



Environmental Conservation Practices Based on Piil Pesenggiri in Lampung and Their Relevance for Elementary School Science Learning

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| Article Info | Abstract |
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| <p>Article history: <i>Received:</i> 2026-02-06 <i>Revised:</i> 2026-04-26 <i>Accepted:</i> 2026-05-01</p> <p>Keywords: <i>environmental conservation; Piil Pesenggiri; science learning</i></p> <p>This is an open access article under the CC BY-SA license. Copyright © 2026 by Author. Published by Yayasan Mujtahidin Sajimah Selong (Musa Foundation), Indonesia.</p> | <p>Environmental conservation is an important issue in Natural and Social Sciences (IPAS) learning in elementary schools, because it is directly related to the formation of students' attitudes and awareness of their surroundings. This article aims to analyze environmental conservation practices grounded in the local wisdom values of Piil Pesenggiri in Lampung Province and their relevance to IPAS learning at the elementary school level. This study uses a qualitative approach, collecting data through in-depth interviews with traditional and community leaders who understand the values of Piil Pesenggiri in the Bandar Lampung and Pesawaran areas. Data are analyzed descriptively and analytically to reveal the relationship between local cultural values, environmental conservation practices, and their implications in the educational context. The results show that Piil Pesenggiri serves as an ethical foundation that shapes the community's collective awareness in preserving the natural and social environment through the values of togetherness, mutual cooperation, responsibility, and respect for others. These values are relevant to integrate into IPAS learning because they provide contextual, meaningful learning that is close to students' life experiences. The integration of Piil Pesenggiri into science learning has the potential to strengthen environmental literacy and foster cultural awareness in students from an early age.</p> |

INTRODUCTION

The environment is a human living space encompassing natural, social, economic, and cultural dimensions that are intertwined in everyday life. Human interaction with the environment not only determines the sustainability of natural resources but also shapes patterns of behavior, values, and community life systems. In the context of basic education, understanding the environment is an essential part of science and natural sciences learning because students are introduced from an early age to the integrated relationship between humans and nature. Meaningful environmental learning requires a contextual approach so that students can connect concepts with the realities they encounter around them. This approach aligns with the view that learning will be more effective when students learn from real experiences and their immediate environment (Johnson, 2002; UNESCO, 2017).

Indonesia, as a country with geographical and cultural diversity, possesses a wealth of local practices in environmental management and preservation. Each region develops unique ways of maintaining a balanced relationship between humans and nature, in



accordance with the cultural values embraced by its people. In Lampung Province, environmental preservation practices are inextricably linked to local cultural values that are deeply embedded and practiced in the community's social life. Cultural values serve as moral guidelines that guide human behavior in responsibly utilizing and preserving the environment (Zhao et al., 2023). From a cultural anthropology perspective, these local values serve as social mechanisms that maintain the sustainability of community life (Koentjaraningrat, 2009).

One of Lampung's cultural values closely linked to environmental conservation practices is Piil Pesenggiri. Piil Pesenggiri is a Lampung philosophy of life that emphasizes self-esteem, social responsibility, mutual respect, and togetherness in community life (Hadikusuma, 2004). These values not only regulate relationships between people but also influence how people treat the natural environment around them. In practice, Piil Pesenggiri is reflected in mutual cooperation activities, shared resource management, and concern for environmental sustainability. Lampung traditional experts emphasize that Piil Pesenggiri serves as an ethical foundation for maintaining social and ecological harmony in Lampung society.

Several previous studies have shown that local wisdom plays a strategic role in environmental learning and character education in elementary schools. Research by Saidah et al. (2021) found that integrating local cultural values into elementary school science/social studies learning can increase students' environmental awareness and social attitudes. Another study by Marhamah et al. (2022) emphasized that local wisdom-based learning provides a concrete context for students to understand the relationship between humans and the environment more meaningfully. Meanwhile, Fauzi et al. (2023) highlighted that utilizing the social and cultural environment as a resource for science learning contributes to strengthening conceptual understanding and fostering student character. However, these studies generally position local wisdom as an abstract value or supporting learning medium, without specifically examining the actual practices of community environmental conservation as a resource for science learning. Furthermore, studies specifically linking the environmental conservation practices of the Lampung community based on Piil Pesenggiri to elementary school science learning are still very limited. Therefore, this research has novelty in its efforts to examine the concrete practices of environmental preservation in the Lampung community and reconstruct them as a contextual source of science learning in elementary schools.

