

Oral Literature, Traditional Ecological Knowledge, and Islamic Environmental Ethics in Ternate: Intergenerational Transmission and Cultural Resilience in Small-Island Indonesia

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Abstract: In small-island Muslim communities across Eastern Indonesia, the intergenerational transmission of oral literature and Traditional Ecological Knowledge (TEK) is under growing pressure because of modernisation, urbanisation, and language shift yet this dimension of Islamic socio-cultural life remains underexplored in Indonesian scholarship. Ternate oral literature serves as a vital medium for transmitting local wisdom and ecological ethics rooted in the community's Islamic spiritual relationship with nature. This study examines the condition of oral literary literacy in Ternate society, analyses how oral traditions preserve ecological values and cultural identity, and identifies socio-cultural barriers to intergenerational transmission, using Cultural Ecology and Traditional Ecological Knowledge (TEK) as complementary analytical frameworks. Employing a descriptive qualitative design with an ethnographic orientation, data were collected from eighteen participants including elders, teachers, youth, cultural practitioners, and fishers between January and June 2025 (field observations: February–April 2025) through interviews, observations, and documentation of oral texts. Analysis of twelve oral forms four legends, four proverbs, two ritual chants, and two traditional songs reveals ecological wisdom emphasising gratitude, restraint, and reciprocity rooted in Islamic moral teachings and spiritual reminders (*peringatan Tuhan*), while a gradual decline in youth familiarity with these narratives reflects broader linguistic and cultural shifts. Oral traditions in Ternate persist not through static preservation but through what this study terms “intentional adaptation” structured mediation via education, Islamic ethics (*dakwah ekologis*), and digital technology demonstrating the adaptive resilience of Ternate oral culture as a living biocultural system. This study contributes to religion and socio-cultural life by showing how Islamic moral values embedded in Ternate's oral tradition can be the basis for ecological literacy and sustainability education in Indonesia's Muslim community.

Keywords: cultural ecology; intergenerational transmission; Islamic environmental ethics; Ternate oral literature; Traditional Ecological Knowledge.

Abstrak: Di komunitas Muslim pulau-pulau kecil di seluruh Indonesia Timur, transmisi antargenerasi sastra lisan dan Pengetahuan Ekologi Tradisional (TEK) menghadapi tekanan yang semakin besar karena modernisasi, urbanisasi, dan pergeseran bahasa, namun dimensi kehidupan sosial-budaya Islam ini belum banyak mendapat perhatian dalam kajian ilmiah di Indonesia. Sastra lisan ternate berfungsi sebagai media vital untuk mentransmisikan kearifan lokal dan etika ekologi yang berakar pada hubungan spiritual Islam masyarakat dengan alam. Penelitian ini mengkaji kondisi literasi sastra lisan dalam masyarakat Ternate, menganalisis bagaimana tradisi lisan melestarikan nilai-nilai ekologis dan identitas budaya, serta mengidentifikasi hambatan sosial budaya

terhadap transmisi antargenerasi, menggunakan Ekologi Budaya dan Pengetahuan Ekologi Tradisional (TEK) sebagai kerangka analisis yang saling melengkapi. Dengan menggunakan desain kualitatif deskriptif dengan orientasi etnografi, data dikumpulkan dari delapan belas peserta termasuk tetua adat, guru, pemuda, praktisi budaya, dan nelayan antara Januari dan Juni 2025 (pengamatan lapangan: Februari–April 2025) melalui wawancara, observasi, dan dokumentasi teks lisan. Analisis dua belas bentuk lisan empat legenda, empat peribahasa, dua nyanyian ritual, dan dua lagu tradisional mengungkapkan kebijaksanaan ekologis yang menekankan rasa syukur, pengendalian diri dan timbal balik yang berakar pada ajaran moral Islam dan peringatan *Tuhan*, sementara penurunan bertahap dalam keakraban kaum muda dengan narasi-narasi ini mencerminkan pergeseran linguistik dan budaya yang lebih luas. Tradisi lisan dalam Ternate bertahan bukan melalui pelestarian statis tetapi melalui apa yang disebut studi ini sebagai "adaptasi yang disengaja" mediasi terstruktur melalui pendidikan, etika Islam (*dakwah ekologis*), dan teknologi digital yang menunjukkan ketahanan adaptif budaya lisan Ternate sebagai sistem biokultur yang hidup. Studi ini berkontribusi pada agama dan kehidupan sosial budaya dengan menunjukkan bagaimana nilai-nilai moral Islam yang tertanam dalam tradisi lisan Ternate dapat menjadi dasar literasi ekologis dan pendidikan keberlanjutan dalam komunitas Muslim Indonesia.

