



The Value of Ecological Wisdom in the Oral Story of the Toba Batak "Tombak Sulu Sulu": An Ethnographic Study

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Abstract

This research explores the values of ecological wisdom contained in Toba Batak's oral stories, especially the legend of "Tombak Sulu Sulu." The background of this research is based on the importance of environmental preservation amid the threat of ecological disasters around Lake Toba. The method used is qualitative, with an ethnographic study conducted in the Bakkara Valley. Data was collected through in-depth interviews with traditional leaders, field observations, and documentation related to the legend. The results showed that this legend contains five central values of ecological wisdom: respecting nature, living in harmony with nature, wise use of natural resources, using environmental knowledge for place naming (toponymy), and making nature a spiritual tool. These values emphasize the importance of harmonious relationships between humans and the environment that can be integrated into nature conservation and sustainable development efforts. This research offers a new perspective on how traditional narratives can build societal ecological awareness.

Introduction

The area around Lake Toba has recently experienced a series of natural disasters that have resulted in significant material losses and posed a severe threat to the lives of residents. This situation highlights the imbalance between human activities and the natural environment, requiring immediate intervention through more effective conservation measures. Ideally, the relationship between humans and nature should be mutually beneficial, characterized by sustainable practices that do not overexploit natural resources. However, the human tendency to constantly exploit the environment without paying attention to sustainability has led to severe ecological consequences, including floods, forest fires, deforestation, and degradation of mining land (Chaudhary, 2024).

To reduce the adverse impacts of human activities on the environment, it is essential to foster individual awareness and responsibility in addition to collective action. The literature suggests that social identity plays a vital role in shaping pro-environmental behavior, as individuals who identify strongly with their community are more likely to engage in collective environmental action (Fielding & Hornsey, 2016). This collective approach increases individual motivation and strengthens social bonds, creating a supportive environment for sustainable practice. Additionally, integrating environmental literacy into community initiatives can empower individuals to take actionable steps toward sustainability, thereby addressing complex challenges such as climate change and resource scarcity (Ardoin et al., 2023).

Literary works are a powerful medium to explore human and environmental relationships. Through various forms, such as stories, poetry, and narratives, literature can effectively increase public awareness of the importance of ecological conservation. This is particularly evident in the ecocritical literature, which examines how the natural world is represented and

how this representation can affect human attitudes and behaviors towards the environment (Indriani et al., 2023; Davies, 2023). Literary narratives often depict characters and events that highlight the detrimental effects of environmental degradation and the need for conservation efforts. Such depictions can resonate emotionally with readers, inspiring them to engage in conservation actions. These relationships are not only thematic but reflect broader social and environmental realities, thus illuminating issues that may otherwise be overlooked (Sonenshein et al., 2014).

Folklore is an essential literary medium that can be used for educational purposes in environmental conservation. Through narratives transmitted across generations, folklore encapsulates local wisdom and values that advocate for nature conservation in an engaging and accessible way. These stories often convey moral lessons emphasizing preserving natural resources such as forests and rivers (Sari et al., 2019; Sultoni et al., 2023). The folklore aspect highlights its potential as a tool for environmental education, as it is entertaining and educational about ethics and ecological responsibility (Sultoni et al., 2023; Yulisetiani & Sutrisno, 2023).

Folklore is imbued with ecological wisdom, making it a valuable resource for addressing environmental issues. Narratives in folklore often reflect traditional ecological knowledge, which can guide contemporary efforts in environmental conservation (Anwar, 2024). Folklore can effectively communicate the importance of biodiversity and the need for sustainable practices, fostering a sense of environmental stewardship among communities (Karmadi et al., 2023; Setyowati et al., 2020). Additionally, moral teachings embedded in folklore can inspire individuals to adopt more environmentally responsible behaviors as they resonate with cultural values and beliefs (Hayati et al., 2021; Hestiyana, 2023).

Sulu Sulu Spear is located in the Bakkara Valley, precisely in Marbun Tonga Marbun Dolok Village, Baktiraja District. The area is filled with lush trees and large stones that have aged to the ground. Locals refer to the trees there as the Sanghamadeha Tree, which is considered sacred and rare. According to geologists, the rocks in this area are hundreds of millions of years old and are part of the bedrock of the Toba Supervolcano, which is now very difficult to find (Batoro et al., 2020).