Based on the above description, this study aims to analyze environmental conservation practices based on Piil Pesenggiri in Lampung and their relevance as a source for science and education learning in elementary schools. Specifically, this study examines the forms of environmental conservation practices in the Lampung community, the underlying Piil Pesenggiri values, and their potential integration into elementary school science and education learning. Through this study, it is hoped that science and education learning can be more contextual, meaningful, and rooted in the socio-cultural



realities of students, while also supporting the formation of environmental awareness attitudes from an early age.

METHOD

This research uses a qualitative approach with a case study design, as it aims to deeply understand environmental conservation practices based on Piil Pesenggiri values within the socio-cultural context of the Lampung community and their relevance to science and science learning in elementary schools. A qualitative approach is deemed appropriate for uncovering the meanings, values, and social practices that exist within the community through direct interaction with the research subjects (Creswell & Poth, 2018; Moleong, 2019).

The case study design was chosen because this research focuses on a specific social phenomenon, bound by a specific time and place context, namely the environmental conservation practices of the Lampung community in the Bandar Lampung and Pesawaran districts. Case studies allow researchers to explore phenomena holistically and contextually, allowing for a comprehensive understanding of the relationship between cultural values, social practices, and science learning (Yin, 2018).

The research locations were determined in Bandar Lampung City and Pesawaran Regency, considering that the two regions represent different environmental characteristics, namely urban and coastal areas. This location selection aligns with the principles of qualitative research, which emphasizes the selection of information-rich cases to gain a deeper understanding of the phenomena being studied (Patton, 2015).

The research subjects were purposively selected, namely figures who have understanding and experience related to the values of Piil Pesenggiri and environmental conservation practices. The research subjects included Lampung traditional figures, community leaders, environmental figures, and educators deemed capable of providing relevant and in-depth information. Purposive sampling technique was used because it allowed researchers to select informants based on their competence and direct involvement in the phenomenon being studied (Creswell & Poth, 2018).

Data collection was conducted through in-depth interviews, observations, and documentation studies. In-depth interviews were used to explore informants' views on the meaning of Piil Pesenggiri, forms of environmental conservation practices, and its relevance as a resource for elementary school science learning. Observations were conducted to directly observe community activities that reflect the values of Piil Pesenggiri in environmental conservation. Documentation studies were used to supplement the data through traditional documents, activity archives, and relevant written sources. This combination of techniques aimed to increase the depth and integrity of the research data (Moleong, 2019; Sugiyono, 2022).

Data analysis was conducted thematically, through the stages of data reduction, data presentation, and interpretation. The analysis process began with coding data from interviews, observations, and documentation to identify key themes related to

environmental conservation practices, the values of Piil Pesenggiri, and their implications for elementary school science learning. Data validity was maintained through triangulation of sources and techniques, as well as member checking of findings with informants to ensure the validity of data meaning (Miles et al., 2014; Yin, 2018).

RESULTS AND DISCUSSION

Piil Pesenggiri as an Ethical Foundation for Environmental Conservation in the Lampung Community

Piil Pesenggiri is a living and deeply rooted value system within Lampung society, serving as an ethical guideline for building social relations as well as human relations with their environment. These values do not exist as formal written rules, but rather as a collective consciousness that shapes people's attitudes and behavior in everyday life. In an environmental context, Piil Pesenggiri positions humans as part of a social and natural order whose harmony must be maintained, because the dignity of the self and community is largely determined by how a person treats others and the surrounding environment (Hadikusuma, 2004). This perspective aligns with the view of environmental ethics, which emphasizes that the sustainability of nature depends heavily on the moral values and social awareness of society, not solely on legal regulations (Keraf, 2010; Palmer, 2016).

