

From Engagement to Empowerment: Transformative Ecological Citizenship among the Tengger Indigenous Community through Tri Hita Karana Local Wisdom

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ABSTRACT

This research explores how the Tengger indigenous community in Indonesia practices a transformative model of ecological citizenship, rooted in the local cosmology of Tri Hita Karana, which integrates harmony between humans, nature, and God. In response to the growing global attention to community-based environmental governance, this study aims to analyse how spiritual and cultural practices among the Tengger people shape sustainable ecological behaviour and collective resource management. Using a participatory ethnographic approach, the research engaged seven key informants, including dukun adat (traditional leaders), youth, women's groups, and local government representatives. Data were collected through in-depth interviews, participatory observations, and document analysis to capture the community's everyday ecological practices and moral reasoning. The findings reveal that rituals such as Yadnya Kasada, along with collective practices like forest protection and water management, are legitimized through sacred values and customary norms that sustain environmental stewardship. Moreover, the increasing participation of youth and women in ecological education and sustainable livelihood programs signifies a shift towards inclusive and participatory governance. This study contributes to the theoretical development of indigenous-based ecological citizenship by conceptualizing it as a vernacular, spiritually grounded, and participatory model of environmental governance that bridges local cosmology with global sustainability frameworks.

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INTRODUCTION

The global climate and ecological crisis have reached a very worrying stage. A scientific report states that humanity is now in a climate emergency that threatens the planet's sustainability (Ripple et al., 2019). Global warming, deforestation, land degradation, biodiversity loss, and environmental pollution are symptoms of systemic and multidimensional crises. An approach to environmental development and management dominated by economic and technological logic has proven insufficient to respond to the complexity of this problem (UNEP, 2021). Studies have shown that technocratic approaches to environmental conservation, which rely heavily on top-down policies and state intervention or scientific institutions, often fail to understand local dynamics and community values (Büscher & Dressler, 2007; Murray, 2007). Conservation of this model not only ignores the social and cultural dimensions, but also often leads to conflicts between states and indigenous communities that have long coexisted with nature (Forest Watch Indonesia, 2017; Saefullah et al., 2023).

In this context, the concept of ecological citizenship emerges as a form of citizenship that transcends the traditional legal framework of the nation-state, encompassing both individual and collective ethical obligations toward environmental sustainability (Bell, 2005; Dobson, 2007). Ecological citizenship requires a shift from the identity of citizens as policymakers to active actors who shape ecological values, norms, and practices in their daily lives (Barry, 2005; Cao, 2015). This is important given that the ecological crisis is not only a technical issue, but also related to the distribution of power, resource inequality, and social relations in the socio-ecological system (Ostrom, 2009).

The transformation towards ecological citizenship requires strengthening education and ecological literacy. Critical and contextual citizenship education can foster collective awareness of the interconnectedness between humans and nature, thereby increasing citizens' capacity to participate in environmental decision-making (Houser, 2009; Schild, 2016; Sinakou et al., 2019). Thus, education serves as an important medium to connect civic engagement and civic empowerment, two crucial stages in the transformation of ecological citizenship (Gooding et al., 2025; Westheimer & Kahne, 2004). While changes in individual behaviors such as recycling and reducing carbon footprints are important, these efforts do not adequately address the structural roots of the global ecological crisis (Schlosberg, 2007).

The ecological citizenship approach proposes a vision of systemic change that involves transforming values, institutions, and social structures (Dobson, 2012; Gao, 2025). Within this framework, citizens are not only responsible for environmental protection in the private sphere, but also in the public sphere, through active participation and advocacy for ecologically just policies (Bauer et al., 2020; Dobson, 2003; Steg et al., 2014). Global studies of ecological citizenship often focus on the context of developed countries with liberal democratic systems and well-established formal education (Ardian et al., 2023; Jagers et al., 2014). However, in the Indonesian context, this concept gains relevance precisely through the life practices of indigenous communities, which have a deep connection with the natural environment through spiritual and cultural values (Maulana et al., 2024; Triyanto et al., 2023). One of the prominent communities is the Tengger indigenous people who live in the Bromo Tengger Semeru National Park area.