The Sulu-sulu spear is believed to be the birthplace of King Sisingamangaraja I. In this place, Boru Pasaribu, the wife of King Bona Ni Onan Sinambela, received a revelation from Mulajadi Nabolon (God Almighty) that she would give birth to a child who had extraordinary strength and would one day become a king. The Earth trembled when the child was born, so he was named Raja Manghantal. King Manghantal was then appointed as King Sisingamangaraja I.

In this study, the research object is the oral story of the Sulu sulu spear, which can be used to promote environmental awareness. Although there has been research highlighting Toba Batak folklore and related cultural practices, there are some significant gaps in the existing literature, especially about the ecological understanding contained in oral narratives. Previous studies have tended to focus on the translation of Batak Toba folklore into foreign languages, the adaptation of narratives for educational purposes, and the exploration of socio-cultural aspects of folklore (Naibaho, 2023; Nugroho & Narawaty, 2022; Purba, 2022). However, most of the research ignores how this narrative contains ecological policies and plays a role in the environmental management of local communities.

Several studies on local wisdom in the Batak Toba community have discussed the importance of traditions such as traditional medicine and community cooperation practices. However, research that directly connects oral stories with the spread of ecological values is still minimal.

Previous studies, such as those conducted by Siregar et al. (2023), discussed the relationship between the Batak Toba community and nature in the context of "soil theology" but did not specifically examine how oral stories such as "Sulu Sulu Spear" convey such ecological wisdom.

This research will make a new contribution by examining how oral traditions function to convey ecological wisdom in the context of Batak Toba, as well as investigating how the story of "Spear Sulu Sulu" can influence contemporary environmental practices. Thus, this research deepens the understanding of Toba Batak folklore and offers a new perspective on how oral narratives can be a tool for building ecological awareness and responsibility in society.

Methods

This study uses a qualitative approach with ethnographic methods to understand the cultural context and values of ecological wisdom in the legend of the Sulu-Sulu Spear, which aims to describe, interpret, and explore the values, behaviors, beliefs, and language of cultural groups (Creswell, 2018). The research was conducted in the Bakkara Valley, Humbang Hasundutan Regency, North Sumatra, with the primary data in the form of legend quotes from interviews and observations, as well as secondary data from graphic documents such as tables, notes, photos, and recordings (Suharsimi, 2016). The data collection technique includes five steps: interviews with informants, site observation, photo and video documentation, field notes, and transcription of the interview results into a systematic story. The validity of the data was tested using triangulation techniques, which included triangulation of data sources, methods, and theories (Creswell & Creswell, 2018).

The data analysis technique uses an interactive analysis model (Huberman, 2014), which includes data reduction, data presentation, and conclusions drawn. Data reduction simplifies and groups data, data presentation compiles information for analysis and draws conclusions interpreting data to produce findings based on the structure and value of ecological wisdom from the legend of the Sulu Spear. The researcher conducted interviews with resource persons who are traditional elders, namely, the *Huta king*, *traditional king*, *bius king*, and village head or former village head in Marbun Tonga Marbun Dolok Village, Bakti Raja District, Humbang Hasundutan Regency, North Sumatra, the selected resource persons were identified as SS, PM, MM, LS, DM, JS and NS with a more detailed explanation as follows:

Table 1.1 Details of Resource Person Data

No	Source person	Age	Gender	Work	Interview Date
1.	SS	65	Laki-laki	Mantan kepala desa	03 Juni 2024
2.	PM	78	Laki-laki	Raja Huta	10 Juni 2024
3.	MM	60	Laki-laki	Raja adat	13 Juni 2024
4.	LS	63	Laki-laki	Raja adat	17 Juni 2024
5.	DM	79	Laki-laki	Raja Bius	26 Juni 2024
6.	JS	60	Laki-laki	Raja Hata	28 Juni 2024
7.	NS	63	Laki-Laki	Raja Hata	02 Juli 2024
Total					7 Respondents

Respondents were selected based on several criteria: (1) those who are actively involved in the Toba Batak custom, namely the king of huta, the traditional king, the king of bius, and the village head or former village head; (2) community leaders over 50 years old; and (3) individuals identified as natives of the Bakkara Valley. To gain an in-depth understanding of

the legend of the Sulu Sulu Spear, it is essential to gather knowledge from individuals who have extensive experience and knowledge of the stories of the Sulu Sulu Spear. Before selecting the people to interview, the researcher conducted a comprehensive literature review and discussed it with various cultural experts in the Bakkara Valley. The purpose of this consultation is to obtain recommendations on individuals who are widely known as experts in the field of culture, especially the story of the Sulu Sulu Spear. After receiving the list of individuals, the researcher initiates initial contact to determine their readiness to participate as a respondent and verify their possession of relevant information and experience related to the focus of the study.