The core values of Piil Pesenggiri, such as Nemui Nyimah, Nengah Nyappur, Sakai Sambayan, and Juluk Adek, are directly related to environmental conservation practices. Nemui Nyimah teaches friendliness, openness, and respect for others, which in an environmental context is reflected in the community's willingness to maintain a suitable and comfortable shared living space. Sakai Sambayan emphasizes the importance of mutual cooperation, which forms a strong foundation for collective activities such as environmental cleanup, water source maintenance, and land rehabilitation. Meanwhile, Juluk Adek instills an awareness of self-respect and moral responsibility, so that damaging the environment is seen as an act that violates personal and community honor. These values demonstrate that environmental conservation is deeply rooted in the local cultural system that regulates social behavior (Sibarani, 2012; Hidayat, 2015).

In practice, the internalization of Piil Pesenggiri forms an effective social control mechanism for environmental protection. When cultural norms function effectively, communities tend to avoid environmentally harmful actions due to social sanctions and a sense of collective shame. This mechanism is often more effective than law-based coercive approaches, especially at the local level. Studies on local wisdom indicate that cultural values embedded within a community can serve as social capital for sustainable environmental management because these values are understood, accepted, and consciously implemented by community members (Putnam, 2000; Berkes, 2018).

The relevance of Piil Pesenggiri in the contemporary context demonstrates that local cultural values do not conflict with modern environmental conservation principles, but rather complement each other. When scientific approaches and environmental policies are combined with deeply rooted cultural values, environmental conservation becomes



more contextual and sustainable. This confirms that Piil Pesenggiri is not merely a symbolic cultural heritage, but a living ethical framework that functions to shape the ecological awareness of the Lampung community, thus opening up space for further discussion regarding its relevance in the educational context, particularly in science and science learning at the elementary school level.

The Relevance of Environmental Conservation Practices Based on Piil Pesenggiri for Science Learning in Elementary Schools

Science learning in elementary schools essentially aims not only to transfer factual knowledge about nature and social life, but also to build students' awareness as part of the environment in which they live. In this context, environmental conservation practices based on Piil Pesenggiri have strong relevance because they offer a learning approach close to the social and cultural realities of students. The values of Piil Pesenggiri, which are alive in the Lampung community, provide a contextual framework for students to understand environmental concepts not as abstract material, but as part of the daily experiences they encounter at home, school, and the surrounding community. This contextual approach aligns with the characteristics of science learning, which emphasizes the relationship between natural phenomena, human activities, and social values in real life (Trianto, 2015; Ministry of Education and Culture, 2022).

In science lessons, the concept of environmental conservation is often conveyed through general, national or global examples, such as global warming, air pollution, or deforestation. While important, this approach often feels distant from the concrete experiences of elementary school students. Integrating the values of Piil Pesenggiri allows teachers to present more intimate and meaningful learning, as students are invited to understand the environment through values already known in their local culture. For example, the concept of Sakai Sambayan can be used to explain the importance of cooperation in maintaining the cleanliness of the school environment or the river around the residence, while Juluk Adek can be linked to the moral responsibility of preserving nature as part of maintaining self-respect. Learning that starts from local experiences has been proven to be more effective in building conceptual understanding and environmental awareness in elementary school-aged students (Supriatna, 2016; Sulasmono, 2020).

The relevance of Piil Pesenggiri in science learning also lies in its ability to bridge the cognitive and affective dimensions of students. Environmental learning that only emphasizes the knowledge aspect often results in shallow understanding and does not lead to attitude change. Conversely, when learning is linked to cultural values respected by students' social environment, the process of internalization of values becomes stronger. Students not only understand the importance of protecting the environment but also understand the moral and social reasons behind such actions. This aligns with the perspective of character education, which emphasizes that moral values are more



effectively instilled through role models, contextual experiences, and local culture that lives within the community (Lickona, 2013; Hidayat & Suyitno, 2019).