The Tengger people practice conservation based on local wisdom that is deeply ingrained in their social and spiritual structure. Practices such as the prohibition of entering sacred areas (*leuweung larangan*), the preservation of springs, and the traditional ceremonies of Yadnya Kasada reflect the sacred relationship between humans, ancestors, and nature (Antika et al., 2014; Irsyad et al., 2020). This approach is in line with the concept of ecological citizenship by Dobson (2007), which emphasizes the dimension of moral responsibility towards the broader ecological community, not just based on political contracts.

Moreover, the worldview of the Tengger community can be interpreted through the framework of the Tri Hita Karana philosophy. This Balinese origin concept underscores the importance of maintaining balance in three fundamental relationships: with the divine (*parahyangan*), with other human beings (*pawongan*), and with the natural environment (*palemahan*) (Oktaviana & Suasthi, 2024; Pasek et al., 2022). In this context, environmental conservation is not just an ecological act, but part of a spiritual practice that is connected to the communal social structure. In other words, ecological citizenship can develop in cosmological and customary spaces, not only through legal instruments and formal education (Kristinayanti et al., 2025; Qodim, 2023). However, the practices of indigenous communities are often overlooked or overshadowed in state conservation policies that emphasize more modern, legalistic, and scientific aspects. Studies show that national park area-based conservation approaches often overlook the participation and values of local communities, even

leading to ecological and social conflicts (Dove, 2006; Hekmatyar & Adinugraha, 2021; Setiawan, 2022).

Despite the growing body of research on indigenous environmental wisdom and local-based conservation in Indonesia, existing studies on the Tengger community tend to focus primarily on ritual practices, cosmological beliefs, and their role in cultural tourism (Antika et al., 2014; Irsyad et al., 2020). While these studies provide valuable insights into the spiritual and cultural dimensions of the Tengger people's relationship with nature, they rarely frame these practices within the theoretical lens of ecological citizenship. Previous research has not sufficiently explored how the moral, spiritual, and communal values of the Tengger people can contribute to the transformation of citizenship beyond formal, state-centered, and Western ecological discourses.

Similarly, studies on the Tri Hita Karana philosophy have been dominated by applications in tourism management and sustainable development policies in Bali (Oktaviana & Suasthi, 2024; Pasek et al., 2022), rather than examining its potential as a conceptual framework for ecological empowerment among other indigenous groups outside Bali. There remains a lack of empirical evidence on how Tri Hita Karana can serve as an ethical foundation for ecological citizenship in non-Balinese contexts, particularly within communities such as the Tengger, whose cosmological systems share a similar spiritual ecology but distinct sociocultural organization.

In addition to the Tengger people, other indigenous communities, such as the Ammatoa Kajang people in South Sulawesi and the Baduy people in Banten, also demonstrate the practice of ecological citizenship rooted in local values. The Kajang community adheres to the *Pasang ri Kajang* value system, which emphasizes simple living (*kamase-masea*), respects ancestral messages (*pappasang*), and prohibits the excessive exploitation of nature (Sartika et al., 2024). They actively protect customary forests (*Borong Karama*) and reject development interventions that threaten environmental sustainability (Nur, 2024).

The Baduy people practice ecological living through a *pikukuh* lifestyle, characterized by a life without modern technology and minimal consumption. The ban on the use of motor vehicles, chemical fertilizers, and heavy equipment exemplifies an embodied form of ecological citizenship rooted in spiritual and cultural values (Jasmine et al., 2023; Nadriana, 2024). In this case, ecological participation arises from cultural discipline, not from state instruction or formal educational interventions. The three indigenous communities of Tengger, Kajang, and Baduy exhibit a diversity of forms of ecological citizenship that often diverge from the Western normative framework. They display vernacular citizenship (Isin & Turner, 2002), which is a form of citizenship that arises from local practices and community values, rather than from the formal legality of the state. It challenges the view that ecological citizenship can only be born from modernity and formal education (Dawson et al., 2021; Maulana et al., 2023).

Therefore, examining ecological citizenship in the Indonesian context necessitates an intercultural and interdisciplinary framework that acknowledges the pivotal role of indigenous wisdom in fostering sustainable relationships between humans and nature. The knowledge and environmental practices of indigenous communities should be regarded not merely as cultural heritage but as viable, just, and sustainable alternatives in addressing the global ecological crisis. This research aims to examine how the Tengger people's engagement, shaped by the values of Tri Hita Karana, can evolve into a model of ecological empowerment.

