

The Religious Cosmology of Indigenous Communities for Maintaining Ecological Balance in the Mentawai Islands, Indonesia

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Abstract

This research aims to explore how the belief systems of indigenous peoples influence everyday conservation practices and examine how these beliefs can be integrated into modern conservation policies. This study employed an ethnographic qualitative approach. Data collection involved participatory observation, enabling involvement in daily life to directly observe community interactions with the environment and the performance of religious rituals. In-depth interviews were administered semistructured interviews with various key informants, including traditional leaders, religious figures, community elders, and environmental practitioners. Secondary sources from academic publications, government reports, and media archives relevant to the research topic. Interpretative analysis was conducted within cultural and historical contexts to gain a deeper understanding of how religiosity shapes the environmental conservation practices of the Mentawai people. This study presents three key findings related to the environmental conservation practices of the Mentawai community. Their conservation practices are deeply rooted in a belief system. Transformative dynamic is observed, whereby the younger generation successfully combines traditional values of ancestral religion with teachings from world religions and modern perspectives. A gap is identified between the local wisdom-based conservation system and the pressures exerted by the global political economy. The study provides new insights into the crucial role of local religiosity in environmental conservation and highlights the potential for integrating



traditional and modern beliefs in nature conservation efforts. The study suggests that environmental conservation strategies should integrate local communities' religious values and indigenous knowledge rather than relying solely on scientific and technological approaches.

Keywords: *Disaster Management; Ecological Balance; Indigenous Community; Mentawai Islands; Religious Cosmology*

INTRODUCTION

Deforestation in Indonesia, a country recognized for holding the third-largest tropical forest area worldwide, has become a critical issue affecting both ecosystem sustainability and the social fabric of communities, especially indigenous groups reliant on natural resources. Tropical forests serve as vital terrestrial carbon sinks, are essential for mitigating CO₂ and other greenhouse gas emissions, and provide a broad range of crucial ecosystem services. These services include biodiversity preservation, food security, livelihood stability, and carbon and nutrient cycling, all of which significantly influence global climate stability (Muluneh, 2021). Despite Indonesia's report of an 8.4% reduction in net deforestation rates from 113.5 thousand hectares in 2020-2021 to 104 thousand hectares in 2021-2022, deforestation continues to pose a substantial threat to the resilience of these valuable ecosystems (Kementerian Lingkungan Hidup dan Kehutanan RI, 2023).

Beyond severe ecological impacts, deforestation in the Mentawai Islands disrupts the cultural values and spiritual practices of indigenous communities. The Mentawai people, most of whom follow the Arat Sabulungan belief system, regard nature as a spiritual entity that must be balanced. This belief system holds that spirits residing in nature support ecosystem health, deeply embedding environmental respect in their daily lives. However, modernization, the influence of world religions, and external economic pressures have accelerated the erosion of these traditional values. Consequently, many Mentawai

people are losing their spiritual connections to nature, leading to shifts in their approaches to natural resource management (Desriyeni & Primadesi, 2021; Schefold, 1985). Examining this phenomenon is critical not only for understanding environmental conservation, but also for preserving a cultural identity rooted in ecocentric values, which could offer alternative perspectives on addressing the global environmental crisis.

Research on the Mentawai people and their spiritual traditions has yielded several significant findings that can be grouped into three main categories. The first category examines religious rituals within the Arat Sabulungan, demonstrating how this belief system profoundly shapes the spiritual lives of the Mentawai people. Studies such as those by Derung et al. (2023) and Desriyeni & Primadesi (2021) reveal that the Arat Sabulungan is not merely a set of ritual practices but a repository of indigenous knowledge that governs human-nature interactions. These rituals honor the guardian spirits of nature and promote practices considered sacred to indigenous conservation efforts. Hanani & Nelmaya (2022) further asserted that this belief system is essential for sustainable hunting practices and resource management. However, these studies primarily focus on the spiritual dimension without fully examining how such beliefs might integrate with modern ecological conservation strategies.

The second category focuses on acculturation and social harmonization, exploring how the Mentawai people adapt to the influences of world religions, such as Islam, Christianity, and Catholicism, as well as the forces of modernity. Delfi (2013) and Hammons (2016) suggested that the Mentawai selectively incorporated elements of these religions, achieving a balance with their traditional beliefs. These studies also examined the impact of acculturation on local social and political structures, highlighting the development of a distinctive religious identity. However, they

generally overlook how acculturation shapes perspectives on ecological conservation. Yudas et al. (2023) provided insights into the economic and social dimensions of the interaction between tradition and modernity. However, similar to previous studies, the contribution of acculturation to environmental conservation remains poorly explored.

The third category investigates the role of religion in the political and educational context of Mentawai. Studies in this area emphasize the use of world religions as political tools and the influence of formal education on identity and governance in Mentawai. Delfi & Weintre (2014) and Eindhoven (2007) illustrated how religion is a powerful political force that shapes community identity and influences local policy. While these studies illuminate the interactions between world religions and political structures, they do not explore how traditional and modern religious cosmologies contribute to conservation policies or culturally grounded conservation practices.

This research aims to address these gaps in the literature by examining how the cosmology of Mentawai Indigenous religiosity, particularly the integration of Arat Sabulungan with world religions, supports ecological balance. By exploring the relationship between Mentawai spiritual practices and environmental conservation, this study sought to bridge knowledge gaps and provide insights into the role of local religiosity in conservation efforts. Through an ethnographic approach, this study investigates how the Mentawai belief system shapes daily conservation practices and its potential alignment with modern conservation policies. The findings are expected to enrich the understanding of the role of local religiosity in ecosystem conservation strategies relevant to local and global contexts.