From a pedagogical perspective, environmental conservation practices based on Piil Pesenggiri provide space for science teachers to develop more reflective and participatory learning strategies. Teachers are no longer positioned as the sole source of knowledge, but rather as facilitators who connect subject matter with students' local experiences and knowledge. Through class discussions, observations of the school environment, and simple project-based assignments, students can be encouraged to reflect on how the values of Piil Pesenggiri are realized in concrete environmental conservation practices. This approach aligns with the principles of experiential learning, which emphasize that knowledge is built through direct interaction with the environment and reflection on those experiences (Kolb, 2015; Arends, 2018).

Furthermore, the integration of Piil Pesenggiri into science and natural sciences learning contributes to strengthening students' cultural identity amidst the currents of globalization. Environmental learning rooted in local culture helps students understand that local wisdom values do not conflict with modern science but can serve as an ethical foundation for its application. Thus, science and natural sciences learning not only shapes environmentally literate students but also individuals who value local culture and are able to position themselves wisely in facing global environmental challenges. This view aligns with research findings showing that local wisdom-based education plays a crucial role in building ecological awareness and strengthening students' identity from an early age (Sibarani, 2012; Rahmawati, 2021).

Environmental conservation practices in the lives of the Lampung community grew from the awareness that the environment is not simply a place to live, but a living space that supports social and economic sustainability. In daily life, people interact directly with nature through agricultural activities, fishing, and the use of local resources. These interaction patterns foster a cautious attitude in treating the environment, as environmental damage directly impacts the well-being of the community itself. This view aligns with human ecological thinking, which positions the environment as a living system interconnected with human social actions, where changes in one element will affect other elements in a chain (Odum, 1997; Keraf, 2010).

In coastal areas of Lampung, environmental conservation practices are evident in community involvement in protecting coastal and marine areas as their primary source of livelihood. Activities such as mangrove planting, restrictions on destructive fishing gear, and community-based marine tourism management are carried out not solely due to formal regulations, but rather out of a collective awareness that the sustainability of marine resources determines the survival of coastal communities. This pattern demonstrates that environmental conservation is effective when communities have a sense of ownership of their environment (Fauzi & Anna, 2013). This community-based approach is widely discussed in studies of sustainable natural resource management,



which emphasize the importance of local participation as key to successful environmental conservation (Berkes, 2018).

In the context of urban areas like Bandar Lampung, environmental conservation practices have developed in a more adaptive manner to urban dynamics. Efforts to maintain the cleanliness of residential areas, manage household waste, and reforestation activities are carried out through social mechanisms such as community service and community agreements. Although the pressures of urbanization and changes in modern lifestyles often reduce the intensity of social interaction, local norms still play a role in shaping environmental awareness. This phenomenon demonstrates that environmental conservation in urban areas cannot be separated from the social structure of society and patterns of interaction between residents, as emphasized in studies of environmental sociology that view the environment as a result of social relations, not merely a physical issue (Soekanto, 2017; Hannigan, 2014).

CONCLUSION

Environmental conservation practices in Lampung demonstrate that efforts to maintain a balance between the natural, social, economic, and cultural environments are inextricably linked to the values entrenched within the community. Piil Pesenggiri serves as an ethical foundation that shapes the community's collective awareness of viewing the environment as a source of self-respect and social responsibility. Values such as togetherness, mutual cooperation, and respect for others encourage active community participation in environmental protection, both in coastal areas, rural areas, and conservation areas. These findings demonstrate that environmental conservation based on local wisdom is not merely a cultural practice, but an effective social mechanism for supporting environmental sustainability.

In the context of education, particularly in elementary school science and science learning, environmental conservation practices based on Piil Pesenggiri have strong pedagogical relevance. Integrating local cultural values into science and science learning enables students to understand environmental concepts in a more contextual and meaningful way, as the learning material is directly linked to the socio-cultural realities around them. This approach not only strengthens students' conceptual understanding but also encourages the internalization of environmental awareness from an early age. Thus, science and science learning based on local wisdom has the potential to develop students with both environmental literacy and cultural awareness, both of which are important foundations for facing future sustainability challenges.

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