Kata kunci: ekologi budaya; Etika lingkungan Islam; Sastra lisan Ternate; Pengetahuan Ekologi Tradisional; transmisi antargenerasi.

1. Introduction

Oral literature constitutes a vital component of the world's intangible heritage, serving as a medium through which societies transmit moral values, social identity, and ecological wisdom across generations. Among Indigenous and small-island societies, oral traditions and Traditional Ecological Knowledge (TEK) play a crucial role in sustaining ecological balance, reinforcing cultural continuity, and guiding environmentally responsible practices. Within the perspectives of Cultural Ecology and Traditional Ecological Knowledge, oral narratives are understood not merely as cultural expressions but as dynamic systems of environmental knowledge that integrate language, belief, and practice in maintaining reciprocal relationships between humans and nature (Berkes, 2017; Nazarea, 1999). Myths, proverbs, ritual chants, and other oral forms therefore embody ecological ethics that emphasise gratitude, restraint, reciprocity, and collective responsibility towards the natural environment.

In Indonesia, oral traditions have long served as important vehicles for transmitting moral values, cultural identity, and ecological knowledge. However, their continuity is increasingly challenged by modernisation, urban migration, and digital homogenisation, all of which have gradually weakened intergenerational storytelling and the everyday use of local languages. Although previous studies have examined oral traditions in Java, Bali, and Sumatra (Djalius, 2023; Mudana, Wirawan, & Wardana, 2021), relatively little attention has been given to how communities in Eastern Indonesia preserve and reinterpret oral knowledge within contemporary ecological and educational contexts.

Ternate, a historic cultural centre in North Maluku, preserves a rich corpus of oral literature that reflects the close relationship between culture, spirituality, and the environment. This corpus includes legends such as *Legenda Batu Angus*, *Kololi Kie*, *Ngofa Ngare*, and *Tanjung Ake Jailolo*; proverbs including *Ake ma nofo, bobo ma ngofa* ("Water and forest are siblings") and *Ngofa ma jou, jou ma ngofa* ("The child and the land belong to each other"); and ritual chants such as *Mantra Tobelo* and the *Kololi Kie* invocation, which express gratitude and reverence towards Mount Gamalama as a sacred ecological entity. Rather than functioning merely as folklore, these oral traditions embody an ethical worldview that integrates cosmological beliefs, Islamic moral teachings, cultural identity, and environmental stewardship. Through these interconnected narratives and ritual expressions, ecological balance is understood not only as an environmental concern but also as a spiritual and cultural responsibility, illustrating how oral literature continues to function as a living repository of ecological knowledge and intergenerational cultural transmission in Ternate society.

Within the perspective of Cultural Ecology, oral traditions are understood as adaptive cultural mechanisms through which communities regulate their relationships with the natural environment (Rappaport, 1979; Steward, 1972). Rather than viewing culture as independent of ecological conditions, Cultural Ecology explains how beliefs, practices, and social institutions emerge through continuous interaction with local environments, enabling communities to maintain ecological balance while responding to environmental change. Complementing this perspective, Traditional Ecological Knowledge (TEK) conceptualises Indigenous knowledge as a cumulative and evolving body of environmental understanding that integrates ecological observation, spirituality, belief systems, and resource management practices developed through long-term interaction with nature (Berkes, 2017; Huntington, 2000). Recent studies further demonstrate that TEK continues to provide an important foundation for contemporary discussions of environmental ethics, biodiversity conservation, and sustainability (Dawson et al., 2021; Kelly et al., 2023).