The primary argument of this study is that the cosmology of Mentawai religiosity, which encompasses the integration of the Arat

Sabulungan with world religions, is central to fostering sustainable ecological conservation practices. This study draws upon ecocentrism theory, which posits that human-nature relationships are not purely utilitarian but spiritual and moral, viewing nature as a living entity worthy of respect and preservation (Naess, 1989). In Mentawai society, the Arat Sabulungan embodies this ecocentric perspective, considering nature spirits as guardians of ecological balance, upheld through rituals and environmental ethics. Supported by spiritual ecology, this research suggests that both traditional and modern religions can inspire environmentally responsible behavior (Taylor, 2001). The study concludes that Mentawai religiosity offers a robust spiritual framework for ecological conservation, proposing that integrating these values into contemporary policy could significantly enhance conservation efforts in Mentawai, while also serving as a model for other indigenous communities.

METHOD

This research employs an ethnographic qualitative approach, focusing on two strategic locations on the Mentawai Islands: Siberut Island and Sipora Island. To reach the research area, one must take a 4 hours from Muaro Padang Port in Padang City to Tuapejat Port and then 2 hours to Muara Siberut and then 2 hours to Matotonan Village by boat. These sites were selected to provide insight into the differing dynamics of religiosity and environmental conservation practices between the two islands with distinct cultural and social characteristics. On Siberut Island, the community maintains robust ancestral traditions. On the other hand, on Sipora Island, modernity and the influence of world religions are more prevalent. The choice of these two islands facilitates an exploration of variations in how indigenous communities preserve traditional beliefs and adapt to external influences within ecological conservation. Primary data for

this study was gathered from five selected strategic villages: Matotonan in South Siberut; Tuapejat, Sipora Jaya, Goisooinan in North Sipora, and Saureinu in South Sipora.

The data collection was conducted in June-July 2024. Participatory observation and in-depth interviews were administered to gain better access than by simply using quantitative techniques. Data collection involved participatory observation, enabling involvement in daily life to directly observe community interactions with the environment and the performance of religious rituals. We conducted semistructured interviews (approximately an hour and a half for each person) with various key informants, including traditional leaders, religious figures, community elders, and environmental practitioners, who offered perspectives on the cosmology of religiosity and ecological conservation practices. Secondary data from academic publications, government reports, and relevant media archives complemented the primary data.

Data analysis began by listening to the recordings and then transcribing them within a reasonable timeframe. The processing of the interview data began with transcribing and identifying emergent topics and themes in those transcriptions, which in turn were analyzed to create a system for effective data coding ([Gibson & Brown, 2009](#)). The results of both the observation and in-depth interviews were recorded digitally. Transcripts were made and distributed evenly to the researchers. Analysis of the data that has been collected was conducted using the recommended stages ([Creswell & Creswell, 2018](#)). First, process and prepare data analysis involving interviews and transcriptions, scanning materials, typing, sorting, and compiling field data into different types based on the sources of information obtained. Second, read all the data to build a general understanding of the information obtained and reflect on its overall meaning. This general understanding and meaning encompass the ideas contained

in the informant's words, as well as the impression of the depth, credibility, and narration of the information (by taking special notes or recording general ideas about the data obtained). Third, start coding all the data obtained. Fourth, apply the coding process to describe the setting (domain, location), people, categories, and themes to be analyzed. Fifth, presented in the form of a qualitative report (narrative). Sixth, making interpretations or giving meaning to data. Interpretation can be in the form of a comparison between research results and information from literature or theory. In addition, interpretation can also be in the form of new questions from data and analysis.

RESULTS

This study summarized the entire series of observations and interviews with research participants. After going through the categorization process, the study found three emerging themes: religiosity-based environmental preservation practices in Mentawai; adaptation of religiosity in Mentawai and its impact on environmental preservation; and external pressure on environmental preservation in Mentawai. These emerging themes are presented in Table 1.

Table 1

Emerging Themes in the Religious Cosmology of Indigenous Communities for Maintaining Ecological Balance in the Mentawai Islands, Indonesia

Theme	Behavior Manifestasions	Results
1. Religiosity-based environmental conservation practices in Mentawai	There are 11 Traditional Rituals of The Mentawai People	1. <i>Forest Clearance</i> (Seek permission from the forest guardian spirits so that land clearing does not disturb the balance of the forest) 2. <i>Tree Felling</i> (<i>Tree Felling</i> : Asking the tree spirit for permission to avoid nature's wrath)

