



Evaluation of Eco-Pedagogy and Community Empowerment Through The Revitalization of the Regis Custom Based on Laudato Si' for The Conservation of The Wae Barong Spring in Manggarai

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Abstract

This Community Service (Pengabdian kepada Masyarakat / PkM) activity aimed to evaluate and strengthen the implementation of ecopedagogical values in the preservation of Wae Barong Spring through the revitalization of regis traditional values integrated with the spirituality of Laudato Si' and the local wisdom of the Manggarai community. Springs are regarded as sacred spaces that maintain connections between ancestors, nature, and community sustainability. The activity was conducted at Gendang Langgo, Manggarai Regency, involving 32 participants consisting of traditional leaders, youth groups, and local community members. The methods included socialization, environmental education, participatory discussions, cultural reflection, community assistance, and participatory evaluation. The evaluation was conducted using participant observation sheets, reflection notes, and brief interviews to assess participant involvement, changes in understanding of the relationship between regis, ecological education, and Laudato Si' spirituality, as well as awareness of spring conservation efforts. The results showed active participation from all participants in discussions and reflections regarding the relationship between humans and nature. Participants recognized that regis functions as a cultural mechanism for maintaining spring water quality through the protection of vegetation, fauna, and surrounding ecological areas. The findings also indicated increased ecological awareness and strengthened collective commitment among community members to conserve Wae Barong Spring. This activity demonstrated that the integration of regis customary values, ecopedagogy, and Laudato Si' spirituality can effectively strengthen local culture-based ecological education and support sustainable environmental conservation.

INTRODUCTION

Ancestors did not inherit forests and springs to be exploited but to be respected as part of the interconnected web of life (Chaskey, 2023; Ogar, 2023). This belief represents one of the fundamental values underlying this Community Service (Pengabdian kepada Masyarakat / PkM) activity.

Water is a vital source of life that determines ecosystem sustainability, public health, and community welfare (Akhai & Taneja, 2025; Bazaanah & Mothapo, 2024; Gomez-Jaramillo et al., 2024; Makanda et al., 2022; Olorunsogo et al., 2024; Rose et al., 2025; Sharma et al., 2024). However, various environmental pressures, including deforestation, land conversion, natural resource exploitation, and declining ecological awareness, continue to threaten water resource sustainability. These conditions demonstrate that environmental conservation cannot rely solely on technical approaches but also requires social, cultural, and educational strategies capable of fostering sustainable ecological awareness. UNESCO emphasizes that education for

sustainable development should develop knowledge, skills, values, and behaviors that encourage communities to take concrete actions toward environmental sustainability and social well-being (UNESCO, 2024).

One relevant approach within this context is ecopedagogy. Ecopedagogy views education as a transformative process that enables communities to understand the reciprocal relationship between humans and nature while encouraging collective environmental responsibility. This approach becomes more effective when developed within the social and cultural context of local communities because existing cultural values strongly influence environmental behaviors (Batool et al., 2024; Caperon et al., 2022; Cipta et al., 2024; Shah & Asghar, 2023; Yang et al., 2024). Therefore, local wisdom functions not only as a cultural identity but also as a source of contextual and sustainable ecological learning.

The Manggarai community possesses various forms of local wisdom that contribute to environmental conservation, including the *regis* customary value that regulates the protection of spring areas. Within the cosmology of the Manggarai people, springs are perceived as sacred spaces closely connected to ancestors, nature, and community life. This belief has established customary rules that prohibit activities potentially damaging ecological balance, such as tree cutting around springs, destruction of animal habitats, and other actions that may reduce the quality and availability of water resources. These values have been passed down across generations as a local knowledge system that maintains environmental sustainability while strengthening community social cohesion.

One spring that continues to preserve this culture-based conservation practice is Wae Barong Spring in Gendang Langgo, Manggarai Regency. For the local community, Wae Barong is not merely a source of water supply but also a symbol of cultural identity and spirituality. Its existence is maintained through customary rituals and adherence to *regis* values inherited from ancestors. This practice demonstrates that local communities have applied environmental conservation principles long before the emergence of modern conservation concepts.