These complementary perspectives provide the conceptual foundation for the present study. Cultural Ecology explains how Ternate oral literature reflects reciprocal relationships between people and their environment, whereas TEK offers an analytical framework for identifying the ecological knowledge, ethical principles, and spiritual values embedded in legends, proverbs, and ritual chants. The study adopts Berkes' four interconnected levels of Traditional Ecological Knowledge—(1) local environmental knowledge, (2) resource management practices, (3) social institutions, and (4) worldview—to examine how oral traditions function as living systems of ecological knowledge. Through this integrated framework, oral literature is interpreted not merely as cultural heritage or folklore but as a dynamic knowledge system that sustains ecological ethics, cultural continuity, and intergenerational transmission within the Ternate community.

Despite the enduring significance of oral traditions, their continuity has become increasingly fragile in contemporary Ternate society. Existing scholarship may be grouped into three broad strands. The first focuses on language preservation, literacy, and cultural education (Adam, Ismail, & Ali, 2022; Alhadar & Tawari, 2024), documenting declining familiarity with oral traditions among younger generations. Although these studies highlight the erosion of cultural awareness, they pay limited attention to the ecological knowledge embedded within oral narratives. The second strand examines the cultural and ecological meanings of oral texts (Karim & Hasim, 2018; Meranggi, 2024), demonstrating how legends, proverbs, and ritual practices encode environmental values and local cosmologies. However, these studies rarely investigate how such knowledge is transmitted across generations or sustained within contemporary communities. The third strand explores the moral and cultural values embedded in oral traditions (Do Subuh, Rauf, Maricar, & Ulya, 2024), emphasising principles such as *baising* (mutual respect) and *babari* (cooperation). Nevertheless, the ecological dimensions of these values remain largely unexplored.

These studies have substantially enriched the documentation of Ternate oral traditions, yet three important gaps remain. First, little is known about how different generations—including elders, adults, and young people—currently understand, interpret, and engage with oral literature in everyday life. Secondly, although previous studies recognise the cultural significance of oral traditions, none systematically apply the Traditional Ecological Knowledge (TEK) framework to identify ecological principles such as reciprocity, environmental stewardship, resource management, and spiritual ethics embedded within legends, proverbs, and ritual chants. Thirdly, the relationship between language shift, particularly the declining use of the Ternate language, and the erosion of ecological knowledge has received limited scholarly attention. Addressing these gaps is essential to understanding oral literature not only as cultural heritage but also as a living ecological knowledge system that supports cultural continuity and environmental sustainability.

To address these gaps, this study integrates Cultural Ecology and Traditional Ecological Knowledge (TEK) to examine oral literature as a living system of ecological knowledge rather than merely a form of narrative heritage. Specifically, the study aims to: (1) investigate how different generations in Ternate understand and engage with oral literature; (2) examine how legends, proverbs, and ritual chants preserve ecological knowledge and ethical values; and (3) identify the socio-cultural

and institutional factors that shape the intergenerational transmission of oral traditions in contemporary society.

Theoretically, the study contributes to Indonesian oral literature scholarship by integrating Cultural Ecology and Traditional Ecological Knowledge into the analysis of oral traditions, an approach that remains rarely applied to the cultural contexts of Eastern Indonesia. By identifying ecological principles such as reciprocity, environmental stewardship, and gratitude towards nature, the study illustrates how oral narratives function as systems of moral ecology that translate environmental ethics into culturally meaningful expressions of faith, responsibility, and sustainable living. Practically, the findings provide insights for educators, cultural institutions, and policymakers seeking to revitalise oral traditions through school curricula, community-based cultural programmes, and digital storytelling initiatives, thereby strengthening ecological literacy while preserving local cultural heritage.