Results and Discussion

This research reveals the values of ecological wisdom in the Toba Batak folklore "Spear Sulu-Sulu," based on ethnographic studies in the Bakkara Valley. Spear Sulu-Sulu, which is located in Marbun Tonga Marbun Dolok Village, Baktiraja District, Humbang Hasundutan Regency, is a cave located in the middle of a small forest with an entrance resembling a jungle door. Within this area, limestone formations are estimated to be around 250 million years old. This place is believed to be the birthplace of King Sisingamangaraja I, who founded the King Sisingamangaraja Dynasty (Sisingamangaraja I to Sisingamangaraja XII). In addition, the Sulu-Sulu Spear is believed to be a place of meditation and spiritual activity for the dynasty's kings and the center of their spiritual power. This location has deep spiritual and cultural values for the Batak people.

The analysis results illustrate how the Batak Toba people internalize a harmonious relationship with nature and the surrounding environment in this oral story. The values of ecological wisdom that will be studied in the Legend of the Sulu Sulu Spear are 1) the value of respecting nature, 2) living in harmony with nature, 3) using natural resources wisely, 4) utilizing ecological knowledge for toponymy, and 5) making nature a spiritual tool.

Respect for Nature

This principle emphasizes the intrinsic value of nature and the importance of treating nature with respect. Respecting nature means recognizing the rights of nature and the need for conservation, which aligns with the belief that humans are the guardians of the environment and not the owners (Sultoni et al., 2023).

In this legend of the Sulu-Sulu Spear, the value of respecting nature is clearly illustrated through the close relationship between humans and nature, where nature is not only an object or physical setting but is also considered an entity with spiritual and moral power. The interaction between humans and nature is shown in several important events, such as when Boru Pasaribu and Raja Bona Nionan relied on nature as a place where they sought answers through prayer and meditation.

When Boru Pasaribu went to the Sulu Spear, a sacred place, he interacted with nature spiritually, begging God *Mulajadi Nabolon* to grant his wish to have a son. Boru Pasaribu's action shows that the Batak people in this legend view nature as a communication medium with a higher power. Nature is not only considered as a human dwelling but also as a messenger of divine messages that deserve respect. This aligns with the principle of respecting nature, which emphasizes that humans are guardians, not owners, of the environment. Humans must preserve, not exploit, nature. As Sultoni et al. (2023) state, "Respecting nature means recognizing the rights of nature and the need for conservation."

This legend also shows how nature can warn humans. For example, before the birth of Sisingamangaraja, Boru Pasaribu predicted the arrival of a major storm that would destroy houses that did not have strong support. This warning came not from any observation but from Boru Pasaribu's spiritual connection with nature, which he believed to be the bearer of divine messages. When the storm happened, the houses that followed his advice survived, while those who ignored him were destroyed. This shows that nature in this story has great power that must be respected and obeyed, as it provides a place to live and moral lessons and guidance for humans.

Thus, this legend confirms that nature has physical or material value and significant spiritual value. In this legend, Boru Pasaribu obeys nature by undergoing the commands given through the signs of nature, showing that respecting nature is an act that aligns with the belief that humans are only a tiny part of a larger ecosystem and must maintain the balance that exists. This teaching aligns with contemporary ecological views that call for respect for natural rights, including preservation and conservation for the sustainability of life on Earth.

Living in Harmony with Nature

This value advocates a lifestyle harmonizing human activities with natural processes, thus promoting balanced coexistence. Achieving harmony with nature is essential for sustainable living, as it encourages practices that do not disturb the ecological balance (Durán et al., 2023). This concept of harmonious living is further supported by the idea that settlements must be made in the natural environment, encouraging unity between humans and nature.