METHOD

The type of research used in this study is qualitative research, as stated by Creswell (2014), which aims to describe social phenomena, cultural practices, attitudes, beliefs, and perceptions of individuals and groups. This research employs a participatory ethnographic approach to explore

ecological citizenship practices among the indigenous people of Tengger, examining them from both sociocultural and ecological perspectives. The research was conducted in three main villages of the Tengger community: Ngadisari (Probolinggo Regency), Ranu Pane (Lumajang Regency), and Ngadas (Malang Regency), which are located near the Bromo Tengger Semeru National Park (BTSNP) area. Primary data was obtained through in-depth interviews with informants. Table 1 provides a visualization of the demographics of the research informants.

Table 1. Research Informant

Initial	Sex	Age	Role
KN	M	57	Dukun Adat
KC	M	61	Dukun Adat
LI	M	46	Local Guard
RD	M	37	Youth representative
LT	W	28	Youth representative
SM	W	56	Woman representative
BD	M	46	Ranu Pane Village Governance

Participatory observation is conducted in ritual ceremonial activities, such as Yadnya Kasada, as well as in community-based environmental conservation activities, including community service and *rewang*, to capture the life experiences and ecological practices embedded in everyday life. These informants were chosen for their roles and experiences in maintaining, transmitting, and negotiating local ecological knowledge and conservation practices. Secondary data were collected through the study of local documents, such as village regulations (*perdes*) and customary law, which reflect the institutional and normative framework in environmental conservation efforts.

Data collection methods consisted of semi-structured interviews, participatory observation, and document analysis. The flexible interview format enabled the exploration of emergent themes while ensuring consistency across core topics, focusing on ecological behaviors, spiritual values, customary rules, and intergenerational knowledge transfer related to environmental guardianship. The interviews were conducted from February to July 2025, primarily in Ranu Pane and Ngadas Villages, during both ritual and non-ritual periods, to capture diverse perspectives. The interview procedure involved obtaining prior informed consent. Due to cultural sensitivity and the respondents' preference for privacy, no audio or video recordings were made. Instead, detailed field notes were taken immediately after each interview session to preserve the substance of the conversation while respecting the informants' comfort. Participatory observation was conducted to explore how ecological citizenship is practiced and embedded in the daily life of the Tengger indigenous community. The observations focused on several key aspects. First, traditional ritual ceremonies. Second, community-based environmental conservation activities. Third, gender and generational roles were observed. Finally, the observation also covered spatial ecological governance. These observations helped reveal how Tengger ecological values are spiritually grounded, socially negotiated, and sustainably practiced in everyday life.

Data analysis is carried out thematically through the stages of data reduction, data presentation, and data retrieval ([Miles et al., 1994](#)). The following is a visualization of the data analysis conducted by the researcher, as shown in Figure 1.

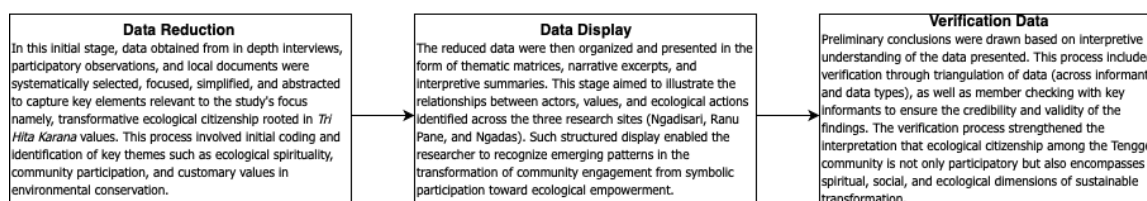


Figure 1. Data Analysis

Data analysis was conducted thematically through three interrelated stages: data reduction, data presentation, and drawing and verifying conclusions (Miles et al., 1994). In the data reduction stage, raw data from interviews, observations, and documents were selected and coded to identify patterns relevant to the Tri Hita Karana-based ecological citizenship transformation. The reduced data were then presented in the form of a thematic matrix and narrative summary to illustrate the relationship between local wisdom values, communal participation, and conservation practices across the three research sites. The final stage involved triangulating data sources and conducting member checks with key informants to ensure the interpretive validity of the findings. This analysis process enabled the identification of three integrated dimensions of the Tengger indigenous community's ecological citizenship: spiritual, social, and ecological, which collectively demonstrate how local wisdom can foster sustainable and empowering environmental engagement.