Despite these contributions, a research gap remains regarding how specific *regis* customary values can be systematically revitalized through an integrated framework combining ecopedagogy and spirituality for spring conservation. Although previous studies have documented traditional ecological knowledge and developed environmental assessment instruments, limited attention has been given to the practical integration of *regis* values with contemporary environmental education approaches and *Laudato Si'* spirituality as a unified strategy for community empowerment. This approach not only strengthens community ecological awareness but also revitalizes local cultural values as contextual media for environmental learning. The novelty of this activity lies in bridging indigenous knowledge systems with ecopedagogy and integral ecology spirituality to develop a holistic approach addressing both ecological sustainability and cultural preservation.

Within this context, the spirituality of *Laudato Si'* provides a relevant ethical and spiritual foundation. Through the encyclical *Laudato Si'*, Pope Francis introduced the concept of integral ecology, which views humans, nature, culture, and spiritual life as interconnected elements. Pope Francis emphasized that ecological crises cannot be separated from social crises; therefore, environmental preservation requires approaches integrating ecological, cultural, and moral dimensions (Francis, 2015). Recent studies have also demonstrated that the

concept of integral ecology in Laudato Si' provides a strong moral foundation for community-based environmental conservation and empowerment initiatives (Gocko, 2024).

The integration of regis customary values, ecopedagogy, and Laudato Si' spirituality is important because these three approaches share a common principle: respecting nature as a source of life that must be collectively protected. This integration strengthens ecological awareness while revitalizing local cultural values as contextual foundations for environmental education. Therefore, this Community Service (Pengabdian kepada Masyarakat / PkM) activity was conducted to evaluate community understanding of the ecological values embedded in regis traditions and strengthen community capacity through their revitalization. The activities included environmental education, participatory discussions, cultural reflection, and community assistance to connect local wisdom with ecopedagogical principles and Laudato Si' spirituality. Through this activity, stronger ecological awareness is expected to develop, particularly among younger generations, along with a collective commitment to preserve Wae Barong Spring as both a source of life and a cultural heritage of the Manggarai community. Thus, this activity emphasizes that springs do not merely require protection; rather, ancestral wisdom teaches that the loss of nature represents the loss of an essential part of human existence.

METHOD

Community Service (Pengabdian kepada Masyarakat / PkM) activities were conducted in Gendang Langgo, Manggarai Regency, involving traditional elders, community leaders, youth representatives, and students as participants. The main partner in this activity was the Gendang Langgo indigenous community, which actively participated in the planning, implementation, reflection, and evaluation processes. The implementation method was designed using a participatory community empowerment approach that positioned the community as the primary subject of the activity. The implementation stages included needs identification, program planning with partners, activity implementation, evaluation, and follow-up planning.

The first stage involved identifying community needs (need assessment). At this stage, the team conducted field observations and preliminary interviews with traditional elders, community leaders, and community members to understand their perceptions of Wae Barong Spring, regis customary values, and existing environmental conservation practices. The results indicated that traditional elders possessed strong knowledge of Wae Barong Spring and regis values as ancestral heritage regulating spring protection and environmental preservation. However, these values had not been widely connected with ecological education, ecopedagogy, and Laudato Si' spirituality. Furthermore, the younger generation demonstrated limited understanding of the meaning and significance of Wae Barong Spring and regis values, indicating the need for revitalizing local knowledge as part of culture-based environmental education.

The second stage involved program planning with partners. Based on the needs assessment results, the team coordinated and conducted participatory discussions with traditional elders, community leaders, and youth representatives to develop activities aligned with community needs. Partners were directly involved in determining the activity themes, cultural approaches, implementation schedule, and participant involvement mechanisms. The

coordination process resulted in an agreement to conduct community empowerment activities through ecopedagogical education, reflection on Laudato Si' values, and revitalization of regis customary values as a foundation for conserving Wae Barong Spring. The activity was scheduled for March 12, 2026, at Mbaru Gendang Langgo.