Methodologically, this study adopts a qualitative approach with an ethnographic orientation to explore the ecological meanings and cultural values embedded in Ternate oral traditions. Eighteen participants—including elders, teachers, youth, cultural practitioners, and fishers—were purposively selected based on their roles in cultural transmission and their knowledge of local oral traditions. Informed consent was obtained from all participants before data collection. Data were collected through interviews, participant observation, and document analysis, and subsequently analysed using thematic coding and triangulation within Berkes' four-level Traditional Ecological Knowledge framework: (1) local environmental knowledge, (2) resource management practices, (3) social institutions, and (4) worldview. This methodological design enables an in-depth interpretation of oral literature as a living ecological knowledge system that supports both environmental stewardship and intergenerational cultural continuity.

2. Literacy and Understanding of Oral Literature

The findings reveal considerable variation in the literacy and understanding of Ternate oral literature across generations and social contexts, reflecting broader transformations in the ecology of cultural transmission. Data from interviews, participant observations, and classroom documentation revealed five interconnected themes. These comprise: (1) elders' storytelling as moral and ecological pedagogy; (2) fragmented literacy among younger generations; (3) teachers as cultural and religious mediators; (4) historical and socio-cultural transformations shaping cultural transmission; and (5) faith and urbanisation as forces of cultural adaptation. These findings suggest that Ternate oral literature remains a living cultural tradition; however, its transmission has shifted from informal, community-based practices to more diverse, mediated forms of learning.

Elders' Storytelling as Moral and Ecological Pedagogy

Among elder storytellers, oral performance continues to function as an important medium for transmitting moral values, ecological knowledge, and spiritual beliefs. Field observations conducted between February and April 2025 in four villages: Soa-Sio, Dufa-Dufa, Kalamata, and Fitu; documented seven storytellers (four men and three women) performing twelve oral texts, including legends, proverbs, and ritual chants. These performances combined narrative, rhythm, gesture, and spiritual invocation, illustrating that storytelling is more than entertainment; it serves as a culturally embedded pedagogical practice through which ethical values and ecological awareness are transmitted across generations.

In Soa-Sio, Elder E1 performed the *Legenda Batu Angus* with a deep, rhythmic voice rising and falling like a ritual chant: "Long ago, this land was fertile and full of harvest. But people became greedy, they took everything and shared nothing. The mountain grew angry; fire burst forth, and the stones became witnesses to human greed (Elder E1, personal communication, March 15, 2025). He paused, then warned the younger listeners: "If we are greedy, nature will grow angry again. The mountain is still alive, and the sea still listens" (Elder E1, personal communication, 15 March, 2025). Rather than presenting ecological disaster as a purely natural event, the narrative frames environmental destruction

as a moral consequence of human behaviour. Through this interpretation, the legend connects ecological balance with ethical responsibility, encouraging listeners to understand their relationship with nature as one grounded in gratitude, restraint, and accountability.

In Dufa-Dufa, Elder E3 opened the *Kololi Kie* legend with a chant-like invocation: “*Ngofa ngare Kie, jang lupa jalan gunung; di situ asal, di situ pulang*” (“Children of the mountain, do not forget the mountain path; that is where we come from, that is where we return”) (Elder E3, personal communication, March 22, 2025). He added reflectively, “Now many young people forget; they think the mountain is just a photo spot. Yet it is where the ancestral spirits guard the water and the land” (Elder E3, personal communication, March 22, 2025). His narrative portrays Mount Gamalama not simply as a geographical landmark but as a sacred ecological space that embodies collective memory, spiritual responsibility, and the reciprocal relationship between humans and the natural environment.

Comparable themes were also evident in Kalamata. Elder E4, a local fisher, described the sea as a living moral presence: “The sea has ears. When we throw waste, it hears and responds. The elders used to say: when you take fish, say silently, ‘We borrow from the sea.’ Now people take without permission” (Elder E4, personal communication, April 2, 2025). He concluded softly: “That’s why the waves are no longer friendly” (Elder E4, personal communication, April 2, 2025). This account illustrates that fishing is understood not merely as an economic activity but as a reciprocal relationship governed by moral obligations. Across the three narratives, elders consistently present storytelling as a means of cultivating ecological ethics, where respect for nature, communal responsibility, and spiritual consciousness become inseparable elements of everyday life.