The value of living in harmony with nature in the legend of the Sulu-Sulu Spear can be seen through the balance between culture and natural elements shown by Raja Bona Nionan and Boru Pasaribu. Their lives reflect how humans in Batak society live physically, spiritually, and culturally in harmony with nature. One of the prominent symbols in this legend is the use of *ulos ragidup* (traditional Batak cloth) and *ogung oloan* (bronze gong) in the birth process of Sisingamangaraja I, which not only reflects cultural elements but also connects humans with nature through objects made from natural materials.

The *ulos ragidup* used in the birth process symbolizes life and protection from natural elements such as cotton, which is processed into cloth with a whole spiritual meaning. In addition, *ogung oloan*, a gong made of metal, symbolizes strength and stability taken from the Earth. Using these two objects in the birth of Sisingamangaraja I shows that their lives are in harmony with the rhythm of nature and the natural elements considered sacred and essential. This aligns with the concept of human coexistence with natural processes, as Durán et al. (2023) highlighted, who emphasize that "achieving balance with nature is essential for sustainable living since these practices do not disrupt ecological balance."

Other signs of miracle that accompanied the birth of Sisingamangaraja I, such as a great storm, show how nature functions as a medium to express greatness and spiritual meaning. Humans and nature interact through interconnected rhythms and signs, where nature bears witness and plays an active role in communicating divine messages. This coexistence illustrates that humans must be sensitive to the signs of nature and live according to the rhythm of nature that provides instructions and directions to act wisely and harmoniously.

Thus, through birth events and miracles directly related to nature, this legend shows how humans can live in harmony with nature and gain a deeper understanding of life. So, spiritual interaction with nature can improve mental well-being and foster a sense of oneness with nature, which can be seen in how Boru Pasaribu and Raja Bona Nionan continue to seek guidance from nature to maintain harmony in their lives.

Using Natural Resources Wisely

This principle underscores the importance of sustainable resource management. This principle advocates the responsible use of natural resources to ensure their availability for future generations. The wise use of resources is often based on local knowledge and practices passed down from generation to generation, which can improve ecological sustainability (Jeniver et al., 2024).

The value of using natural resources wisely in the legend of the Sulu-Sulu Spear is illustrated through the traditional practices carried out by the characters in the story, especially Boru Pasaribu. One of them is the use of salaon plants as natural dyes in the process of making ulos woven fabrics. This practice shows that the Batak people at that time had knowledge and skills in using natural resources wisely without damaging the balance of the ecosystem. Taking salaon from nature is not done excessively, but with the awareness that nature has a regenerative process that must be respected and maintained.

Boru Pasaribu uses this plant for personal gain and does it with complete calculation, ensuring that the plants taken can grow back. It illustrates the principle of conservation closely related to the sustainability of natural resources, which avoids overexploitation. Jeniver et al. (2024) state that "sustainable management of resources is essential to ensure their availability for future generations." By practicing wise management, Boru Pasaribu ensures that the environment remains productive and can be used by future generations without depleting existing resources.

This legend aligns with modern ecological views, which recognize the importance of the wise use of natural resources to prevent ecosystem damage and maintain the balance of nature. Jeniver et al. (2024) emphasized that "the wise use of resources allows for ecological sustainability and the availability of resources for future generations," and this is reflected in Boru Pasaribu's actions of respecting nature by only taking what is necessary and allowing natural processes to occur.

Thus, this legend teaches that wise management of natural resources is about maintaining the physical availability of natural materials and respecting the balance of the broader ecosystem. Boru Pasaribu is an example of a figure who lives on this principle, showing how traditional societies can live in harmony with nature, utilize resources without damaging them, and maintain environmental sustainability for future generations.

Harnessing Ecological Knowledge for Toponymy

These values involve applying ecological understanding to the naming and significance of places, reflecting the relationship between cultural identity and the environment. By recognizing the environmental characteristics of a site, communities can foster a deeper connection with their environment and encourage conservation efforts (Sultoni et al., 2023)

In the legend of the Slu-Sulu Spear, utilizing ecological knowledge for toponymy is reflected through place names such as Mount Pusuk Buhit and Sulu Sulu Spear, which have profound environmental and spiritual significance for the Batak people. These geographical names indicate a physical location and reflect the close relationship between cultures, ecosystems, and spiritual beliefs. Toponymy, or place naming, in this legend, is a way to connect cultural identity with the environment, showing that the Batak people deeply understand their local ecology and integrate it into their culture and spirituality.