The third stage involved activity implementation. The activity began with a traditional ritual in the courtyard of Mbaru Gendang as an expression of respect for ancestors and a request for blessings for the success of the program. Upon entering Mbaru Gendang, participants participated in the traditional welcoming ceremony (*tuak reis*), which symbolizes acceptance, kinship, and togetherness.

The core activities were conducted through several methods: (1) delivering materials on the relationship between regis customary values, spring conservation, ecological education, ecopedagogy, and Laudato Si' spirituality; (2) conducting participatory discussions involving traditional elders, youth representatives, and students to reflect on environmental conservation experiences; (3) facilitating intergenerational knowledge-sharing sessions regarding the history, functions, and meaning of Wae Barong Spring in Manggarai community life; (4) developing collective commitments to strengthen spring conservation based on local wisdom; and (5) conducting ecological reflections on human responsibility for environmental sustainability as a shared home.

The expected outcomes of the activity included increased community understanding of the relationship between regis customary values, ecological education, and Laudato Si' spirituality; strengthened awareness among younger generations regarding the importance of conserving Wae Barong Spring; the establishment of collective commitments to maintain water resource sustainability; and documentation of local knowledge regarding regis values as part of cultural revitalization and environmental education efforts.

The fourth stage involved activity evaluation. Evaluation was conducted participatively through reflective discussions, question-and-answer sessions, observation of participant engagement during activities, and documentation of participant responses. The evaluation instruments consisted of participation observation sheets, participant reflection notes, and brief post-activity interview guides. The evaluation focused on changes in participants' understanding of the relationship between regis customary values, ecological education, and Laudato Si' spirituality, as well as their awareness of the importance of conserving Wae Barong Spring.

The indicators of activity success included: (1) increased participant understanding of regis customary values as a form of local ecological education; (2) increased participation of younger generations in environmental discussions and reflections; (3) the formation of collective commitments among traditional elders, community members, and youth to maintain Wae Barong Spring sustainability; and (4) the emergence of ideas for follow-up environmental conservation initiatives based on local wisdom.

As part of program sustainability, the activity results were documented and provided to the indigenous community as educational materials for younger generations. In addition, the community and traditional elders were encouraged to continue cultural and environmental discussion forums as spaces for transmitting regis values and strengthening ecological awareness based on local traditions. Therefore, the activity extended beyond the socialization

stage and became part of a sustainable community empowerment process aimed at preserving Wae Barong Spring as an ecological and cultural heritage of the Manggarai people.

RESULTS AND DISCUSSION

Results of Reflective Discussions

The results of the reflective discussion showed that there was a change in the people's perspective on the customary values that they had been executing. Previously, some participants practiced the tradition of spring water conservation as a hereditary habit without ever associating it with scientific concepts or environmental education. However, after participating in the activity, participants began to realize that these cultural practices actually have a strong knowledge base and are relevant to the study of modern ecology.

This awareness is seen in the statement of one of the participants:

"A lot of people are going to have to go back to the drawing board; A science fiction novel."

This phrase shows the belief that what is inherited by the ancestors is not an unfounded act, but rather contains the value of scientifically understandable knowledge. This statement is an important indicator that PKM activities have succeeded in building a bridge between local knowledge and modern science.

Participants also said that various traditional practices inherited by ancestors turned out to have a close relationship with environmental science. This can be seen from the statement:

"This time it is the origin of the pande kauts dise empo danong, the time manga is related to science."

This statement shows the emergence of a new awareness that local wisdom should not be seen as a traditional belief alone, but as a form of ecological knowledge born from people's long experience in interacting with nature. These findings are important because they reinforce the position of local culture as a relevant learning resource in community-based ecological education.

