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Healthy Environmental Movement "Tree Planting In Coastal Areas," Dairi Regency, North Sumatra

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Abstract. *A healthy and sustainable environment is a fundamental need for the survival of humans and other living things. However, various human activities such as deforestation, pollution, and urbanization have threatened the balance of the ecosystem. Tree Plants will help in maintaining the balance of nature and the surrounding ecosystem so that it will reduce the Negative Impact on Human Health. This Community Service Activity aims to provide Education to the Community and support the preservation of Nature as a vital source in maintaining the balance of the ecosystem and a healthy quality of life. The implementation method is to use a collaborative and participatory approach, emphasizing the importance of the involvement of synergy of various resources, expertise and experience in overcoming complex problems found, collaboration is considered the key to producing better results by combining various perspectives and resources. Community Participation can directly meet the real needs of the Community in a sustainable manner. With good environmental management and the availability of natural resources, it can create a healthy quality of life and the sustainability of the ecosystem in the future.*

Keywords: *Community Service, Environment, Tree Planting, Collaborative*

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INTRODUCTION

Environmental management is a manifestation of sustainable development within the framework of the holistic development of Indonesian people and society (Nomura, 2009; Arifin et al., 2024; Fatimah et al., 2020). According to Ogunkan (2022); Xiong et al. (2023); Rela et al. (2020), the government is obligated to protect and manage the environment, considering ecological, social, and economic aspects to achieve a balance between life and the surrounding environment.

Fleischman et al. (2020) said that, tree planting is one of the most effective and sustainable measures to protect and preserve the environment. The World Health Organization (WHO) encourages countries to include health priorities in their National Development Planning (NDCs), which are national plans to reduce emissions and adapt to climate change (Dasandi et al., 2021; Dodson et al., 2022; Alemaw & Simatele, 2020). Thus, health becomes an integral part of national climate change strategies. Tree planting aims to integrate environmental conservation with public health. Coastal areas in Indonesia face various environmental challenges, such as erosion, declining water quality, and biodiversity loss (Cahyaningsih et al., 2022; Iyiola et al., 2022; Suhardono et al., 2024). This is certainly a concern to avoid damage and disasters caused by an unfavorable environment.

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Corvalan (2020) said that, these programs emphasize the importance of a health system that is resilient to climate change and low in carbon emissions. Trees offer various ecological, social, and economic benefits, such as absorbing carbon dioxide and producing oxygen through photosynthesis, helping to mitigate the greenhouse effect and global warming (Adiaha et al., 2020; Gopamma et al., 2024; Vincent, 2024). In addition, it also prevents erosion and flooding because tree roots stabilize the soil, prevent erosion, and reduce the risk of flooding by absorbing rainwater. There is also an improvement in air quality because trees filter air pollutants such as ozone, ammonia, sulfur dioxide, and nitrogen oxides, as well as reducing noise pollution. According to Chang et al. (2020), A greener and cleaner environment can improve the quality of life, reduce stress, and improve the physical and mental health of the community. Trees also provide habitat by providing homes for various species of flora and fauna, supporting biodiversity. Meanwhile, social and economic benefits for humans around them can improve the quality of human life by providing green space, reducing stress, and supporting recreational activities (Selanon & Chuangchai, 2023; Yu et al., 2020).

To ensure successful tree planting, several strategic steps must be considered, including selecting tree species suited to local climate and soil conditions, assessing their resilience to wind and seawater. Selecting the right location will also help determine strategic planting locations, such as open areas, roadsides, or vacant lots, to avoid disrupting housing or coastal areas. Furthermore, careful attention must be paid to the care and maintenance of the plants, ensuring easy watering, fertilization, and regular pruning to support healthy tree growth (He & Tong, 2024).

Collaborating with local governments in environmental conservation efforts offers various strategic benefits that not only support ecosystem sustainability but also improve the community's quality of life (Dawson et al., 2021; Wang et al., 2024). By strengthening capacity and human resources, this collaboration strengthens conservation efforts undertaken by village communities and extends their influence to surrounding areas. Furthermore, it can improve social and economic well-being by involving the community in the management of eco-friendly tourism destinations. This collaboration enables the community to actively participate in decision-making regarding environmental management, which has an impact on increasing community awareness and quality of life. Public education and participation will increase awareness and concern for a healthy environment.

METHODS

This community service is carried out using a collaborative and participatory approach, involving cooperation between various parties, such as universities, the government, and the local community by conducting Focus Group Discussions (FGDs) to convey environmental issues in the coastal area. This meeting not only focuses on tree planting but also on educating the community about the importance of environmental conservation. This movement will also help to create a green and beautiful village and increase public awareness of the importance of environmental sustainability.

RESULT AND DISCUSSION

Implementation of Service

The Community Service Program was implemented in collaboration with the Environmental Conservation Team in North Sumatra. The stages of this Community Service Program implementation are as follows:

First Stage: The first stage involved conducting an open-air Focus Group Discussion (FGD) with the local government, attended by the local community and traditional leaders in Dairi Regency. The outcome of this meeting was a two-day activity plan, which included identifying needs, identifying potential and weaknesses, determining solutions and activities, and organizing the activities. The plan was developed in collaboration with the Community Service Team, the Village Coordinator, and the local community.

Figure 1. Joint meeting with stakeholders in Dairi Regency

Second Stage: Conducting Outreach

This outreach activity is a communication and interaction process carried out by the Community Service Team to introduce, explain, and encourage participation in community service programs designed to improve the welfare and quality of life of the community. This outreach activity will provide clear information about the community service program, including its objectives, benefits, and implementation methods. It will also foster community participation and encourage active participation in the activities to ensure the program runs effectively and aligns with its goal of creating a naturally healthy environment. This outreach activity also builds a harmonious partnership between the local government, the Community Service Team, which consists of members from various universities in North Sumatra, and the local community as partners in social development and empowerment. The outreach activity is conducted through workshops, face-to-face sessions featuring speakers from both the environmental and health sectors who present material and hold direct discussions with the community.

Figure 2. Socialization of the Healthy Environment Movement

Third Stage: Implementation of the Tree Planting Program

This is the implementation of the activity. The activity is carried out jointly by the Community Service Team and the community, as planned. The activity includes tree planting by the Community Service Team, along with the local government and community

Figure 3. Tree Planting Movement

This community service initiative is a solution to environmental problems in coastal areas. Deforestation of mangrove forests for fish farming and development removes natural protection from erosion and flooding. Furthermore, the loss of mangrove vegetation reduces water quality and destroys habitat for various marine species, threatening settlements and coastal infrastructure.

CONCLUSION

Tree planting is a strategic step in preserving the environment and improving quality of life. Collaboration between communities and local governments can strengthen conservation efforts and create a healthier environment. This effort can have a lasting positive impact for future generations.

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