Mount Pusuk Buhit is known as a sacred place and is the origin of the Batak people. This mountain has great spiritual significance because it is considered a place blessed by God

Mulajadi Nabolon. Pusuk Buhit is not just a mountain; it is seen as a cosmic axis connecting the human and divine worlds. The relationship between humans and nature in this place shows that local ecosystems are respected as part of spiritual life, reinforcing the idea that geographical names have practical value and are sacred and ecological.

Likewise, the Sulu-Sulu Spear is where Boru Pasaribu searched for signs and wonders related to the birth of Sisingamangaraja. The name "Spear," which means forest or jungle in the Batak language, indicates a dense and life-filled natural ecosystem. However, more than that, the Sulu-Sulu Spear has a spiritual meaning as a place to seek answers and clues from nature. This place is recognized for its natural beauty and role as a location for communication between humans and divine forces. Boru Pasaribu uses this place to pray and meditate, emphasizing that nature in the form of forests and mountains is a medium to interact with God. This aligns with the idea that naming places like this is often based on local ecological traits and spiritual functions, which shows how humans use their knowledge of nature to build their cultural identities and beliefs.

In this legend, the names of places such as Mount Pusuk Buhit and Sulu Sulu Spear suggest that the Batak people utilized their ecological knowledge to build spiritual and cultural meaning. This reinforces the concept that cultural and environmental identities are intertwined and that sacred places serve as spiritual symbols and as a reminder of the importance of maintaining a balanced and harmonious relationship with nature.

Making Nature a Spiritual Tool

This principle highlights that nature can be a spiritual inspiration and source of well-being. Interacting with nature spiritually can improve mental health and foster a sense of belonging in the larger ecological community. Direct contact with nature can provide therapeutic benefits and enhance a holistic understanding of life (Aydın et al., 2020).

In the analysis of how nature is used as a spiritual tool in the legend of the Sulu Spear, it can be seen how Boru Pasaribu interacts with the surrounding environment to communicate with God *Mulajadi Nabolon*. It illustrates that nature is not just a background but an integral part of the spiritual process.

When Boru Pasaribu prays at the Sulu Spear, this place becomes a meeting point between humans and divine forces. The surrounding nature, from dense forests to the sound of the wind, is a medium that guides and inspires. When a storm arrives, it is not just a weather phenomenon but a symbol of the spiritual power that watches over and responds to Boru Pasaribu's prayers. In this case, a raging storm can be interpreted as a sign from God, giving strength and warning of the importance of the relationship between humans and nature.

The miracle after the storm, namely the birth of Sisingamangaraja, emphasized that this spiritual moment is directly related to natural events. This aligns with the opinion of Aydın et al. (2020), who explain that "contact with nature can improve mental health and provide a holistic understanding of life." This interaction creates emotional benefits for Boru Pasaribu, providing a sense of calm and clarity when facing challenges. So, in this legend, nature is a source of strength and inspiration that allows the characters to connect more deeply with themselves and a higher power.

The relationship between Boru Pasaribu and nature in this spiritual process shows that the Batak people view nature as part of their belief system. Each element in nature is considered to have a specific meaning and power, supporting the individual's spiritual journey. As the

legend reveals, "The Sulu-Sulu spear is a place where God gives miracles and signs through the elements of nature."

Thus, using nature as a spiritual tool in this legend illustrates a paradigm that values human interaction with the environment as something intangible and gives meaning to life. Nature is not only a physical place but also a living entity and plays a role in spiritual life, reminding us of the importance of maintaining a harmonious relationship with the environment by the principle that humans are part of a larger ecosystem. The spiritual interactions in the Sulu-Sulu Spear give meaning to Boru Pasaribu's life and enrich our understanding of the relationship between humans, nature, and divine forces.

The research results on the values of ecological wisdom in the oral story of the Toba Batak "Spear of Sulu-Sulu" show how the Toba Batak people internalize a harmonious relationship with nature. The value of respecting nature is seen in the interaction between humans and the environment, where nature is considered an entity with spiritual power that must be respected. Boru Pasaribu, who prayed at the Sulu Spear shrine, described how people view nature as a medium of communication with God. Living in harmony with nature is reflected in cultural symbols connected to natural elements, such as ulos ragidup and ogung oloan, showing a balance between culture and nature. The principle of wise use of natural resources is illustrated through the practice of Boru Pasaribu, which uses salaon plants as natural dyes without damaging the balance of the ecosystem. Ecological knowledge is also seen in naming places such as Mount Pusuk Buhit, which connects cultural identity with the environment and strengthens conservation awareness. Finally, nature is a spiritual tool that provides inspiration and well-being, as seen when Boru Pasaribu prays and receives signs from nature. Thus, this legend emphasizes the importance of a harmonious relationship between humans and nature and the values of ecological wisdom relevant to sustainable living.