Fragmented Literacy and Youth Cultural Transformation

In contrast to the elders’ comprehensive understanding of oral traditions, younger participants demonstrated fragmented forms of cultural literacy. Interviews and classroom observations identified three recurring patterns: recognition without comprehension, digital engagement without cultural depth, and complete detachment from traditional narratives. These patterns indicate that younger generations have not entirely lost contact with oral literature; rather, their engagement has become increasingly selective and mediated by contemporary social and technological environments.

The first pattern, recognition without comprehension, reflects a superficial familiarity with oral traditions. Several participants recognised the titles of well-known stories but were unable to explain their narratives or cultural significance. One secondary school student remarked: “I know Batu Angus from my teacher in primary school, but only the title—I don’t know the story.” (Youth Y3, personal communication, April 2, 2025). Similarly, another participant stated: “I often hear Kololi Kie during traditional ceremonies, but I don’t know what it means.” (Youth Y4, personal communication, April 5, 2025). These responses suggest that oral traditions continue to circulate within public and educational settings; however, the transmission of their ecological, moral, and spiritual meanings has become increasingly limited.

The second pattern illustrates how digital media simultaneously reshape and sustain cultural engagement. Rather than learning oral traditions through family storytelling or community gatherings, many young people encounter them through short-form digital content. As one participant explained: “I saw the *Batu Angus* story on TikTok—an animation, just a minute long. It was funny, but it felt like mere entertainment.” (Youth Y2, personal communication, April 5, 2025). Another participant observed: “On YouTube they make it horror, though elders said it used to be sacred.” (Youth Y5, personal communication, April 6, 2025). Although these digital representations often simplify or commercialise traditional narratives, they also create alternative pathways for cultural engagement. Several youth communities, including *Cerita Kie Raha*, reinterpret ancestral stories by combining traditional chants with contemporary musical genres or by uploading elders’ storytelling performances with Indonesian subtitles. These initiatives demonstrate that digital media function not only as agents of cultural change but also as spaces where oral traditions can be reinterpreted and communicated to younger audiences.

The third pattern reflects a more substantial disconnection from local cultural heritage. It was particularly evident among urban youth who associated oral traditions primarily with tourism rather than with cultural memory or ecological knowledge. One university student commented: “*Batu Angus?* I thought it was a tourist site, not a folktale” (Youth Y1, personal communication, April 7, 2025). A teacher similarly observed: “Children today remember Korean celebrities better than Ternate folktales” (Teacher T1, personal communication, March 22, 2025). These accounts suggest that the declining familiarity with oral traditions should not be interpreted simply as cultural indifference. Instead, they reflect broader transformations in the social environments through which cultural knowledge is transmitted. As communal storytelling practices become less frequent, cultural learning increasingly occurs through formal education and digital media, fundamentally reshaping how younger generations encounter and interpret their oral heritage.

Teachers as Cultural and Religious Mediators

Teachers play a pivotal role in sustaining Ternate oral traditions within contemporary educational settings. Interviews with all four participating teachers revealed that *Kurikulum Merdeka* allocates no dedicated instructional time for local oral literature, requiring educators to integrate cultural materials into broader subjects whenever opportunities arise. As one teacher explained: “We can only insert a little during Indonesian or Pancasila lessons—and only if time allows.” (Teacher T1, personal communication, March 22, 2025).

Despite these institutional constraints, teachers actively develop strategies to maintain students’ engagement with local oral traditions. Rather than treating oral literature as supplementary content, they incorporate storytelling into classroom activities that connect language learning, cultural identity, and moral education. At SMP 2 Ternate, Teacher T2 organises *Sesi Cerita Bersama Tetua* (Elder Story Sessions) during cultural week: “We invite elders to tell stories in class. Students are more engaged when they hear the original dialect they realise these are life lessons, not mere fables” (Teacher T2, personal communication, April 2, 2025).