2. Adaptation of Religiosity in Mentawai and Its Impact on Environmental Preservation	The ancestral religion of the Mentawai people, Arat Sabulungan, incorporates practices that reflect a commitment to environmental conservation, which, upon closer examination, share similarities with teachings in world religions.	3. <i>Sikerei Medicine</i> (Exorcise evil spirits that cause illness and summon the souls of the sick to find out the cause of their illness) 4. <i>Before the Hunt</i> (Honouring animal guardian spirits to succeed in hunting and avoid bad luck or illness) 5. <i>Magri Simaeruk</i> (Purify the uma and its inhabitants) 6. <i>Magri Sikatai</i> (Drive away evil spirits from the uma and protect its inhabitants) 7. <i>Pasibitbit Uma</i> (traditional house) (Exorcising evil spirits from within the <i>uma</i>) 8. <i>Lajo Simagre</i> (Summoning spirits) 9. <i>Lia Powder</i> (A form of honouring the ancestral spirits who guard, and sanctify the <i>uma</i>) 10. <i>Gaut and Kekei in Pig Farming</i> (Ask for protection to prevent the pig farming process from failing) 11. <i>Sapo Saina'</i> (A place where pig farmers stay to bond with their pigs) The adaptation of Arat Sabulungan values alongside the teachings of world religions in the Mentawai has created a unique blend within the community, particularly in their perspective on nature. The older generation of Mentawai people continues to uphold local wisdom and traditional environmental conservation practices, which have been passed down through generations. For them, nature is the essence of life-sacred and
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3. External Pressure on Environmental Conservation in Mentawai.	Pressure from Deforestation and Forest Exploitation, The impact of modernization and economic change. Weakening of traditional conservation systems	imbued with spiritual significance. In contrast, the younger generation, who are more exposed to the teachings of world religions through modern education and experience, are increasingly influenced by environmental perspectives rooted in these global religious values. Nevertheless, many among the younger generation still strive to harmonise these perspectives with ancestral principles that emphasise the balance of nature. This generational shift illustrates how Mentawai religiosity has adapted to modern challenges while retaining its cultural roots. Forest exploitation by large companies and local actors has caused massive deforestation, resulting in disrupted ecosystems including the erosion of biodiversity and natural resources that support the lives of indigenous peoples. Apart from that, the pressure of modernization, the modern economic system and government policies that do not support local values also have an impact on the rate of erosion of traditional values. Economic and political pressures influence the level of difficulty for indigenous communities in maintaining Arat Sabulungan-based conservation practices. As is the decline in Sikerei's role as guardian of the
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Source: Primary data. Authors' analysis.

Religiosity-based Environmental Conservation Practices in Mentawai

In the cosmology of the Mentawai people, the universe is divided into two interconnected realms: the visible natural world and the invisible spiritual world. The visible world comprises a tangible physical environment that can be directly observed and experienced, including humans, plants, animals, and various landscapes such as rivers, mountains, seas, and rocks. By contrast, the invisible world is viewed as a spiritual domain inhabited by numerous spirit entities. According to Mentawai beliefs, these spirits can inhabit diverse locations, from the depths of the earth to the sky, and are present in oceans, rivers, forests, hills, and natural objects such as large stones or ancient trees. Different spirits are believed to build specific elements within this spiritual realm, such as the sky (*Taikamanua*), the sea (*Taikabagatkoat*), the land or forest (*Taikaleleu*), and the underworld (*Taikapolok*).

The Mentawai people perceive the natural and spiritual worlds as intrinsically connected. For example, they believe in visible and invisible trees, which are both perceptible and tangible, as well as those that are beyond ordinary human perception. While the spiritual world is inaccessible to human sight, it can be perceived by the *Sikerei*, or traditional healers, through a form of transcendental vision during rituals. This ability establishes the *Sikerei* as an essential mediator between the human and spiritual realms in Mentawai society.

In Mentawai's belief, every entity in the universe has an essence called *Simagere*. While often translated as "soul," *Simagere* has a more complex meaning. *Simagere* is believed to be a life force that allows humans, plants, and animals to move actively and grow. In addition

to *Simagere*, there is another element called *Ketsat*, which is understood to be the spirit inhabiting the bodies of living beings, distinguishing them from inanimate objects. Upon death, both *Simagere* and *Ketsat* are believed to have returned to the spiritual realm, where they receive new designations: *Ukkui* or *Kalimeu*, referring to the deceased's spirit. For the Mentawai, death is not the end, but rather an entry into the invisible spiritual realm, reinforcing the view that the human spirit is immortal, even though the physical body no longer exists.

Besides believing in human spirits and other invisible spirits in the spirit realm, the Mentawai people also recognize a supernatural entity called *Ulaumanua*, derived from the words *Ulau* (outside or light) and *Manua* (sky), perceived as a powerful light. This influence is believed to transcend the boundaries of the universe. Although it does not possess a specific personality, *Ulaumanua* is believed to have power over everything in both the spiritual and physical realms. Its influence on the daily lives of the Mentawai people is tangible, although difficult to articulate. The Mentawai believe that *Ulaumanua* sustains all life on earth, and even natural death is considered to be the will of *Ulaumanua*. It is the only entity capable of maintaining or ending the lives of humans, animals, and plants. In essence, *Ulaumanua* serves as the ultimate caretaker of all beings in both the spiritual and physical realms.

The Mentawai people's belief in the existence of spirits has fostered a deep respect for nature. They see themselves as an integral part of the environment, fostering a profound spiritual connection with nature, which influences their treatment. Decisions on how to care for nature are grounded in their spiritual beliefs. By combining environmental knowledge, sustainable practices, such as forest conservation, and spiritual values, the Mentawai people demonstrate a sustainable approach to life. They not only protect the ecology of their lives but also preserve their cultural heritage. This lifestyle,

which constantly respects and adapts to nature, ensures that the Mentawai people's way of life remains sustainable and can be passed down to future generations (Tulius & Burman-Hall, 2022). This view reflects how the Mentawai respect and care for the environment in a way that integrates all aspects of life from spirituality to daily practices (Munandar et al., 2022). The Mentawai perspective closely aligns with the concept of ecocentrism.