RESULTS AND DISCUSSION

This research reveals that the Tengger indigenous people develop a transformative ecological citizenship through the local values of Tri Hita Karana, which is a philosophical and spiritual framework that governs the relationship between humans and God (*Parahyangan*), humans with humans (*Pawongan*), and humans with nature (*Palemahan*) (Sukmawan & Alifah, 2024). The ecological citizenship of the Tengger people is not a product of top-down policies initiated by the state or external institutions; rather, it arises organically from a collective consciousness that is firmly rooted in their local culture and traditions.

This ecological awareness can be categorized as vernacular ecological citizenship, which is the practice of citizenship that grows from the values and socio-ecological relations typical of the local community, which is different from the ecological citizenship model developed by the state or formal institutions (Garibaldi & Turner, 2004; Isin & G. M, 2008). This ecological awareness is strongly embedded in rituals and local wisdom values, which function as a source of legitimacy and social power in environmental conservation efforts (As, 2022; Geertz, 1973; Lansing, 2007), as conveyed by KN (57 years old), a traditional shaman:

"We believe that protecting nature is part of our religious obligations. If the mountain is damaged, our livelihoods will also be affected. All residents are aware of this and feel responsible." (Interview, February 12, 2025)

The Tri Hita Karana values serve as a local ecological institution that regulates the relationship between humans, nature, and God through social activities, rituals, and customary policies that are continually negotiated collectively (Cleaver, 2017). Thus, ecological citizenship in the Tengger community is not only based on formal or legalistic obligations, but is also rich in spiritual and affective meaning. The relationship between humans and God (*Parahyangan*) is the primary foundation for the ecological attitudes and actions of the Tengger indigenous community, as stated by LI (46 years old), the guardian of the Ranu Pane tradition:

"The Kasada ritual is not just a tradition, but our way of protecting the mountain. If it is not carried out, the balance can be lost, and disasters can occur. We believe that." (Interview, February 17, 2025)

Sacred rituals such as *Pujan Kesanga*, *Yadnya Kasada*, *Unan-Unan*, and *Sedekah Bumi* are forms of worship and a manifestation of collective responsibility to maintain the balance of the cosmos (Sejati et al., 2023; Sumarmi, 2017). These rituals affirm a strong ecological ethic and limit environmentally damaging practices (Geertz, 1973; Riggio, 2015; Shuttleworth, 2024). Rituals are considered sacred and internalize nature as a sacred entity that must be respected. Consequently, ecological action is not only a social obligation but also a religious obligation that strengthens emotional and spiritual attachment to nature (Damaitu & Rato, 2024; York, 2023). This concept of sacralization aligns with the theory of sacred ecology, which asserts that religious relationships are key to ecological sustainability (Berkes, 2017). Therefore, the environment is treated as a sacred space imbued with spiritual significance, making nature conservation an integral part of the Tengger indigenous community's religious practices. In addition to the spiritual dimension, the ecological citizenship of the Tengger indigenous community is also manifested in interpersonal relationships (Pawongan), as conveyed by RD (37), a youth representative:

"If there is community service or tree planting, we always join in. Not because we are asked to, but because it has been a habit since we were little. If we did not join, we would be embarrassed." (Interview, February 18, 2025)

This is manifested in community service (*rewang*), cooperation (*gotong royong*), and collective environmental management. This value of social solidarity forms the foundation of effective community-based environmental management (Santoso et al., 2009; Sukmawan et al., 2018). Young people are encouraged to actively participate in gotong royong activities as a form of moral solidarity and social responsibility (Putri et al., 2022). The involvement of women and youth further emphasizes the participatory nature of the Tengger indigenous community's ecological citizenship, demonstrating the strengthening of inclusive ecological citizenship. For example, the prohibition on illegal logging in the Ranu Pane and Ngadas customary areas demonstrates a socially and morally binding mechanism for managing natural resources (Awatara, 2011). This was emphasized by KC (61), a traditional shaman:

"If they cut down trees without permission, they can be ostracized. It might be trivial for them, but if it continues, they can get punishment. That has been a traditional rule for a long time." (Interview, February 15, 2025)