At SMA 5, Teacher T3 used the proverb “*Ake ma nofo, bobo ma ngofa*” (“Water and forest are siblings”) to link literature and environmental education: “At first they were confused, but then said, ‘If the forest is damaged, the water disappears.’ That shows understanding” (Teacher T3, personal communication, April 2, 2025). Another teacher compiled *Cerita dari Kie Gamalama*, a local story booklet: “So children can read them at home, not just in school” (Teacher T1, personal communication, March 22, 2025). These initiatives demonstrate that teachers increasingly function as cultural mediators rather than merely classroom instructors.

By adapting oral traditions to formal educational contexts, they create opportunities for students to reconnect with local knowledge despite the decline of traditional storytelling within families and communities. At the same time, many teachers consciously integrate Islamic values into these activities by opening storytelling sessions with the *basmalah* and concluding them with moral reflection. This practice illustrates that indigenous wisdom and Islamic ethics are not presented as separate knowledge systems but are taught as complementary moral frameworks that shape students’ cultural identity, environmental awareness, and ethical responsibility.

Historical and Socio-cultural Transformations

The findings indicate that the changing patterns of oral literary literacy in Ternate reflect broader historical and socio-cultural transformations rather than generational differences alone. Participants consistently associated these changes with the expansion of formal education, language standardisation, urbanisation, and the increasing commercialisation of cultural heritage. Together, these developments have reshaped the social environments in which oral traditions are transmitted and interpreted.

Traditionally, oral narratives were shared within families and communities through storytelling, ritual gatherings, and everyday social interaction. Today, these practices have become less frequent as cultural transmission increasingly occurs through schools, tourism programmes, and digital media.

Consequently, stories such as *Legenda Batu Angus* are more widely recognised as symbols of local heritage and tourist attractions than as sources of moral, ecological, and spiritual guidance.

Despite these transformations, the findings also reveal the resilience of Ternate oral traditions. Elders continue to preserve storytelling practices, teachers adapt them to formal education, and younger generations reinterpret them through digital platforms. These developments suggest that oral literature has not disappeared; rather, it continues to evolve in response to changing historical and social contexts while maintaining its cultural and educational significance.

Faith, Urbanisation, and Cultural Adaptation

The findings indicate that faith continues to play a central role in sustaining the moral significance of Ternate oral traditions despite rapid urbanisation and changing patterns of cultural transmission. While communal storytelling following maghrib prayers has become less common, participants consistently described religion as an important framework through which oral traditions remain meaningful in contemporary society.

As one elder recalled: “After *maghrib*, we used to sit and listen to stories. Now everyone is busy with their phones” (Elder E2, personal communication, March 16, 2025). This shift reflects broader social changes that have reduced opportunities for intergenerational storytelling. Nevertheless, participants explained that many narratives formerly associated with animist cosmology are now interpreted through Islamic teachings. Rather than referring to *roh marah* (angry spirits), storytellers increasingly describe ecological disasters as *peringatan Tuhan* (God’s warning), while environmental responsibility is understood as an expression of *amanah* (stewardship). During cultural festivals, Qur’anic recitations frequently accompany local chants, creating what community members describe as *adat yang bersyahadat* (“custom that bears witness to faith”).

These findings suggest that urbanisation and religious transformation have not displaced Ternate oral traditions but have reshaped their interpretation and transmission. Oral literature continues to adapt to changing social realities while preserving its moral, ecological, and cultural significance.

3. Ecological and Moral Values in Oral Literature

Analysis of twelve oral texts four legends (*Legenda Batu Angus*, *Tanjung Ake Jailolo*, *Kololi Kie*, *Ngofa Ngare*), four proverbs, two ritual chants (*Mantra Tobelo* and *Sasadu invocation*), and two traditional songs reveals a coherent ecological philosophy in Ternate oral literature. Using Cultural Ecology (Steward, 1955) and Traditional Ecological Knowledge (TEK) (Berkes, 2017) as interpretive frameworks, three interlinked themes emerge: (1) nature as a moral and spiritual agent, (2) human–nature reciprocity, and (3) ritualised ecological ethics.