The lives of the Mentawai people are closely tied to nature, which is evident from their continued use of wood to construct homes. Additionally, they cultivate land to grow sago, durian, and other crops to meet their daily needs. The Mentawai people wisely and sustainably utilize natural resources to preserve the forest. One traditional leader in Siberut explained the following:

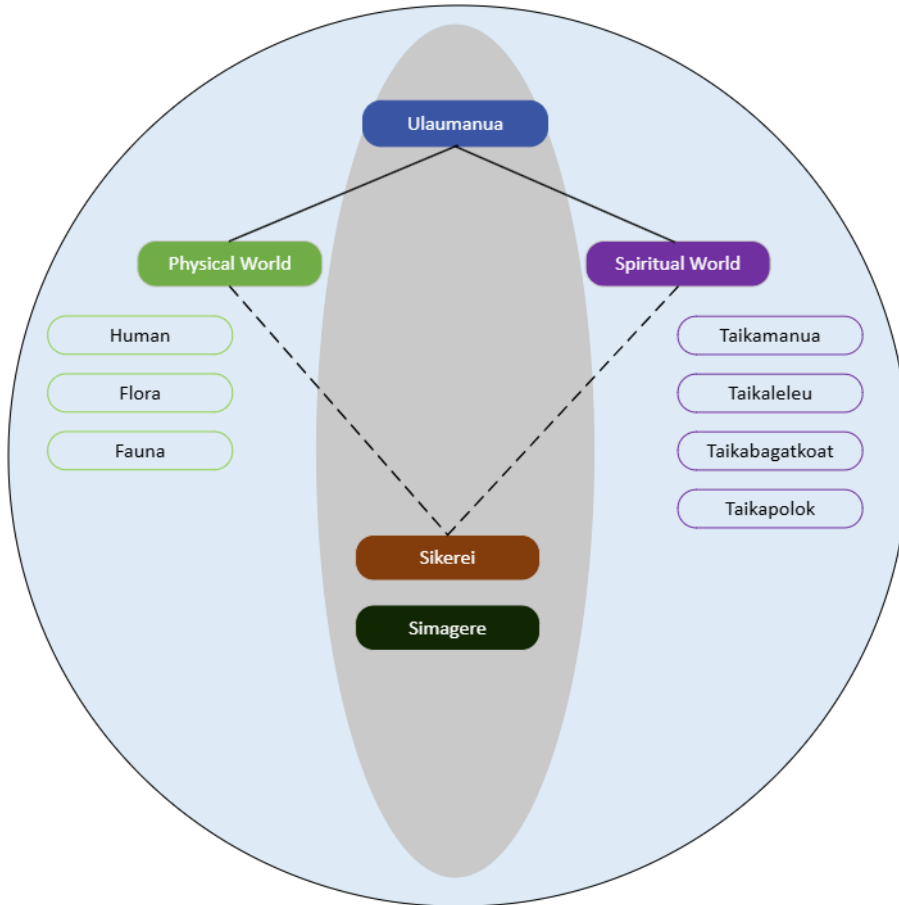
"If there is an open field, we cultivate it carefully. Any trees or vegetation that we clear are replaced by planting durian, rambutan, lakcek, or other crops. We ensured that the removed trees were replenished with new plants, such as rambutan, lakcek, durian, kerambi, sangkole, or banana. Thus, we ensured that any cleared vegetation was renewed. If we do not replant, the area will be overtaken by grass, and the land will not thrive as intended. So, in a way, we protect nature by preparing and maintaining the land. When planning to plant something, we ensure the area is cleared and cared for." (Primary Participant 1, Matotonan, Siberut)

Based on data obtained through an interview with a *Sikerei* in Siberut, he explained how the community wisely manages land and utilizes natural resources, such as wood, solely for essential purposes like building houses. These findings demonstrate that local values are passed down through generations to maintain ecological balance. The Mentawai people have strict regulations against logging activities, which restrict the use of natural resources, such as wood, to essential purposes like building houses or making canoes. They are committed to replanting efforts to maintain ecological balance, ensuring that natural resources can be utilised sustainably for future generations.

Forest preservation, as a vital source of life for the Mentawai people, also involves the role of the Sikerei, who serve as crucial guardians of the natural environment.

Figure 1

Structure of Mentawai Indigenous People in Environmental Conservation Rituals



Source: Authors' analysis.

In Mentawai culture, human responsibility towards nature is closely tied to traditional rituals and practices. These rituals, led by the Sikerei, express the Mentawai people's gratitude toward nature and guide the responsible use of resources, strictly adhering to customary

rules and regulations. Figure 1 illustrates the structure of the Mentawai community in performing nature conservation rituals.

Based on Figure 1, the Mentawai people believe that *Ulaumanua* hold the highest authority over spiritual and physical realms. In the spiritual realm, it is believed that certain spirits govern various domains: *Taikamanua*, the ruling spirit of the sky; *Taikababagatkoat*, the spirit of the sea; *Taikaleleu*, the spirit of the land and forest; and *Taikapolok*, the spirit of the underworld. These spirits are thought to endow each element in nature, such as oceans, rivers, forests, and hills, with souls known as *Simagere* and *Ketsat*. For the Mentawai people, preserving and maintaining ecosystem balance is deeply connected to traditional rituals led by the *Sikerei*. These rituals are integral to environmental conservation practices within the Mentawai community, honor, and sustain harmony between humans and nature. Specific rituals related to environmental conservation are presented in Table 2.

