
Building Environmental Awareness through Communication in the Coastal Areas of Batahan Subdistrict, Mandailing Natal, North Sumatra

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Abstract

Environmental awareness among coastal communities in Batahan District still faces various challenges, particularly those related to waste management, coastal ecosystem degradation, and low levels of environmental literacy. These issues are compounded by the limited availability of waste processing facilities, the lack of continuous environmental education, and the persistent habit of littering found in several coastal areas. Responding to these concerns, the Islamic Communication and Broadcasting Study Program carried out a community service initiative focused on fostering environmental awareness through participatory, dialogic, and educational communication approaches. This community engagement activity was designed using a qualitative research method to explore the community's needs and identify the most effective communication patterns. The program included educational sessions on the importance of preserving coastal ecosystems, ecological campaigns disseminated through local social media platforms, and direct assistance to coastal community groups in developing relevant environmental programs. This approach not only emphasized the delivery of information but also encouraged active involvement of community members at every stage, making the educational process more meaningful and easily accepted. The results of the activity indicate a significant increase in community understanding regarding the importance of preserving coastal environments, including awareness of the dangers of plastic waste and harmful fishing practices. Community participation in coastal clean-up activities also improved, marked by the establishment of village-level environmental awareness groups. This initiative demonstrates that effective communication, particularly interpersonal and group communication, plays a crucial role in encouraging sustainable ecological behavior change within coastal communities.

Keywords: *Islamic Environmental Communication, Ecological Da'wah, Participatory Communication, Coastal Community Empowerment.*

INTRODUCTION

Coastal areas are vital ecosystems that support environmental balance as well as the economic sustainability of local communities. Coastal resources provide living space and livelihood opportunities for various social groups, especially fishers, seaweed farmers, and seafood traders. This potential makes coastal regions centers of economic activity based on renewable natural resources, yet they remain highly vulnerable to overexploitation and ecological degradation. (Titah Dewanti et al. 2023)

Environmental issues have become a daily topic of discussion, dominating both scientific discourse and conversations in the mass media. This is not only because they are directly related to human life, but also due to the increasing severity of environmental problems. These range from natural disasters caused by human-induced environmental damage to uncontrollable climate change. (Sukomardojo et al. 2023)

“The realities surrounding coastal environmental problems serve as a warning for all parties to recognize the importance of coastal area management. In facing the complexity of these coastal issues, an integrated and sustainable approach is essential for managing the

potential of coastal regions. Coastal pollution caused by ship dismantling involves various forms of contamination, such as oil spills, hazardous waste, and heavy metal materials that can damage marine ecosystems. This pollution directly affects seawater quality, marine life, and the health of communities living around coastal areas. Moreover, such pollution can also impact the fisheries and aquatic sectors, which serve as the primary sources of livelihood for most coastal communities in Batahan.

In daily life, people constantly deal with waste. Every activity inevitably produces waste. Many studies have been conducted on waste, and the findings show that waste management is often inadequate due to limited land or the unavailability of space to build temporary waste disposal sites, insufficient facilities and infrastructure, and low public awareness regarding proper waste management. To maintain good health, environmental cleanliness must also be preserved. A clean environment means being free from various forms of pollution that can negatively affect all aspects of life. Therefore, strong public awareness is needed to maintain environmental cleanliness. One important aspect of cleanliness is managing waste properly. (Tan, Sarmiati, and Elfitra 2019)

One of the root causes of this situation is the low level of environmental literacy and awareness among the community. Many residents do not fully understand the long-term impacts of coastal degradation. The lack of education makes it difficult for people to abandon old habits, such as disposing of waste into the sea or cutting down mangroves for short-term needs without considering the consequences. (Ridho et al. 2023)

Communication holds a strategic role as a tool for building understanding and changing community behavior. It functions not only as a means of disseminating information, but also as a space for dialogue to foster shared awareness. This aligns with development communication theory, which emphasizes the importance of empowering individuals through participatory communication processes. (Aisya 2020)

Environmental communication is a pragmatic and constitutive means of providing the public with an understanding of environmental issues, including our relationship with the natural world. It serves as a symbolic medium used to frame environmental problems and negotiate differing responses to those issues. In other words, environmental communication is used to build shared understanding regarding environmental challenges. It involves message-packaging strategies within various media to foster public awareness and participation in environmental management. The main communicators in environmental communication are the government and non-governmental organizations that are committed to environmental stewardship. (Titah Dewanti et al. 2023)

Through a dialogical approach grounded in Islamic values, the community service program carried out by the Islamic Communication and Broadcasting Study Program (KPI) is designed to help coastal communities understand that protecting the environment is not only a social obligation, but also a form of worship. Delivering messages through dakwah bil hal, environmental lectures, and group discussions has proven effective in touching the community's affective dimension.

