

Young Generation and Natural Resource Sustainability in Al Manar Islamic Boarding School, Aceh Besar

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Abstract

Sustainable natural resource management constitutes a vital challenge in balancing developmental demands with environmental sustainability. Youthful individuals assume a strategic role in this endeavor, as they will be responsible for managing and utilizing natural resources in the future. This community service initiative aims to enhance young people's understanding and awareness, particularly students at the Al-Manar Islamic Boarding School in Aceh Besar, of their role in natural resource management and in alleviating environmental pressures to ensure sustainability for subsequent generations. The community service methodology entailed presenting educational, video-based materials on natural resources and sustainability, subsequently followed by an interactive discussion and a question-and-answer session. The activity's outcomes demonstrated heightened comprehension among participants of the concepts of natural resources, sustainability, and the vital role of young individuals as agents of change. Participants also expressed positive feedback, indicating that the activity delivered significant and valuable information. This community service exemplifies the efficacy of an educational and participatory approach in enhancing environmental literacy among youth and fostering sustainable natural resource management.

Keywords: young people, natural resources, sustainability, community service, Islamic boarding school

INTRODUCTION

Natural resources are the primary foundation for sustainable human life and economic development worldwide. Energy, water, land, and biological and mineral resources are strategic inputs in the processes of production, consumption, and distribution of wealth. However, recent literature confirms that the abundance of natural resources does not automatically guarantee sustainable development unless accompanied by long-term governance (Acheampong et al., 2023; Wang & Zhang, 2024). Excessive reliance on the exploitation of natural resources, particularly non-renewable resources, can accelerate environmental degradation and deepen intergenerational inequality.

Pressure on natural resources has increased significantly over the past two decades due to population growth, urbanization, and the expansion of economic activity. Recent empirical studies show that natural resource exploitation, unbalanced by green innovation and sustainability awareness,

contributes to increased carbon emissions, land degradation, and ecosystem decline (Khan et al., 2023; Baloch et al., 2024). This situation demonstrates that natural resource issues are no longer sectoral but have become multidimensional challenges that simultaneously encompass economic, social, and environmental aspects.

The concept of sustainable development positions natural resources as natural capital that must be carefully managed to provide long-term economic and ecological benefits. Dasgupta (2023) emphasized that failure to incorporate the value of natural resources into economic decision-making will lead to a systemic loss of social welfare. Therefore, natural resource management requires not only appropriate policies and technologies but also a transformation in the values and behaviors of communities, the primary users of these resources.

Changing human behavior is a key factor in the success of the sustainability agenda. Clayton et al. (2022) emphasize that environmental sustainability is largely determined by individual attitudes, values, and awareness of the ecological consequences of daily activities. Without behavioral changes at the individual and community levels, various environmental policies and economic instruments are likely to have limited impact. Therefore, strengthening environmental literacy is a fundamental strategy in promoting sustainable natural resource management.

The younger generation holds a very strategic position in the transformation process towards sustainability. As the group most affected by future environmental degradation, the younger generation has a direct stake in the sustainability of natural resources. Furthermore, various studies show that young people are more adaptable to new values, including environmentally friendly practices and sustainable lifestyles (Otto et al., 2023). Sustainability education provided from an early age has been shown to shape systemic mindsets, increase ecological awareness, and encourage long-term pro-environmental behavior.

Educational institutions and community-based sustainability education approaches are gaining increasing attention in recent literature. UNESCO (2023) emphasizes that Education for Sustainable Development (ESD) is a key instrument for building sustainability competencies, as it integrates knowledge, values, and concrete actions. This approach emphasizes that education aims not only to transfer knowledge but also to shape students' character and social responsibility towards the environment.

In Indonesia, Islamic boarding schools have great potential as centers of values-based sustainability education. The Islamic boarding school functions not only as a religious educational institution but also as a space for the development of ethics, discipline, and social leadership. The integration of religious values with environmental education provides a strong moral foundation for the internalization of environmentally friendly behavior. Recent studies have shown that environmental education linked to religious values significantly increases the consistency and sustainability of pro-environmental behavior among students (Rahman et al., 2024).

Al-Manar Islamic Boarding School in Aceh Besar is one educational institution with a social and institutional environment conducive to the development of education on natural resource sustainability. With a relatively large student population and a structured educational system, this Islamic boarding school has strategic potential to develop young people with environmental literacy and sustainability awareness. However, most environmental education programs at the Islamic boarding school level still focus on specific issues, such as cleanliness and waste management, and do not comprehensively address concepts of natural resources, classification, and environmental management.