Table 2

Traditional Rituals of the Mentawai People

Ritual	Implementation Time	Ritual Purpose
<i>Forest Clearance</i>	When opening new land	Seek permission from the forest guardian spirits so that land clearing does not disturb the balance of the forest.
<i>Tree Felling</i>	When cutting down a large tree	Asking the tree spirit for permission to avoid nature's wrath
<i>Sikerei Medicine</i>	When there are people who are sick	Exorcise evil spirits that cause illness and summon the souls of the sick to find out the cause of their illness.
<i>Before the Hunt</i>	When you want to go hunting	Honouring animal guardian spirits to succeed

		in hunting and avoid bad luck or illness.
<i>Magri Simaeruk</i>	Done before staying in a new <i>uma</i>	Purify the <i>uma</i> and its inhabitants
<i>Magri Sikatai</i>	Conducted in conjunction with <i>Magri Simaeruk</i>	Drive away evil spirits from the <i>uma</i> and protect its inhabitants
<i>Pasibitbit Uma</i> (traditional house)	Performed in the evening before inhabiting the <i>uma</i>	Exorcising evil spirits from within the <i>uma</i>
<i>Lajo Simagre</i>	When performing rituals in the <i>uma</i>	Summoning spirits
<i>Lia Powder</i>	Performed after establishing the <i>uma</i>	A form of honouring the ancestral spirits who guard, and sanctify the <i>uma</i>
<i>Gaut and Kekei in Pig Farming</i>	When starting pig farming	Ask for protection to prevent the pig farming process from failing
<i>Sapo Saina'</i>	First-time pig farming	A place where pig farmers stay to bond with their pigs.

Source: Primary data. Authors' analysis.

The data obtained through direct interviews with the Mentawai people explained various traditional rituals they practice in their daily lives. In the interview, the Mentawai people described the purpose and timing of each ritual, which is closely related to their respect for nature and the guardian spirits they believe in. These findings offer an in-depth understanding of how the Mentawai people maintain a balance between nature and their spirituality through these rituals. Each ritual, whether related to medicine, land use, plant cultivation, or animal husbandry, serves a spiritual purpose and functions as a form of environmental conservation. By respecting ancestral spirits, making offerings, and adhering to specific guidelines, these practices aim to preserve the natural world.

The Mentawai people regard nature as an entity that deserves respect. Every tree, animal, and natural element is believed to have its

spirit or guardian. This belief, which views nature not merely as a resource but also as a living entity, fosters a respectful attitude evident in traditional rituals designed to maintain ecological balance. In these observations, it is clear that every tree, animal, and natural element is believed to have its own spirit or guardian, and this belief is reflected in various traditional rituals they perform. These rituals are designed to maintain ecological balance and demonstrate the close spiritual connection between the Mentawai people and their surrounding nature. According to Mentawai Indigenous beliefs, actions that deviate from these spiritual values can lead to disturbances in human life, manifesting as diseases or natural disasters (Islami et al., 2023; Wahyuni, 2021).

Traditional rituals in the Mentawai society also serve as a form of social control, effectively curbing the overexploitation of natural resources. By requiring rituals before engaging in activities that impact nature, the community is reminded to use resources conservatively and sustainably, thus aligning consumption with needs. This culturally embedded approach to conservation integrates spiritual traditions into a guiding framework for interacting with the environment (Niman et al., 2023; Wahyuni et al., 2023). Such practices help to maintain harmony between nature and humanity, as the *Sikerei* must sanction any activity involving nature.

The *Sikerei*, as ritual leaders, are central to sustaining a balanced relationship between humans and nature. They are seen as figures who can communicate with spirits and interpret natural conditions, ensuring that all interactions with the environment adhere to ethical and customary procedures passed down through generations. Thus, the *Sikerei* are responsible for the community's spiritual well-being and play a critical role in Mentawai's environmental conservation (Agung W. et al., 2014).

These practices demonstrate how the traditional religious system, such as the Arat Sabulungan, has guided the Mentawai people in environmental conservation. This finding underscores the value of culturally based approaches in modern conservation strategies, as these spiritual values actively prevent exploitation that harms ecosystems. The concept of sustainability in Mentawai culture highlights that local wisdom can offer effective solutions for preserving nature.

Adaptation of Religiosity in Mentawai and Its Impact on Environmental Preservation

The Mentawai people, residing on the western islands of Sumatra, Indonesia, have long been subjects of anthropological interest because of their distinctive culture and belief systems. Their traditional belief system, Arat Sabulungan, has been their spiritual and cultural foundation for centuries (Wahyuni, 2024). Interpretations of Sabulungan vary between scholars. Some scholars, such as Sihombing (1979) and Rudito (1993, 1999), interpret Sabulungan as a belief system centered on the power of leaves as mediators between humans and supernatural beings. Tulus (2013) offers an alternative view, suggesting that Sabulungan refers to a collective of spirits that receives special offerings or *buluats*. Field observations in Matotonan Village lean towards Tulus's interpretation, where Sabulungan is associated with formidable spirits.

With the arrival of external religions, known locally as *sasareu*, such as Islam, Christianity, and Catholicism, the Arat Sabulungan began to undergo significant changes (Delfi, 2013; Glossanto, 2020; Markus, 2016). The government's "Meeting of the Three Religions" in 1954 intensified this transformation, as the state urged the Mentawai people to adopt Islam or Christianity. This state-led effort to modernize and replace Arat Sabulungan illustrates how the authorities perceived it as an inappropriate faith (Delfi, 2013).

The state's influence created unique social dynamics within the Mentawai community. Nature, which has always played a central role in Mentawai spirituality, now contends with the influence of modernization and world religions (Santosa, 2019). Today, there are challenges of modernization and the influence of world religions. In addition to changes in their way of thinking and religious practices, it also affects how they interact with the environment.

Since the early 20th century, the Mentawai people have undergone notable religious transformation. Islam was thought to have first arrived in the 18th century through traders from West Sumatra (Delfi, 2012; Nelmaya & Deswalantri, 2021), while Christianity was introduced in 1901 by German missionaries under Dutch colonial rule (Tulius, 2013) and Catholicism arrived in 1954 (Rukiyanto, 2019).

