulating the commitment points based on actions they deemed feasible for themselves. This approach is crucial because commitments formulated by the participants themselves are more deeply internalized than those simply dictated to them, thereby increasing the likelihood of sustained action after the event, though this naturally requires verification through subsequent evaluation.



Source: Personal Document 2026

Participant Response: Participants demonstrated great enthusiasm throughout the activity. This was evident from the numerous questions raised during the discussion and Q&A sessions; some were remarkably insightful for junior high school students, such as inquiries regarding how microplastics enter the human body and whether coastal conditions in Nias are as severe as global reports suggest. Several participants noted that they had only just learned about the long-term impact of plastic waste on the marine environment and expressed a willingness to adopt eco-friendly habits in their daily lives, whether at home, at school, or while visiting coastal areas.

Activity Evaluation Overall, the activity proceeded successfully, and its objectives were achieved. Participants grasped the material, and the session was interactive. The activity's success was evidenced by high participant engagement, enthusiastic discussion, a clear understanding of the material, and a willingness to join in a declaration of shared commitment. However, it should be noted that success at the stages of understanding and verbal commitment does not automatically guarantee tangible behavioral changes in the long term; therefore, future monitoring or similar follow-up activities remain necessary to ensure the sustainability of the impact.

CONCLUSION

The Aquatic Ethics School activity held at SMP Negeri 6 Idanogawo on June 18, 2026, demonstrated that an ethics-based approach can take students beyond merely knowing that the coastal environment is important; they began to understand the reasons why and, more importantly, to feel a sense of personal responsibility toward it. Understanding the link between ethics and the environment, the dangers of plastic waste and microplastics, and the importance of the 3R principles improved significantly following the activity a shift reinforced by enthusiastic discussions and the willingness of all participants to sign a declaration of commitment at the end of the session. The combination of lectures, discussions, Q&A sessions, and written commitments proved to be an effective method for moving students from passive listening to a willingness to take action, although the long-term sustainability of these commitments will certainly require further monitoring.

Acknowledgement:

The author extends their gratitude to SMP Negeri 6 Idanogawo for facilitating this activity, to the students who participated enthusiastically, and to all those who provided support, ensuring the smooth execution of the activity and the preparation of this manuscript.

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