Sustainable natural resource management not only requires conservation policies and efficient use but also supporting approaches that reduce direct pressure on primary resources. One approach

that is increasingly receiving attention in the community service literature is proper and valuable waste management, as this practice indirectly reduces the need for new natural resource exploitation.

Various community service activities demonstrate that education and concrete actions in waste management can increase environmental awareness and reduce environmental burden. Zulkarnain et al. (2025) demonstrated that raising awareness of the dangers of plastic waste through an educational approach in schools successfully encouraged environmentally friendly behavioral changes in students. This behavioral change contributed to reducing environmental pollution and curbing natural resource degradation. In addition to educational aspects, improving waste management facilities and infrastructure also plays a crucial role in supporting sustainable practices. Maulana et al. (2025) found that providing waste-sorting facilities in schools significantly improved waste management, thereby reducing the volume of waste discharged into the environment. This indirectly reduced pressure on natural resources, particularly land and water. In the context of Islamic boarding school-based education, waste management has proven effective as a gateway to broader environmental education. Nur et al. (2024) demonstrated that implementing waste management at the Al-Manar Modern Islamic Boarding School not only improved the cleanliness of the school environment but also fostered collective awareness among students about the importance of environmental protection as part of their social and moral responsibility. This awareness has the potential to strengthen the younger generation's role in sustaining natural resources.

Another relevant approach is utilizing waste as a source of economic value. Firdaus et al. (2024) emphasized that processing organic waste into economically valuable products can change public perceptions of waste, turning it into an alternative resource. This utilization helps reduce the exploitation of primary natural resources and supports a circular economy at the community level. Furthermore, the use of plastic waste in handicraft products has been shown to increase environmental awareness and creativity among younger people. Samosir et al. (2023) demonstrated that craft-based plastic waste management not only reduces environmental pollution but also provides added economic and social value for adolescents. This approach demonstrates that innovative waste management can be integral to a sustainable natural resource management strategy. In addition, Aliasuddin et al. (2025) stated that resource efficiency is very important, including energy, so energy use must be carried out efficiently.

Based on these findings, it can be concluded that sound natural resource management requires support from an effective and sustainable waste management system. Integrating waste management into sustainability education, particularly in Islamic boarding schools, has the potential to reduce pressure on natural resources while strengthening the younger generation's role as agents of change in sustainable development.

METHOD

This community service activity was implemented using an educational and participatory approach, aiming to increase the younger generation's understanding of natural resources and their strategic role in reducing pressure on them to achieve intergenerational sustainability. This community service activity was held at the Al-Manar Islamic Boarding School in Aceh Besar Regency, primarily targeting students as representatives of the younger generation. The location was chosen because Islamic boarding schools are values-based educational institutions that play a strategic role in developing character, ethics, and social awareness, including environmental awareness.

The method used in this community service was presentation-based learning combined with interactive discussions and question-and-answer sessions. This approach was chosen because it effectively transfers conceptual knowledge while encouraging active participation. In general, the activity design consists of three main stages:

The initial stage of the activity is carried out by presenting broadcast materials containing:

- Basic concepts of natural resources and their classification (renewable and non-renewable).
- Global and local challenges in natural resource management.
- The impacts of unsustainable exploitation of natural resources. The role of the younger generation in reducing pressure on natural resources through changes in behavior and daily actions.

The material is structured systematically and contextually to ensure easy understanding by participants and emphasizes the relationships among natural resource management, waste management, and environmental sustainability. Following the presentation of the material, the activity continues with a question-and-answer session and an interactive discussion. During this stage, participants are given the opportunity to ask questions about the material presented and to discuss environmental issues they encounter in their daily lives. Clarify the concrete roles that the younger generation can play in maintaining the sustainability of natural resources.

This session aims to deepen participants' understanding, eliminate conceptual ambiguities, and encourage critical thinking on sustainability issues. In the final stage, a brief reflection was conducted to reaffirm the link between good natural resource management, proper waste management, and reducing pressure on natural resources. This reflection aimed to raise awareness that simple actions by younger generations, such as reducing waste, recycling, and using resources efficiently, significantly contribute to environmental sustainability.

RESULTS AND DISCUSSION

Improving the Younger Generation's Understanding of Natural Resource Management. The results of the community service activities demonstrated that presenting material through educational presentations and interactive discussions positively impacted participants' understanding of natural resources and sustainability principles. Prior to the activities, some participants had a limited understanding of the relationship between natural resource management, environmental pressures, and sustainability for future generations. However, after participating in the series of activities, participants understood that natural resources function not only as economic inputs but also as natural capital that must be managed wisely to ensure their availability for future generations.