The exact date of the arrival of Islam in Mentawai remains uncertain based on various theories. However, the spread of Islam in Mentawai began through interactions with fringe traders from West Sumatra, who bartered the Mentawai people, exchanging goods such as rattan and palm (Nelmaya & Deswalantri, 2021). Islam is thought to have entered Mentawai as early as the 18th century, primarily through the influence of the Minangkabau people, who played a significant role in its spread (Delfi, 2012). Minangkabau scholars (Islamic teachers) introduced Islamic teachings to the Mentawai community. This group, associated with Islamic missionaries, presented religious principles in an accessible manner, making Islam appealing to the Mentawai people. The spread of Islam was also facilitated through marriage alliances and welfare support that extended to Mentawai (Wirman et al., 2021).

Mentawai people who were successfully persuaded to convert to Islam were also given scholarships to study Islam in the Outer Land, such as in Padang Panjang, Pariaman, Bukittinggi and Padang. After

completing their studies and gaining knowledge of Islam, they were sent back to Mentawai villages to teach the knowledge they had gained in West Sumatra to the Mentawai people who had not or had just converted to Islam (Delfi, 2012).

The da'is (Islamic preachers) approach to the *Sikerei* has been notably gentle, even allowing for the continuation of certain Arat Sabulungan practices. The da'is recognize the strategic importance of the *Sikerei* as guardians of the socio-cultural balance within Mentawai society. While some *Sikerei* have converted to Islam, they may continue to perform rituals that do not align with Islamic laws. The da'is generally tolerate and respect *Sikerei's* bicultural approach—practising Islam while still engaging in Arat Sabulungan rituals. For the da'i, the *Sikerei* play a significant role in maintaining the stability of their religious preaching (*da'wah*), focusing primarily on educating the younger generation rather than forcing a choice between religions, which could prove counterproductive (Wirman et al., 2021).

Despite some Mentawai people adhering to Islam, many still hold beliefs in spirits, and the practice of the Arat Sabulungan persists. For example, illness is often attributed to spiritual causes, and even when medical help is sought from a community health center, it is not unusual for the *Sikerei* to assist in healing. Patients may take medicine from a village midwife while participating in healing rituals led by the *Sikerei*. These rituals often include elements that conflict with Islamic law, such as offerings of pork or other animals, like primates, which are readily available and sometimes recommended by the *Sikerei* for their healing properties (Wirman et al., 2021)

Historical records indicate that the first Christian encounter in the Mentawai region occurred in 1901, through German missionaries sent by the Dutch colonial government as part of the Zending effort. Traders and sailors frequently stopped in Sikakap, and Sipora introduced missionaries to the region (Tulius, 2013). Two pastors,

August Lett and A. Kramer, became the primary representatives of the Protestant mission among the Mentawai people, centring their work on North Pagai Island (Sikakap) until 1914. Their mission is to provide medical care, education, and training in basic carpentry skills (Glossanto, 2020; Zalman, 2018).

The entry of Catholicism into the Mentawai area occurred later than that of Islam and Protestant Christianity. In 1953, Father Aurelio Canizzaro visited the Mentawai Islands, specifically South Siberut, to assess the feasibility of spreading Catholic teachings in the region. Acting on a mandate from Monsignor De Martino of the Diocese of Padang, Father Canizzaro visited several locations, including Siberut Island, Sikabalan, Sikakap, and Sipora. He returned to Siberut on December 18, 1954, with Father Angelo Calvi, and together they established the first Catholic Church on Christmas of that year, marking the beginning of Catholicism in the Mentawai.

The Catholic Church initiated its mission in Mentawai by providing social services for education and health. In addition, the Church pursued inculturation, aiming to harmonize Catholic teachings with Mentawai traditions. Inculturation refers to the Church's effort to present the message of the Gospel in a way that aligns with the cultural expressions of the local community (Rukiyanto, 2019). This practice is not new to the Catholic Church. In the 1985 encyclical letter by Pope John Paul II, titled "*The Gospel and Culture*," inculturation was described as a reciprocal process wherein the Gospel is incarnated into Indigenous cultures and local cultural elements are integrated into the Church's life (Pope John Paul II, 1985).

The Catholic Church's inculturation efforts introduced a new approach that contrasted with the restrictions following the ban on the Arat Sabulungan in Mentawai. By recognizing and appreciating Mentawai customs and traditions, the Church fostered mutual understanding and provided space for the continued expression of

Mentawai culture. Consequently, the Mentawai people, particularly those on Siberut Island, became more receptive to and engaged in Catholicism.

The adaptation of Arat Sabulungan values alongside the teachings of world religions in Mentawai has created a unique blend within the community, especially regarding their perspectives on nature. The older generation of the Mentawai people continues to uphold local wisdom and traditional environmental conservation practices, passed down through generations. For them, nature is the essence of life, sacred and imbued with spiritual significance. In contrast, the younger generation, who are more exposed to the teachings of world religions through modern education and experience, is increasingly influenced by environmental perspectives rooted in these global religious values. Nevertheless, many younger generations still strive to harmonize these perspectives with ancestral principles that emphasize nature's balance. This generational shift illustrates how Mentawai religiosity has adapted to modern challenges while retaining its cultural roots (Wahyuni et al., 2024).