In addition, reflective discussions also evoke a deeper respect for ancestors. The participants realized that the traditional concepts inherited so far are not just social rules, but contain conservation values that maintain the sustainability of human life and nature.

This is reflected in the expression:

"Respect agu praise lantat ise empo, ise toto agu ite, co'o relationship ditet human agu alam agu mata wae, and vice versa."

This expression shows that society sees the relationship between humans, nature, and springs as an interdependent unit. This awareness is a very important social capital in building an environmental conservation movement based on local culture. Thus, the results of the reflective discussion not only improve participants' cognitive understanding, but also strengthen ecological, spiritual, and cultural awareness which is the foundation for the sustainability of the preservation of Wae Barong Springs.

Results of the Q&A Session

In the question and answer session, participants were invited to reflect on the meaning of the concept of regis in the life of the Manggarai community through the following questions:

"Are you sure you don't want to see your eyes go down?"

(Why is spring water considered regis or holy according to you and Madam?)

Participants' answers showed that the concept of regis is not only understood as a customary term, but as a value system that regulates human relations with nature. According to the participants, regis means sacred so its existence must be maintained, cared for, and protected together.

The community explained that the purity of spring water is not only attached to the water source itself, but also to the entire ecosystem that is around it, such as trees, birds, wildlife, and plants that grow in the area. Therefore, the act of destroying the environment around the spring is considered a violation of customary values as well as a threat to the balance of nature.

One of the participants explained that the community has strong beliefs about the consequences of damaging the spring area. They call it the term:

"It's a waste of water."

This term means that the owner or guardian of the spring becomes angry due to the actions of humans who cut down trees or kill animals that live around the water source. Although it can be scientifically understood as a form of social mechanism to control people's behavior, it has proven to be effective in preserving the environment for many years.

Another participant added that the existence of trees and wildlife has a direct relationship with the sustainability of spring water. According to them, if the trees around the spring are cut down and the animals begin to disappear, then gradually the water source will also die.

This view shows that people actually have a very strong ecological understanding. They realize that the existence of vegetation functions to maintain groundwater reserves, prevent erosion, and maintain ecosystem balance. In other words, the values of the regis custom not only contain a spiritual dimension, but also contain the principles of environmental conservation that are in line with modern ecological science.

These findings are particularly important because they show that environmental conservation can be built through cultural and spiritual approaches that have been living in societies long before the modern concept of conservation was introduced. These indigenous values have the potential to become the basis for ecological education that is more contextual, close to people's lives, and easily accepted by the younger generation.

Results of Participant Engagement Observations

The results of observations during the activity showed a very high level of participation from all participants. The community was not only present as listeners, but actively conveyed their views, experiences, and knowledge related to the Wae Barong Spring and the values of the regis custom. Each participant gave a different explanation according to their life experience. Interestingly, however, all of these views lead to one common conclusion, namely that humans, nature, and springs have an inseparable mutual relationship.

In explaining these relationships, participants used very interesting Manggarai cultural concepts, namely:

"Puar or poco is the son of the color mese data of Manggarai and the son of Vienna is a human."

In the Manggarai culture, puar means dense forest and poco means mountain. Meanwhile, anak rona and anak vienna are terms in kinship relationships that describe the marriage bond between a woman's family and a man's family.

Through this analogy, people view the relationship between humans and nature not as a relationship between the owner and the objects they own, but as a family relationship that needs

and takes care of each other. Nature is positioned as a child of hue that must be respected, while human beings as Viennese children have the responsibility of maintaining this harmonious relationship.

This view shows the existence of a very strong ecological paradigm in the Manggarai culture. Nature is not considered as a resource that can be exploited at will, but as part of a system of life that must be respected as humans respect their own family members.

During the observation, participants seemed enthusiastic when discussing the relationship. They add to each other's opinions, provide real examples from daily life experiences, and connect traditional concepts with current environmental conditions. The enthusiasm shows that ecological values are still alive in the collective memory of the community and can be a powerful social capital for culture-based environmental conservation programs.