Nature as a Moral and Spiritual Agent

The findings indicate that Ternate oral literature consistently portrays nature as a moral and spiritual agent that responds to human conduct. In *Legenda Batu Angus*, ecological disaster symbolises divine retribution for moral failure.

“*Dong so lupa bersyukur, dong ketawa waktu orang tua kase inga. Gunung marah, api keluar, batu jadi saksi*” (“The people forgot gratitude. They laughed when the elders warned them. The mountain grew angry, fire burst forth, and the stones became witnesses”) Elder E1, personal communication, March 15, 2025).

The mountain embodies *peringatan Tuhan* (God’s warning), not *roh marah* (angry spirits), aligning with Islamic values of *mīzān* (balance) and *amanah* (stewardship). Similarly, in *Tanjung Ake Jailolo*, the disappearance of water follows the loss of prayer and ritual, and is restored only through repentance. “The Jailolo spring disappeared when people stopped praying, but returned when the elders purified the site” (Cultural Practitioner C1, 1 personal communication, March 7, 2025).

Together, these narratives demonstrate that environmental well-being depends on moral responsibility, reinforcing a central principle of Traditional Ecological Knowledge: ecological harmony is sustained through ethical human conduct.

Human–Nature Reciprocity

The findings further demonstrate that Ternate oral literature conceptualises the relationship between humans and nature as one of mutual dependence and reciprocal responsibility. Ecological knowledge is communicated through proverbs that translate environmental ethics into practical guidance for everyday life. Proverbs “*Ake ma nofo, bobo ma ngofa*” (“Water and forest are siblings”) expresses the ecological interdependence of natural systems. As Teacher T3 explained: “The ancestors said: don’t harm the forest or the river will be angry” (Teacher T3, personal communication, April 2, 2025). Another proverb, “*Ngofa ma jou, jou ma ngofa*” (“The child and the land belong to each other”), links human identity to stewardship: “If the land is destroyed, so is our life” (Youth Y1, personal communication, April 7, 2025).

These proverbs emphasise that human well-being depends upon maintaining harmonious relationships with nature. They integrate ancestral ecological wisdom with Islamic principles of *mīzān* (balance), *amanah* (stewardship), and gratitude, demonstrating that environmental responsibility constitutes both a cultural obligation and a moral commitment.

Ritualised Ecological Ethics

The findings indicate that ritual practices reinforce ecological ethics by integrating environmental responsibility with spiritual devotion. Rather than functioning solely as religious ceremonies, rituals such as *Kololi Kie* and the *Mantra Ternate* express gratitude, restraint, and reciprocity toward nature while reinforcing communal responsibility for environmental stewardship.

This relationship is evident in *Kololi Kie*, the ritual of circumambulating Mount Gamalama. As one cultural practitioner explained: “When we walk around the mountain, we ask forgiveness from nature and promise to care for the land” (Cultural Practitioner C2, personal communication, April 9, 2025). Likewise, the *Mantra Ternate* before fishing expresses sustainable harvesting: “Before going to sea, we speak to the wind: give us enough fish, not too much” (Fisher F1, personal communication, April 9, 2025).

These ritual practices transform ecological knowledge into lived religious practice. By integrating indigenous environmental ethics with Islamic values, they reinforce stewardship, moderation, and gratitude as guiding principles for maintaining harmonious relationships between humans and the natural environment.

4. Barriers to Intergenerational Transmission

The findings indicate that interconnected technological, institutional, linguistic, and socio-cultural changes increasingly challenge the intergenerational transmission of Ternate oral literature. These barriers do not operate independently; rather, they interact to reshape how ecological knowledge and cultural values are communicated across generations. While oral traditions remain meaningful within the community, opportunities for sustained storytelling and cultural learning have become progressively limited, particularly among younger generations. Three major barriers emerged from the analysis: (1) digital transformation and changing learning environments, (2) institutional and linguistic constraints, and (3) socioeconomic and cultural transformation.