The ancestral religion of the Mentawai people, the Arat Sabulungan, incorporates practices that reflect a commitment to environmental conservation, which, upon closer examination, share similarities with teachings in world religions. In Matotonan Village, one informant noted that the concept of *Ulaumanua* in ancestral beliefs closely resembles the concept of God in world religions such as Allah. The village head of Matotonan explained:

"Yes, Ulaumanua is almost the same as God, Allah. Mentawai people believe there is a god, but the term isn't quite the same. For us, this is Ulaumanua, the ruler of the sky. In Indonesian, it means the true owner. It is the origin of nature, created by that owner. It's the same. Like in Islam, there is Allah; in Christianity, there is God. But they are all one, including Ulaumanua Sabulungan." (Primary Participant 2, Matotonan, Siberut)

In ancestral religious rituals such as *the Punen*, various prohibitions are observed to show respect for nature, aligning with similar concepts in major religions, where certain restrictions guide people to maintain personal purity and honor the sanctity of creation. During *Punen*, one informant explained:

"If we wear beads made from leaves, we cannot sleep with our wives, we cannot go fishing, we cannot eat eels, we cannot sleep improperly, and we cannot gossip until the flowers used in the ritual have withered, or until a Pulajuk ceremony, or closing ceremony, has been held." (Primary Participant 3, Matotonan, Siberut)

These prohibitions, such as abstaining from conjugal relations, gossip, and certain activities until ritual flowers wilted, represent a form of respect for the natural environment. The connection between conservation values in ancestral beliefs and the teachings of world religions emphasizes simplicity, environmental stewardship, and the treatment of nature as a sacred trust that must be preserved.

In Mentawai society, the differences between the older and younger generations regarding religious practices and environmental conservation have become increasingly apparent. The younger generation is more strongly influenced by world religions, such as Christianity, Catholicism, and Islam. By comparison, the older generation continues to uphold local wisdom, which is often rooted in customs and values related to nature conservation. This adaptation of religiosity in Mentawai demonstrates a blend of ancestral religious values with the teachings of world religions on environmental conservation. This underscores the importance of considering religious diversity in conservation strategies, as both world religions and local beliefs play essential roles in fostering behaviors that support ecosystem preservation.

External Pressure on Environmental Conservation in Mentawai

In the last two decades, external pressures on nature conservation on the Mentawai Islands have intensified, leading to significant damage to the ecosystem. Factors such as deforestation, land-use change, and modernization have disrupted the ecological balance of Indigenous Mentawai communities for centuries (Supriatna et al., 2017). Forest exploitation in Mentawai has a long history dating back to the colonial era and extending through the New Order period. Exploitation efforts began in the 18th century during the time of Raffles (Coronese, 1986; Marsden, 1784), and continued during the Dutch colonial period in the early 20th century (Persoon, 2002). A new phase of Mentawai's forest exploitation began after independence. In 1952, Minangkabau migrant entrepreneurs in Saliguma made the first commercial attempt; however, it failed because of technical and social challenges. Similar efforts by CV Mentawai and PT Bumi Putra in 1957 resulted in the same outcome (Darmanto & Setyowati, 2012).

A significant turning point occurred when the government dispatched survey teams of forestry experts, Atmosoedarjo at 1969 and 1970 and Subagio at 1972 and 1973, to provide scientific justification for forest management. Although the surveys highlighted the unsustainability of long-term logging, recommendations for limited exploitation are still made. Intensive exploitation commenced in the early 1970s, with concessions granted to four major companies: PT Cirebon Agung (70,000 hectares), PT Jaya Sumber Indah (70,000 hectares), PT CPPS/Kayu Sumber (35,000 hectares), and PT Djayanti Group/Inkappa (110,000 hectares). The data show a sharp increase in logging volume from 115,239 m³ in 1974/75 to 178,194 m³ in the following two years, before a slight decline to 151,650 m³ in 1977/78, according to the World Wide Fund for Nature (WWF) in 1980. However, there remains a significant discrepancy between official

data and actual estimates; in 1982, Mitchell recorded 57,700 ha of forest being clear-cut in 1982, while Munawar in 2004 estimated total timber loss at 1.7 million m³ between 1972 and 1993 (Darmanto & Setyowati, 2012).

The dynamics of forest management in Mentawai underwent significant changes after 1993, marked by the issuance of a Presidential Decree in Indonesia that halted all logging concessions. However, the moratorium is temporary. In 2001, the government reopened forest exploitation by granting permits to two major companies, PT KAM and PT Salaki Summa Sejahtera (SSS), with a combined concession area of 100,000 ha. Following the implementation of regional autonomy after the reformation, forest governance in Mentawai adopted new dimensions. This shift led to the emergence of new actors in forest exploitation, as local authorities, including the regent, issued timber utilization permits to local cooperatives. Empirical data reveal an alarming intensity of exploitation. Based on data compiled from various sources, the volume of timber removed from Siberut Island, Mentawai, by the last quarter of 2006 reached approximately 3 million meter³. This figure underscores that, despite the moratorium, exploitation rates have accelerated to meet national and global market demands (Darmanto & Setyowati, 2012).

Pressure from external parties, particularly companies exploiting Mentawai forests, has significantly undermined the conservation efforts of indigenous Mentawai people. Although the Mentawai have strong conservation value, external economic and political forces hinder their ability to protect their forests. Indigenous communities lack sufficient power and receive inadequate support from authorities to resist exploitation. This highlights the need for more responsive policies that respect local wisdom and protect ecosystems in areas vulnerable to commercial exploitation.

DISCUSSION

This study reveals the complexity of the interactions between environmental conservation practices, religion, and contemporary challenges in Mentawai society. The first finding indicates that the Mentawai community's conservation practices are deeply embedded in a belief system that fosters profound respect for and spiritual awareness of nature. This is evident in various customary rituals, which function not only as spiritual practices but also as effective mechanisms for environmental preservation. These rituals encompass multiple aspects of life, including traditional medicine, land and plant use, and animal husbandry, all rooted in the belief that every element of nature has a spirit or guardian that deserves respect. This belief system establishes an ethical framework that shapes the Mentawai people's interactions with their natural environments.