The materials, which emphasized the classification of natural resources and the consequences of unsustainable exploitation, helped participants understand the urgency of responsible management. This understanding serves as an important foundation for fostering awareness among the younger generation of sustainability issues, particularly in Indonesia, which is rich in natural resources but vulnerable to environmental degradation.

The Strategic Role of the Younger Generation in Achieving Sustainability. The results of the discussions and question-and-answer sessions demonstrated that participants recognize the strategic role of the younger generation in future natural resource management. They understand the younger generation as key actors who will manage, utilize, and determine the direction of natural resource management policies and practices in Indonesia. This awareness is crucial because the sustainability of natural resources depends heavily on the decisions and behavior of future generations. Participants understood that the role of the younger generation does not always have to begin with large-scale policies, but can start with simple, consistent actions, such as reducing waste, promoting material reuse, conserving energy and water, and caring for the surrounding environment. This awareness demonstrates a shift in mindset from an exploitative approach to a more responsible approach to sustainability.

Interactive Discussion as a Means of Strengthening Awareness. The interactive question-and-answer session and discussion were an important part of this community service activity. Through the discussion, participants not only received one-way information but also had the opportunity to clarify concepts, express their views, and relate the material to their daily experiences. This interaction strengthened participants' understanding of the relationship among natural resource management, waste management, and reducing environmental pressure. The high level of enthusiasm shown by the participants in the discussion session demonstrated that the topics of natural resource management and sustainability are highly relevant to the information needs of the younger generation. The discussion also provided a space for shared reflection on current environmental challenges and the role that young people can play in addressing them.

Participant Responses to Community Service Activities. The results of the community service activities also demonstrated a very positive response from participants. Participants expressed their gratitude for participating in this community service activity, as they gained valuable insights into natural resource management and sustainability. The information presented opened new insights into the younger generation's responsibility towards the environment and natural resources. Furthermore, participants expressed their gratitude to the community service team for organizing this activity. This positive response indicates that the community service activities not only provided additional knowledge but also increased participants' awareness and motivation to play an active role in sustaining natural resources.

Implications of Community Service for Long-Term Sustainability. Overall, the results of the activities demonstrate that education and discussion-based community service can be an effective means of building sustainability awareness among younger generations. The understanding gained by participants is expected to serve as the initial foundation for developing environmentally friendly behaviors, both within the Islamic boarding school environment and in broader social life. The long-term implication of this activity is the formation of a younger generation with environmental literacy and an awareness of the importance of sustainable natural resource management. Thus, this community service activity contributes to efforts to sustain Indonesia's natural resources by strengthening the younger generation's role as agents of change.



Figure 1. Presenting the Natural Resources Sustainability in Al Manar Islamic Boarding School

CONCLUSION

The community service activities conducted at the Al-Manar Islamic Boarding School in Aceh Besar increased the younger generation's understanding and awareness of the importance of sustainable natural resource management. Through educational presentations and interactive discussions, participants gained a more comprehensive understanding of natural resources, the challenges posed by unsustainable exploitation, and the strategic role of young people in reducing pressure on them.

The results of the community service demonstrated that young people have significant potential as agents of change in supporting the sustainability of natural resources. Participants' awareness that they will ultimately manage Indonesia's natural resources is crucial for developing a long-term sustainability orientation. The participants' enthusiasm and positive responses during the activities also confirmed that environmental education grounded in dialogue and reflection is an effective approach to instilling sustainability values.

Overall, these activities demonstrated that community service based on education and active participation can strengthen the environmental literacy of the younger generation and encourage more responsible attitudes and behaviors toward natural resource management for the benefit of future generations.

Recommendations

Based on the results and findings of the community service program, the following recommendations can be made. First, educational activities regarding natural resource management and sustainability need to be carried out sustainably and integrated into Islamic boarding school education programs, so that existing understanding can be continuously strengthened and developed. Younger generations, especially Islamic boarding school students, need to be more actively involved in environmental activities, such as waste management, resource reduction campaigns, and simple conservation practices, so that the awareness they develop can translate into concrete actions.

Second, the education- and values-based community service model implemented in this activity can be replicated in other educational institutions to expand the impact of community service in supporting natural resource sustainability at the community level. It is recommended that future community service activities be complemented by more structured evaluations, such as measuring changes in participants' understanding and attitudes before and after the activity, to better assess the service's impact. By implementing these recommendations, it is hoped that community service can make a broader, more sustainable contribution to developing a younger generation that cares for and is responsible for natural resource management in Indonesia.