These findings confirm that the success of PKM activities is not only seen from the increased understanding of participants, but also from the growth of dialogue spaces that allow communities to reflect on their cultural identity as guardians of nature. Collective awareness like this is an important foundation in building a sustainable conservation movement, because environmental conservation is no longer seen as a momentary program, but rather as part of the moral, cultural, and spiritual responsibility of the Manggarai people.

The findings are also in line with various studies that confirm that local wisdom has a strategic role in building ecological awareness and community-based environmental sustainability. In addition, the integration of cultural values, spirituality, and environmental education has been proven to be able to strengthen community participation in maintaining the sustainability of natural resources.

The results of Community Service (PkM) activities show that the revitalization of regis customary values not only functions as an effort to preserve local culture, but also as a means of ecological education that is able to build a deeper awareness of the community's environment. These findings show that society actually has an ecological knowledge system that has been passed down from generation to generation, although it has not been widely understood in the perspective of modern scientific and environmental education.

The Value of Adat Regis as Local Ecological Knowledge

The results of the reflective discussion showed that there was a change in the participants' perspective on the culture they had been practicing. A spokesperson for the company said: "A lot of people are looking for data that is going to be available to them; Kali Manga Ilmu" which means "what the parents did in the past turns out to have a scientific basis", shows the emergence of a new awareness that local wisdom is not just a tradition, but also contains rational and relevant ecological values.

These findings show that people are beginning to see culture as a source of knowledge. This awareness is important because so far many people view tradition only as an ancestral heritage that is carried out without understanding its scientific meaning. Through this activity, participants realized that the practice of preserving springs, protecting forests, and respecting certain areas is actually closely related to the principles of modern environmental conservation.

According to Lahudin et al. (2024), local wisdom has an important role in building ecological citizenship because traditional cultural values are able to shape community

responsibility for the environment in a sustainable manner. They emphasized that local knowledge is an important foundation in maintaining a balance between humans and nature.

These findings also show the success of the ecopedagogical approach used in the activities. Ecopedagogy not only teaches environmental concepts theoretically, but helps people reflect on their cultural experiences as a source of ecological learning. Thus, people do not feel that they are receiving knowledge from outside, but rather rediscover the meaning that has been living in their own culture.

On that basis, we realize that when ancestral wisdom begins to be read as a science, culture is no longer seen as a past, but rather as living knowledge that guards the future.

Spiritual and Ecological Awareness in the Regis Concept

The results of the question and answer session showed that the community interpreted regis as something sacred and must be maintained. This sanctity is not only inherent in springs, but also in trees, animals, birds, and all life that is around them.

When participants explained that cutting down trees or killing animals around the spring could lead to "loss of *lata ngara wae*" or the anger of the spring guards, it was seen that the community has a value system that functions as a mechanism for environmental protection. These values indirectly create social control that encourages the community to maintain the balance of the ecosystem.

Interestingly, participants also explained that the loss of trees and animals around the spring can cause water sources to die. This statement shows that the community has understood the ecological relationship between vegetation, biodiversity, and the sustainability of water resources. Although it is conveyed through the language of local culture and beliefs, this understanding is in accordance with modern ecological concepts regarding the function of forests as water catchment areas and guardians of ecosystem balance.

Lubis et al. (2024) explained that environmental learning that is integrated with local wisdom is able to increase environmental literacy because it is easier for people to understand ecological concepts through cultural experiences that are close to their daily lives.

Furthermore, the meaning of regis as something sacred shows the existence of a spiritual dimension in environmental conservation. Nature is not only seen as an economic resource, but as a part of life that must be respected. This awareness is especially important in the midst of the increasing exploitation of natural resources that often ignore moral and spiritual aspects.

The Relevance of Laudato Si' Spirituality in Spring Conservation

The findings of the activity show that there is a high respect for ancestors who have inherited the values of nature conservation. The participant's statement, "*hormat agu puji lantat ise empo*", shows that the community views cultural heritage as a guideline for life that maintains a harmonious relationship between humans, nature, and springs.