This research reveals a deep understanding of the relationship between the Batak Toba people and nature. A deep respect for the environment characterizes this relationship, considered a spiritual entity worthy of consideration. These findings align with other research highlighting the importance of cultural narratives in fostering ecological awareness and sustainable practices among Indigenous peoples. For example, Guji Oromo in Ethiopia emphasizes the artistic symbolism associated with trees, which reflects the shared proximity between culture and nature, underscoring the importance of indigenous peoples' knowledge in conservation efforts. In addition, the integration of spirituality and ecological practices is echoed in Campos (2019), which discusses how the literary traditions of the indigenous peoples of the highlands in the Philippines inform their resilience to climate change through a harmonious relationship with their environment.

The practices of the Batak Toba community, such as using the salaon plant as a natural dye, illustrate a sustainable approach to resource utilization that does not sacrifice ecological balance. This principle is in line with the findings of research conducted by Luo et al. (2009), which documents how traditional beliefs among the Tibetan Baima community in China promote biodiversity conservation through sustainable practices rooted in cultural heritage. In addition, the emphasis on place names and their relationship to cultural identity, as seen in the Batak Toba context, is reflected in research by Qodim (2022), which explores how traditional ecological knowledge among the Balinese Aga people in Indonesia informs their environmental protection efforts.

In addition, the spiritual dimension of nature, as highlighted by Boru Pasaribu's interaction with the environment, reflects a broader trend observed in indigenous cultures worldwide, where spirituality is an essential component in ecological management. This is supported by research

by Chunhabunyatip et al. (2018), which discusses how the spiritual beliefs of indigenous peoples in Thailand affect natural resource management and ecological conservation. The linkage between spirituality, culture, and environmental practices is further emphasized in research by Prasetyo (2023), which illustrates how cultural rituals can be an effective tool for environmental education and conservation.

This study's results align with many kinds of literature that underline the importance of cultural narratives, spiritual beliefs, and indigenous peoples' knowledge systems in fostering a harmonious relationship with nature. These findings collectively advocate for integrating traditional ecological wisdom into contemporary environmental conservation strategies, highlighting the relevance of indigenous peoples' perspectives in addressing global sustainability challenges. The findings of this study illustrate that the ecological wisdom of the Batak Toba people is firmly rooted in cultural practices, spiritual beliefs, and sustainable resource management. The oral story "Spear of Sulu-Sulu" is an important narrative that encapsulates these values, emphasizing the importance of maintaining a harmonious relationship with nature as the cornerstone of sustainable living. The results of this study are not only limited to the Batak Toba community but also offer valuable insights into the role of traditional narratives in fostering ecological wisdom and sustainable practices. Recognizing the spiritual and cultural dimensions of environmental management can enhance conservation efforts and promote a more harmonious relationship between humans and nature.

Conclusion

This research reveals that the oral story of the Toba Batak, namely the legend of the "Slu-Sulu Spear," holds various ecological wisdom values that are important in maintaining a harmonious relationship between humans and nature. The principal value found is respect for nature, where nature is seen as a spiritual entity that deserves to be respected and protected. In addition, the principle of living in harmony with nature can be seen from the balance between culture and the environment, such as using traditional symbols from nature. The wise use of natural resources is also reflected in conventional practices, where Boru Pasaribu utilizes plants responsibly without damaging the ecosystem. The ecological knowledge of the Batak Toba people is also applied in naming places with cultural and environmental significance, such as Sulu Sulu Spear and Mount Pusuk Buhit. Nature functions as a spiritual tool that provides inspiration and guidance in life, affirming that the human relationship with nature is physical and spiritual. This research shows the relevance of traditional ecological wisdom in supporting environmental sustainability and highlights the importance of cultural narratives and spirituality in maintaining the balance of ecosystems.

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