References

- Acheampong, A. O., Dzator, J., & Shahbaz, M. (2023). Natural resource abundance, environmental sustainability and institutional quality. *Resources Policy, 80*, 103126. <https://doi.org/10.1016/j.resourpol.2023.103126>
- Aliasuddin, A., Effendi, R., Samsudin, H., Rahmi, N., & Fachrurrozi, K. (2024). *The dynamic role of fiscal and monetary policies on energy efficiency in Indonesia. International Journal of Energy Economics and Policy, 14*(6), 420–425. <https://doi.org/10.32479/ijeep.17203>

- Baloch, M. A., Zhang, J., Iqbal, K., & Iqbal, Z. (2024). Natural resource extraction, green innovation, and environmental degradation: Evidence from developing economies. *Journal of Cleaner Production*, 421, 139927. <https://doi.org/10.1016/j.jclepro.2023.139927>
- Clayton, S., Helmreich, S., & Stern, P. C. (2022). Psychological pathways to sustainability: Behavior, values, and policy support. *Annual Review of Psychology*, 73, 1–26. <https://doi.org/10.1146/annurev-psych-020821-102743>
- Dasgupta, P. (2023). The economic case for biodiversity and natural capital. *Nature Sustainability*, 6(3), 234–242. <https://doi.org/10.1038/s41893-022-00945-6>
- Firdaus, T. M., Aidar, N., Aliasuddin, Dawood, T. C., Effendi, R., Nashrillah, Varlitya, C. R., Seftarita, C., Wahyuni, S. S., & Faiziah, A. (2024). Peningkatan nilai ekonomi sampah organik. *Jurnal Pengabdian Aceh*, 4(3), 140–146.
- Khan, I., Hou, F., & Le, H. P. (2023). Natural resource exploitation and environmental sustainability in emerging economies. *Environmental Science and Pollution Research*, 30, 48912–48926. <https://doi.org/10.1007/s11356-023-27011-4>
- Maulana, I., Chalis, M., Syam, H. M., Aidar, N., Aliasuddin, Mirza, Wahyuni, P., Effendi, R., Rahmi, N., & Fachrurrozi, K. (2025). Peningkatan sarana prasarana pengelolaan sampah di SMAN 10 Fajar Harapan Kota Banda Aceh. *Jurnal Pengabdian Aceh*, 5(1), 1–7.
- Nur Aidar, Aliasuddin, Mirza, Awaluddin, Kamal, D., Herawati, R., Sitepu, N. I., Masbar, R., Maulana, I., & Chalis, M. (2024). Pengelolaan sampah di Pesantren Modern Al-Manar. *Jurnal Pengabdian Aceh*, 4(3), 186–192.
- Otto, S., Evans, G. W., Moon, M. J., & Kaiser, F. G. (2023). The development of environmental attitudes and behavior among youth. *Nature Human Behaviour*, 7(3), 372–384. <https://doi.org/10.1038/s41562-022-01454-3>
- Rahman, F., Hidayat, R., & Suryani, D. (2024). Integrating religious values into environmental education for sustainable behavior. *International Journal of Sustainability in Higher Education*, 25(2), 356–371. <https://doi.org/10.1108/IJSHE-07-2023-0289>
- Samosir, I. P., Rahmi, N., Aliasuddin, Darwanis, Dawood, T. C., Seftarita, C., Amri, Z. A., Indriyani, M., Nashrillah, & Sapha, D. (2023). Edukasi pemanfaatan sampah plastik menjadi produk kerajinan tangan bernilai ekonomi bagi remaja di Desa Selat Lancang. *Jurnal Pengabdian Aceh*, 3(3).
- UNESCO. (2023). *Education for sustainable development: A roadmap*. UNESCO Publishing. <https://unesdoc.unesco.org>
- Wang, Q., & Zhang, F. (2024). Natural resource dependence and sustainable development: A global perspective. *Sustainable Development*, 32(1), 115–129. <https://doi.org/10.1002/sd.2598>
- Zulkarnain, Z., Aliasuddin, Yulia, W., Rahmi, N., Aidar, N., Varlitya, C. R., Sapha, D., Meilina, H., Fachrurrozi, K., & Amalina, F. (2025). Edukasi dan aksi nyata: Menumbuhkan kesadaran bahaya sampah plastik di kalangan siswa SMAN 10 Fajar Harapan Banda Aceh. *Jurnal Pengabdian Aceh*, 5(2), 112–118.