These findings have a strong fit with the concept of integral ecology in the encyclical *Laudato Si'*. Pope Francis emphasized that the environmental crisis cannot be separated from the moral and social crisis of humanity. Therefore, solving environmental problems must be carried out through changing the way humans view nature as a "common home".

Gocko (2024) explained that the concept of integral ecology in *Laudato Si'* places human relationships, the environment, and social life as an inseparable whole. Environmental damage will also ultimately have an impact on human life itself.

The results of this activity show that the traditional values of regis actually have a spirit that is in line with Laudato Si'. The community views the preservation of springs not only as an ecological obligation, but also as a moral responsibility to ancestors, future generations, and nature itself.

Martinus et al. (2024) emphasized that the ecological spirituality approach is able to increase public awareness of the importance of protecting the environment because nature preservation is understood as part of human moral calling.

Based on the above description, we are of the opinion that for the indigenous people of Manggarai, the spring is not guarded because of written rules, but because it is respected as a sacred living space.

The Philosophy of the Rona Child and the Viennese Child as the Basis of the Relationship between Man and Nature

The results of the observation showed that the participants actively explained the relationship between humans and nature through the concept of Manggarai culture regarding the children of huna and the children of Vienna. In the understanding of the community, *puar* (forest) and *poco* (mountain) are positioned as children of rona, while humans are children of Vienna.

This concept has a very deep meaning because it describes a mutual relationship that respects, cares for each other, and needs each other. In Manggarai culture, the relationship between a Rona child and a Viennese child is not an exploitative relationship, but a family relationship that must be maintained in harmony.

These findings show that society has an ecological paradigm that places humans as part of nature, not as rulers of nature. This perspective is very relevant to the current environmental challenges which are triggered by human exploitation of natural resources.

Research by Wardhani et al. (2024) shows that environmental education based on local wisdom is able to build stronger ecological awareness because people understand nature as part of their own cultural identity. Education that departs from local culture tends to be more effective in shaping environmental conservation behaviors than approaches that are only theoretical.

Through the philosophy of Rona and Viennese children, people not only understand the importance of protecting nature, but also see environmental conservation as a form of maintaining family relationships that are inherited from generation to generation. This perspective is a very strong social capital in maintaining the sustainability of the Wae Barong Spring.

Implications for Community Empowerment

All of the findings of the activity show that community empowerment based on local wisdom has high effectiveness in increasing the ecological awareness of the community. The revitalization of regis traditional values has succeeded in opening up a space for critical reflection so that the community not only maintains culture as a tradition, but also understands the ecological, social, and spiritual meaning contained in it.

This activity proves that environmental conservation will be more sustainable if it is built through a cultural approach that is close to people's lives. Ecological awareness born from local culture tends to be stronger because it grows from people's own identity, beliefs, and life experiences.

Thus, the revitalization of regis customary values can be understood as a form of culture-based ecological education that is able to strengthen the harmonious relationship between humans, nature, and spirituality. The preservation of the Wae Barong Spring is not only about protecting water sources, but also maintaining cultural identity, ancestral heritage, and the sustainability of the life of the Manggarai people in the future.

Thus, we strongly believe that when the people of Manggarai talk about nature as a family, environmental conservation changes from an obligation to a form of affection.

Synthesis of PKM

This PKM wants to emphasize that maintaining Wae Barong means maintaining a harmonious relationship between humans, nature, culture, and the Creator in one unity of life. Based on the results of PKM activities in Gendang Langgo, it can be concluded that regis traditional values not only function as cultural traditions, but also contain ecological, spiritual, social, and educational values that support environmental conservation. This activity succeeded in increasing the community's understanding that traditional practices in protecting the Wae Barong Spring are a form of local wisdom that is in line with modern environmental conservation principles.