This customary forest area is managed collectively through an effective system of social sanctions, which preserves the forest ecosystem, protects water sources, and maintains soil fertility (Ayuninggar et al., 2011; Astoni, 2018). These prohibitions and social sanctions serve as binding norms for community members, selectively limiting access to resources and reflecting an effective standard resource pool management model (Fleischman et al., 2014; Ostrom, 2002). The customary system, which reinforces moral and social sanctions, also affirms local legitimacy, a crucial factor in maintaining environmental sustainability (Magni, 2017). Local communities have the capacity to manage natural resources sustainably through their own developed norms and institutions. In Tengger, customary norms serve as a social and spiritual bond, providing strong legitimacy for environmental conservation efforts (Aji et al., 2020). The third dimension in Tri Hita Karana, the

relationship between humans and nature (Palemahan), is reflected in various ecological practices of the Tengger indigenous community, which are carried out with a religious approach and local wisdom, as conveyed by SM (56 years old), a representative of the women's group:

"We farm with organic fertilizer because we realize this land must be protected. If it is destroyed, where will our children and grandchildren live? This is our ancestral mandate." (Interview, February 17, 2025)

Sacred areas such as Pura Luhur Poten and Mount Widodaren function as conservation zones that act as ecological buffers, protecting critical areas from overexploitation (Abdurrahman, 2024; Velander, 2011). This sacralization of space reinforces the boundaries of natural resource management and integrates spiritual values into ecosystem governance, contributing to practical conservation. Water management in Tengger, for example, is carried out collectively and governed by customary regulations that regulate the distribution of irrigation water and the preservation of springs (*sendang*). In Ngadas, a 2019 Village Regulation regulates spring boundary zones, prohibiting permanent development and encouraging the preservation of buffer vegetation, as explained by BD (46), a representative of the Ranu Pane administration:

"We have a Village Regulation that regulates water source zones. No permanent structures are allowed. Everyone knows that." (Interview, February 19, 2025)

This spatial sacralization solidifies the boundaries of natural resource management and integrates spiritual values into ecosystem governance, contributing to practical conservation. Water management in the Tengger region is carried out collectively and is regulated by customary rules governing the distribution of irrigation water and the preservation of springs. In Ngadas Village, the 2019 Village Regulation regulates water source delimitation zones, prohibiting permanent development and encouraging the preservation of buffer vegetation. To provide a systematic overview of the Tengger indigenous community's transformative ecological citizenship practices based on the Tri Hita Karana values, Table 2 is presented.

Table 2. Practices of the Tengger Indigenous Community's Transformative Ecological Citizenship

Dimension	Aspects of Ecological Citizenship	Indicators	Examples of Practice	Transformative Aspect
Cognitive (Knowledge)	Sacred ecological understanding	Understanding the cosmic relationship between humans, nature, and God	Knowledge of the function of Yadnya Kasada in maintaining the balance of mountains and ecosystems	Spiritual wisdom as the basis of ecological epistemology
	Critical ecological awareness	Realizing the damage caused by modernization and mass tourism	Community discussions on the impact of waste and restrictions on access to sacred areas	Selective attitudes toward modernity and development

Affective (Value and Feeling)	Emotional concern and attachment to nature Spiritual attachment (<i>Parahyangan</i>)	Feeling sad about environmental destruction Feeling the sacredness of nature as a form of worship	Rejection of development in the sacred zone of Mount Widodaren Offerings to Mount Bromo and Batok; prohibition of disrespectful behavior in the Sea of Sand	Nature protection values become part of the collective identity Internal spiritual ecology as the basis for ecological action
Conative (Action and Behavior)	Ecological collective action (<i>Pawongan</i>) Participation in environmental governance Local innovation based on custom Gender and generational inclusive roles	Involving in customary- based conservation Involving in village deliberation forums and conservation policies Developing local solutions based on sacred and cultural values Involving women and youth in ecological activities	Rewang, village cleanup, community service, water source conservation Drafting of Watershed Village Regulations, involvement in Bromo Tengger Semeru National Park Ecological educational tourism " Ranupani Hijau" and digital content on nature conservation Women active in organic farming groups, youth creating educational content	Ecological action becomes an inherited social norm A collaborative governance model between customary law and the state Transformation of the younger generation as agents of new ecocitizens Institutionalization of ecological values through equality and regeneration

Table 2 shows that the Tri Hita Karana values not only serve as a normative basis but also guide the concrete practices of transformative ecological citizenship in the daily lives of the Tengger indigenous community. These values serve as a dynamic framework for living and are continually reinterpreted in changing social and ecological contexts. In this context, the Tengger indigenous community's ecological citizenship has evolved from symbolic ritual engagement to active participation, emphasizing community collaboration, empowerment, and innovation in environmental governance. This governance model demonstrates a collaborative approach between the community, traditional leaders, and the management of Bromo Tengger Semeru National Park. This collaboration reflects the principle of participatory governance, which positions local communities as the primary actors in environmental conservation (Sekher & Sahu, 2011; Van Bussel et al., 2020).