This community service initiative also includes training, ecological campaigns through local social media, and community mentoring to establish environmentally aware groups. Thus, communication is not merely one-way, but involves the active participation of community members in designing and implementing environmental programs.

Overall, this community service effort serves as a concrete contribution of the Islamic Communication and Broadcasting Study Program in supporting regional development. Through comprehensive environmental literacy and a communication approach that is both

humanistic and Islamic, this initiative is expected to foster sustainable ecological awareness among the coastal communities of Batahan, enabling regional potential to develop without harming environmental sustainability.

RESEARCH METHODS

The community service program was carried out in October 2025 in the coastal area of Batahan Subdistrict, Mandailing Natal Regency. The target participants were coastal residents from several villages in Batahan Subdistrict, with a total of 20 participants. The approach used in this activity was a socialization method, which aimed to provide understanding about the importance of preserving coastal ecosystems and to increase community awareness of the impacts of environmental degradation occurring in the sea, along the coastline, and within mangrove areas. In addition, the activity employed an open discussion method, giving community members the opportunity to ask questions and share their experiences related to coastal environmental issues. This method was chosen to ensure a participatory communication process, allowing the community not only to receive information but also to be actively involved in the learning experience.

The preparation of the Community Service Team was carried out through coordination with the subdistrict government, village officials, community leaders, and local communities in the coastal area of Batahan to determine the schedule, location, and technical requirements for the activity. This coordination was essential to ensure that the program could be implemented effectively and in accordance with the local community's conditions. The implementation of the activities employed presentation methods, interactive dialogues, and group discussions related to understanding coastal environments. The socialization emphasized issues such as waste management, mangrove conservation, the dangers of marine pollution, and the importance of maintaining beach cleanliness as a shared responsibility. The ultimate goal of this activity was for the coastal communities of Batahan Subdistrict to enhance their awareness and environmentally friendly behaviors, thereby preventing water, soil, and air pollution and preserving the sustainability of coastal ecosystems for future generations.

RESULTS AND DISCUSSION

The results of the community service activities indicate that communication serves as a highly effective strategy for raising environmental awareness among coastal communities. Direct, simple, and humanistic communication made it easier for the public to understand the ecological messages conveyed. This aligns with Effendy's concept of effective communication, which emphasizes clarity, closeness, and interaction in the message delivery process. (Herutomo and Istiyanto 2021)

Interpersonal communication was a key element in this activity because it allowed for emotional closeness between the community service team and the community. Face-to-face interactions made it easier for the team to gauge residents' responses and adjust their delivery methods according to audience characteristics. DeVito notes that effective interpersonal communication enhances the level of message acceptance by the recipient.

During the socialization sessions, the team presented materials on the importance of keeping beaches clean, the impact of plastic waste on marine life, and the role of mangroves in

coastal protection. The messages were delivered in easily understandable language and accompanied by real-life examples relevant to the community's daily lives. According to Bandura's social learning theory concrete examples and contextual explanations can influence behavioral change. Discussions held after the counseling sessions provided the community with a space to share their experiences and challenges in maintaining the environment. Although not structured as formal focus group discussions, these Q&A sessions still allowed residents to actively participate in the communication process.(Arkansyah et al. 2021)



The speaker, Ahmad Riski Sulaiman, a student of the Islamic Communication and Broadcasting (KPI) Study Program, delivered a comprehensive presentation on the topic *'Building Environmental Awareness through Communication in the Coastal Areas of Batahan Subdistrict, Mandailing Natal, North Sumatra'*. In his explanation, he elaborated on how dialogic, participatory, and educational communication approaches can play a significant role in fostering environmental awareness in the coastal region of Batahan. Through a well-structured analysis and field-based examples, Ahmad Riski Sulaiman emphasized the importance of collaboration between the community, local leaders, and educational institutions in realizing more sustainable behavioral change.

Through these discussions, it was revealed that most residents face difficulties in managing waste due to limited facilities and entrenched habits. By understanding these barriers, the community service team could provide more realistic and context-appropriate recommendations. This approach reflects Freire's principles of participatory communication, which stress the importance of listening to the realities of the community.