The second finding highlights the transformative dynamics in conservation practices resulting from encounters between traditional ancestral values and world religions. This study showed notable generational differences in the views and practices of environmental conservation. The older generation tends to uphold conservation practices based on the local wisdom that reveres nature as sacred. Meanwhile, the younger generation, influenced by modern education and the values of world religion, adopts a more synthetic perspective. Interestingly, rather than leading to conflict, this interaction has fostered a unique cultural adaptation, in which traditional and modern values interact dynamically, shaping contemporary conservation practices.

The third finding identifies a critical gap between the robust local wisdom-based conservation system and external pressures faced by the Mentawai people. Despite having a sustainable and well-established environmental management system, Mentawai faces serious threats from commercial exploitation by large corporations.

Limited political and economic power and insufficient support from authorities create an imbalance in conservation efforts. These findings underscore the urgent need for a policy framework that not only acknowledges the value of local wisdom but also provides concrete protection for the rights of indigenous peoples in managing their environment.

This study comprehensively explains the intricate relationship between conservation practices, belief systems, and contemporary challenges in the Mentawai society. The traditional Mentawai belief that views nature as sacred aligns with Bookchin's (2005) concept of holistic social ecology. Ritual practices integrating spirituality with environmental preservation demonstrate that the Mentawai people had developed a sustainable environmental management system long before the modern ecological discourse, such as that proposed by Carson (2002) following the Hiroshima and Nagasaki events.

In a global context, the Mentawai belief system parallels the Frankfurt School's critique—particularly Marcuse's (2013) argument—against capitalism's instrumentalist view that treats nature merely as a resource for exploitation. Contrary to this capitalistic paradigm, Mentawai society operates within an ethical framework that prioritizes respect and sustainability in human-nature interactions. However, as Vasan (2018) observes, the focus of the global economic system on unlimited growth presents a significant threat to the sustainability of these traditional practices.

The transformation of values within Mentawai society, especially among the younger generation, reflects what Berkes (2018) described as adapting traditional ecological knowledge to modernity. This unique synthesis of traditional and modern values demonstrates the resilience of local knowledge systems in the face of global change. However, as Robbins (2020) argues, the dilemma between economic

development and environmental conservation remains a significant challenge.

The Mentawai case illustrates the urgency of what Sachs (2015) described as the need for sustainable technological approaches. However, the Mentawai experience highlights that solutions must go beyond technology to integrate traditional knowledge into modern conservation strategies. This aligns with Bookchin's (2005) argument for decentralization in natural resource management and the involvement of local communities in decision-making.

Based on the findings and analysis, several implications and action plans were suggested to preserve the environment and local wisdom. Regarding policy development, it is essential to create policies that integrate local wisdom with modern legal frameworks, strengthen indigenous rights in natural resource management, and establish protections for traditional conservation practices. Community capacity building can be achieved through empowerment programs that support intergenerational knowledge transfer, dialogue platforms that unite traditional and modern stakeholders, and economic development initiatives based on conservation practices. At a systemic level, alternative economic models should be developed to value traditional conservation practices, integrate traditional ecological knowledge into formal education, and form strategic alliances between indigenous communities and global environmental movements. This action plan should be implemented through a participatory approach involving all stakeholders, emphasizing the central role of indigenous peoples as primary custodians of time-tested ecological knowledge.

CONCLUSION

This study presents three key findings related to environmental conservation practices in the Mentawai community. First, their

conservation practices are deeply rooted in a belief system that integrates customary rituals with environmental preservation mechanisms. Second, a transformative dynamic is observed, whereby the younger generation successfully combines traditional values of ancestral religion with teachings from world religion and modern perspectives. Third, a gap was identified between the local wisdom-based conservation system and the pressures exerted by the global political economy.

These findings have significant implications for the development of effective and sustainable conservation policies. This study suggests that conservation strategies should incorporate religious values and indigenous knowledge rather than relying exclusively on science and technology. Additionally, this study contributes to the academic discourse on the role of religiosity and local knowledge in environmental conservation, offering new perspectives on the interplay between traditional beliefs, world religions, and nature conservation.

Future research should focus on the practical and applicable aspects. A deeper examination of the concrete mechanisms for integrating indigenous cosmological values into modern conservation policy frameworks is essential. Further exploration of the adaptability of local knowledge-based conservation models to other indigenous contexts in Indonesia is needed, considering each community's unique sociocultural characteristics. Longitudinal studies are also recommended to track changes in belief systems over time and their long-term impacts on conservation practices.

Author Contributions

Conceptualization: D.W., I.A.O., K.K., A.S., & M.; Data curation: D.W., I.A.O., K.K., A.S., & M.; Formal analysis: D.W., I.A.O., K.K., A.S., & M.; Funding acquisition: D.W., I.A.O., K.K., A.S., & M.; Investigation: D.W., I.A.O., K.K., A.S., & M.; Methodology: D.W., I.A.O., K.K., A.S., & M.; Project administration: D.W.,

I.A.O., K.K., A.S., & M.; Resources: D.W., I.A.O., K.K., A.S., & M.; Software: D.W., I.A.O., K.K., A.S., & M.; Supervision: D.W., I.A.O., K.K., A.S., & M.; Validation: D.W., I.A.O., K.K., A.S., & M.; Visualization: D.W., I.A.O., K.K., A.S., & M.; Writing - original draft: D.W., I.A.O., K.K., A.S., & M.; Writing - review & editing: D.W., I.A.O., K.K., A.S., & M. All authors have read and agreed to the published version of the manuscript.

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Informed Consent Statement

Informed consent was obtained from the respondents before the interviews.

Data Availability Statement

The data presented in this study are available upon request from the corresponding author.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

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