The findings show that people understand the mutual relationship between humans, nature, and springs as an interdependent unit. The concept of regis is seen as a moral responsibility to maintain the sustainability of life sources through the protection of spring areas, vegetation, and surrounding animals. In addition, participants are increasingly aware of the connection between the values of the regis custom and the spirituality of *Laudato Si'*, which affirms that protecting the environment is a form of respect for God's creation and ancestral heritage.

This activity also shows the high level of community participation through the process of dialogue, reflection, and knowledge exchange between generations. Overall, the integration of regis customary values, ecopedagogy, community empowerment, and *Laudato Si'* spirituality has proven effective in strengthening ecological awareness, preserving cultural identity, and encouraging the sustainable conservation of Wae Barong Springs. This model has the potential to be an alternative environmental education strategy based on local wisdom for indigenous communities and other local communities. Thus, the revitalization of regis values owned by the people of Manggarai shows that Manggarai's local wisdom is not a relic of the past, but the foundation of the future of sustainable environmental conservation.

CONCLUSION

Based on the description of the PkM activities above, it can be emphasized that when modern science begins to overlook the voice of nature, the ancestral wisdom of the Manggarai community teaches that protecting springs means preserving the sacred relationship between humans, culture, and life itself.

The Community Service (Pengabdian kepada Masyarakat / PkM) activities focusing on the revitalization of regis customary values for the preservation of Wae Barong Spring demonstrated that the local wisdom of the Manggarai community possesses not only cultural and spiritual significance but also ecological principles relevant to contemporary environmental science. Through reflective discussions, participants recognized that ancestral practices inherited across generations have a strong ecological foundation for maintaining

balance among humans, nature, and water resources. This awareness indicated that local values do not contradict scientific development but can serve as contextual knowledge sources that strengthen culture-based environmental education.

The results of the question-and-answer sessions further showed that the concept of regis was understood by the community as a form of ecological responsibility requiring the protection of trees, animals, and the entire ecosystem surrounding the spring. Beliefs regarding the consequences of violating regis territories function as social and cultural mechanisms that indirectly support environmental conservation. This understanding demonstrated that customary values operate as local ecological ethical systems capable of maintaining natural resource sustainability across generations.

Furthermore, participant observation indicated strong community involvement in reflecting on the reciprocal relationship between humans and nature. The concepts of puar, poco, anak rona, and anak wina that emerged during discussions reflected the Manggarai cosmological perspective, which positions nature as an integral part of life relationships that must be respected and preserved. This perspective reinforces the understanding that environmental conservation is not limited to physical aspects but also encompasses social, cultural, and spiritual relationships that shape community identity.

Overall, this PkM activity successfully increased community understanding of the relationship between regis customary values, ecological education, and Laudato Si' spirituality. The activity also strengthened younger generations' awareness of the importance of preserving Wae Barong Spring as both cultural heritage and a source of community livelihood. Therefore, the revitalization of local wisdom through an ecopedagogical and environmental spirituality approach can serve as an effective model for environmental education and community empowerment in supporting sustainable conservation efforts in Manggarai and other indigenous communities.

REFERENCES

- Akhai, S., & Taneja, T. (2025). The critical role of water quality: Health impacts, contaminants, and sustainable solutions for environmental and human well-being. In *Smart water technology for sustainable management in modern cities* (pp. 101–116). IGI Global Scientific Publishing.
- Batool, N., Wani, M. D., Shah, S. A., & Dada, Z. A. (2024). Theory of planned behavior and value-belief-norm theory as antecedents of pro-environmental behaviour: Evidence from the local community. *Journal of Human Behavior in the Social Environment*, 34(5), 693–709.
- Bazaanah, P., & Mothapo, R. A. (2024). Sustainability of drinking water and sanitation delivery systems in rural communities of the Lepelle Nkumpi Local Municipality, South Africa. *Environment, Development and Sustainability*, 26(6), 14223–14255.
- Caperon, L., Saville, F., & Ahern, S. (2022). Developing a socio-ecological model for community engagement in a health programme in an underserved urban area. *PLOS ONE*, 17(9), e0275092.
- Chaskey, S. (2023). *Soil and spirit: Cultivation and kinship in the web of life*. Milkweed Editions.
- Cipta, D. A., Andoko, D., Theja, A., Utama, A. V. E., Hendrik, H., William, D. G., Reina, N.,