This practice demonstrates that local wisdom can provide a resilient collective framework for maintaining ecological balance amidst the pressures of development and climate change. As ecological

awareness increases, the Tengger indigenous community is experiencing a shift from passive involvement in rituals to a more active role as agents of social and environmental change (Gbadegesin & Gbadamosi, 2024). Youth communities, such as Ranupani Hijau in Ranu Pane, have initiated community-based conservation tourism programs that integrate ecological education and local cultural preservation. The youth actively use social media to disseminate educational content about the importance of environmental protection, produce documentaries, and advocate for environmental issues from a local perspective. As LT (28), a youth representative, explained:

"We create educational content on YouTube and Instagram about waste, the Kasada ritual, and the village's history so that tourists understand and do not damage it." (Interview, February 18, 2025)

Furthermore, people actively participate in village deliberations to formulate regulations for spatial planning, waste management, and sustainable development. This shift marks the transformation of ecological citizenship from a passive position to an active and empowered one, in line with the concept of ecological citizenship, which emphasizes participation and empowerment (Petriello et al., 2025; Phillips et al., 2023; Skene, 2022).

Gender roles are also becoming more inclusive, with youth and women playing central roles. Youth are involved in producing educational content on social media, facilitating ecotourism, and providing training on organic waste management, while women are active in farmer groups that implement sustainable agriculture and promote religious-ecological activities, such as offerings to nature (Ramiyati et al., 2022; Sukmawan & Febriani, 2018; Pal, 2024). As SM (56), a representative of the women's group, reiterated:

"We also teach young people how to grow organic food and manage waste. If women remain silent, who will pass on this fertile land to their children?" (Interview, February 17, 2025)

The findings of this study demonstrate the alignment between the customary practices of the Tengger indigenous community and the principles of Law Number 32 of 2009 concerning Environmental Protection and Management, which emphasizes the importance of community involvement in sustainable and participatory environmental management. The ecological citizenship practices of the Tengger indigenous people also support several Sustainable Development Goals (SDGs), particularly SDG 15 (Life on Land) and SDG 11 (Sustainable Cities and Communities). This local wisdom-based environmental management contributes to ecosystem conservation and the empowerment of indigenous communities in facing the challenges of climate change and development pressures (United Nation, 2024).

However, this study has several limitations. First, the focus is limited to a case study of the Tengger indigenous community in three main villages, so generalizations to other indigenous communities in Indonesia should be made with caution. Second, the qualitative approach employed relies more on interviews and secondary literature than on in-depth, longitudinal observation, so the long-term dynamics are not fully depicted. Third, external interventions such as the impact of mass tourism, the role of institutions, and state conservation policies have not been thoroughly explored. Furthermore, the dimensions of intersectionality, particularly the roles of women, youth, and vulnerable groups, still require further study. These limitations provide a crucial foundation for further, more comparative, and multidisciplinary research to better comprehend the practice of ecological citizenship among indigenous communities in Indonesia.

CONCLUSION

The Tengger indigenous people have developed a transformative form of ecological citizenship through the values of Tri Hita Karana, which harmonize spiritual (*Parahyangan*), social (*Pawongan*), and ecological (*Palemahan*) dimensions in environmental management. Rituals such as Yadnya Kasada and social mechanisms like gotong royong and customary sanctions establish a sacred yet participatory system of resource governance. The active engagement of youth and women in ecological education and advocacy further reflects the inclusive and dynamic nature of this citizenship. These findings demonstrate that ecological citizenship, grounded in local cosmology, offers a viable alternative model for sustainable environmental governance — one that integrates moral, cultural, and institutional dimensions. Policy-wise, this study recommends the inclusion of indigenous knowledge systems in environmental management and formal education, as well as stronger legal recognition of customary ecological institutions. Future research should pursue comparative studies across Indonesia's diverse indigenous groups and evaluate the measurable impacts of spiritual-ecological values on sustainability outcomes. Ultimately, this study contributes to advancing the theoretical and empirical discourse on indigenous-based ecological citizenship while offering a culturally grounded framework for policy innovation in the Anthropocene era.

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