An approach based on Islamic values was also an important factor in the effectiveness of the program. The concept of *khalifah fil ard* (stewardship of the earth) was used to emphasize that humans are entrusted by Allah SWT to care for the planet. This message was well received because it resonated with the moral and religious awareness of the residents. According to Seyyed Hossein Nasr environmental ethics in Islam can enhance spiritual motivation to care for nature.

The concept of *amanah* (trust) was also used to explain that maintaining beach cleanliness is not only a social responsibility but also an act of worship. Abdullah (2012) explains that when religious values are integrated into environmental messages, spiritual awareness is strengthened, encouraging behavioral change. This was evident in the positive responses of residents during the socialization activities. *Dakwah bil hal* (preaching through example) also had a significant impact. The community service team demonstrated practical actions such as sorting waste and cleaning the activity area. Hamka (1984) states that leading

by example is the most powerful method of preaching in shaping community behavior. These tangible actions motivated residents to take similar initiatives. (Siregar 2014)

The use of social media by some residents also showed positive effects. Simple content, such as photos of beach clean-ups and quotes encouraging environmental care, became a modern communication medium that extended the reach of the messages. McQuail (2011) notes that digital media can accelerate information dissemination and influence public opinion more rapidly. Visual aids, such as posters and images displayed during the activities, helped strengthen community understanding. According to Paivio's dual coding theory (1986), presenting visual and verbal information together enhances memory and comprehension. (Putra Perssela, Mahendra, and Rahmadiani 2022)

One of the most significant outcomes was the establishment of an Environmental Awareness Group (Kelompok Sadar Lingkungan or KSL) in a coastal village in Batahan Subdistrict. This group emerged as a joint initiative after the community recognized the need for an organized platform to carry out regular environmental activities. The formation of the KSL indicates structural change within the community. The presence of the KSL demonstrates that the community is beginning to develop collective awareness in maintaining the environment, rather than merely participating when a program is ongoing. Zimmerman (2000) states that local institutional forms like this are indicators of increased community empowerment.

The KSL began planning regular activities such as weekly communal work, environmental education for coastal children, and mangrove patrols. This demonstrates that education and communication can generate long-term impacts that extend beyond the scope of the community service program. This sustainability model aligns with the concept of sustainable community development outlined in the Brundtland Commission report. (Saptenno, Saptenno, and Timisela 2022)

Overall, this community service activity demonstrates that effective communication—whether interpersonal, discussion-based, or rooted in Islamic values—can build ecological awareness among coastal communities. The community not only gained understanding but also showed behavioral change through concrete actions. Through a combination of scientific, religious, and participatory approaches, this activity made a tangible contribution to the preservation of the coastal environment in Batahan Subdistrict. It shows that targeted communication can serve as a key driver of ecological behavior change in coastal communities.

CONCLUSION

The community service program conducted by the Islamic Communication and Broadcasting Study Program (KPI) at UIN Syekh Ali Hasan Ahmad Addary Padangsidempuan has shown a significant impact in raising environmental awareness among the coastal communities of Batahan. Through a dialogical, participatory communication approach aligned with Islamic values, the community was not only provided with information but also encouraged to understand environmental issues as part of their moral and religious responsibilities. This approach made the messages easier to accept, as they were linked to the values of *khalifah fil ard* and *human amanah* in caring for the Earth. As a result, public literacy regarding coastal environmental issues—such as the importance of maintaining beach cleanliness, reducing plastic waste, and conserving mangroves—has increased significantly.

Another observable impact of the program is the formation of the Environmental Awareness Group (Kelompok Sadar Lingkungan or KSL), which serves as a platform for the community to act collectively in preserving the cleanliness and sustainability of coastal ecosystems. The presence of the KSL demonstrates that effective communication can produce structural changes at the community level, not just individual behavioral changes. Moreover, community participation in collective activities has visibly increased, with more residents involved in beach clean-ups, mangrove planting, and environmental education for children. This shows that the community not only understands the messages conveyed but also begins to apply them in concrete actions.

This community service program confirms that communication is not merely a tool for delivering messages but an instrument of empowerment capable of shaping ecological awareness and behavior in society. To ensure the sustainability of the achieved results, continued guidance is essential, particularly to strengthen the capacity of the KSL and ensure environmental activities are carried out consistently. With ongoing support, the people of Batahan are expected to build a stronger ecological culture and maintain the preservation of coastal environments as an integral part of their daily lives.

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