- Handoko, M. T., & Lumbuun, N. (2024). Culturally sensitive patient-centered healthcare: A focus on health behavior modification in low- and middle-income nations—Insights from Indonesia. *Frontiers in Medicine*, 11, 1353037.
- Francis. (2015). *Laudato si': On care for our common home*. Libreria Editrice Vaticana.
- Gocko, J. (2024). Ecology and justice: From environmental justice to integral ecology of *Laudato Si'*. *Studia Ecologiae et Bioethicae*, 22(1), 75–82. <https://doi.org/10.21697/seb.5799>
- Gómez-Jaramillo, Y., Berrouet, L., Villegas-Palacio, C., & Berrio-Giraldo, L. (2024). Conceptual framework for analyzing the sustainability of socio-ecological systems with a focus on ecosystem services that support water security. *Sustainable Development*, 32(3), 2298–2313.
- Lahudin, Yusuf, R., Putra, I., Maimun, & Gopinath, S. (2024). Integrating local wisdom in environmental conservation: Ecological citizenship in the Leuser ecosystem, Indonesia. *Global Arts, Humanities and Culture Review*, 1(1).
- Lubis, S. P. W., Suryadarma, G. P., Paidi, & Yanto, B. E. (2024). Improving environmental literacy through the development of problem-based learning models that incorporate local wisdom. *World Journal of Environmental Research*, 14(1). <https://doi.org/10.18844/wjer.v14i1.9472>
- Makanda, K., Nzama, S., & Kanyerere, T. (2022). Assessing the role of water resources protection practice for sustainable water resources management: A review. *Water*, 14(19), 3153.
- Martinus, M., Tinenti, H. G., Bunga, J., & Nirwana, T. N. C. (2024). Katekese ekologi kepada masyarakat adat sebagai tanggapan atas ensiklik *Laudato Si'*. *Amare*, 3(1), 12–24. <https://doi.org/10.52075/ja.v3i1.426>
- Ogar, M. B. (2023). *Sacred forests and rivers: The role of indigenous religion in promoting environmental sustainability in Abanyom, Cross River State, Nigeria* (Doctoral dissertation, University of Johannesburg).
- Olorunsogo, T. O., Ogugua, J. O., Muonde, M., Maduka, C. P., & Omotayo, O. (2024). Environmental factors in public health: A review of global challenges and solutions. *World Journal of Advanced Research and Reviews*, 21(1), 1453–1466.
- Rose, J. B., Örmeci, B., & Aw, T. G. (2025). Water quality and health: An ecological perspective. *Water & Ecology*, 1(2), 100007.
- Shah, S. S., & Asghar, Z. (2023). Dynamics of social influence on consumption choices: A social network representation. *Heliyon*, 9(6).
- Sharma, K., Rajan, S., & Nayak, S. K. (2024). Water pollution: Primary sources and associated human health hazards with special emphasis on rural areas. In *Water resources management for rural development* (pp. 3–14). Elsevier.
- UNESCO. (2024). *Education for sustainable development: Learning to act for people and planet*. UNESCO.
- Wardhani, D. F., Arisanty, D., Nugroho, A., & Utami, U. B. L. (2024). Environmental education model based on local wisdom. *Nature Environment and Pollution Technology*, 23(4), 2259–2270.
- Yang, Y., Yuan, Y., Liu, P., Wu, W., & Huo, C. (2024). Crucial to me and my society: How collectivist culture influences individual pro-environmental behavior through

environmental values. *Journal of Cleaner Production*, 454, 142211.