Digital Transformation and Changing Learning Environments

The findings show that digital technologies have fundamentally altered the ways younger generations encounter oral traditions. Rather than learning through face-to-face storytelling within families and communities, many participants described social media and online platforms as their primary sources of cultural knowledge. Although these media increase access to local stories, they

frequently present oral traditions in abbreviated, entertainment-oriented formats that reduce their historical, ecological, and spiritual depth. “When we come home from school, everyone looks at their phones. We used to sit outside and listen to the elders tell stories. Now I only hear them during school competitions” (Youth Y4, personal communication, April 5, 2025).

This change signals not only behavioral transformation but also a breakdown in what Cultural Ecology defines as the “social environment of learning.” Oral tradition once operated as an informal pedagogical system, embedding ecological and moral instruction within daily social practice. Digital media, while democratising access to content, privatises cultural experience, turning what was once a collective act of memory into isolated consumption. These findings suggest that digital media have changed not only the channels of cultural transmission but also the ways younger audiences interpret and value oral traditions. Rather than replacing oral literature, digital platforms have created new learning environments that simultaneously expand cultural access and simplify the transmission of traditional knowledge.

Institutional and Linguistic Constraints

Teachers across the four sites emphasised the lack of formal frameworks for integrating oral literature into education. *Muatan Lokal* (local content) courses exist but rarely include structured materials on Ternate oral traditions. “We are asked to teach local content, but there are no official books or materials. So, we just use stories we remember or ask the elders” (Teacher T4, personal communication, March 22, 2025). This institutional gap forces educators to rely on personal initiative, creating uneven and unsustainable preservation practices. From the perspective of Berkes’ (2017) Traditional Ecological Knowledge (TEK) framework, this represents a weakening of the *institutional dimension* of the formal social structures that once reinforced cultural continuity through ritual and education. Nonetheless, individual efforts persist. At SMA Negeri 5 Ternate, for instance, teachers linked local proverbs such as “*Ake ma nofo, bobo ma ngofa*” (“Water and forest are siblings”) to environmental science lessons, enabling students to connect ancestral wisdom to contemporary ecological discourse. These examples underscore the pedagogical potential of oral literature when contextualised within formal learning.

In addition, language shift poses another critical barrier. While elders deliver narratives in the Ternate vernacular, most youth communicate in Bahasa Indonesia. This linguistic distance weakens both comprehension and emotional depth. “There are words that cannot be translated. When we use Indonesian, the feeling of the story disappears, as if it becomes empty” (Elder E5, Kalamata, personal communication March 22, 2025). Such loss of linguistic texture erodes the symbolic meanings embedded in key terms such as *ngare kie* (“children of the mountain”) or *bobo ma ngofa* (“forest and water are siblings”), which convey spiritual kinship between humans and nature. When translated without context, these expressions risk becoming mere metaphors rather than theological reflections on moral ecology. Still, some young narrators reframe these messages within Islamic idioms. “The mountain’s anger is also a sign of God’s anger” (Youth Y3, personal communication, April 2, 2025). This reinterpretation shows that while linguistic depth may fade, the ethical essence persists—translated into the moral vocabulary of faith.

Socioeconomic and Cultural Transformation

The findings indicate that broader socioeconomic and cultural transformations have further reshaped the transmission and social functions of Ternate oral literature. Participants associated these changes with urbanisation, changing livelihoods, migration, and the growing commercialisation of local culture. Collectively, these developments have reduced opportunities for community-based storytelling while repositioning oral traditions within new social and economic contexts.

Several participants observed that traditional storytelling, once embedded in everyday family and communal life, now occurs less frequently because changing work patterns and urban lifestyles leave limited time for intergenerational interaction. At the same time, oral traditions are increasingly presented as cultural heritage and tourism assets rather than as sources of moral guidance and

ecological knowledge. As one teacher remarked: “Now Batu Angus is marketed to tourists; they take photos but do” “Now Batu Angus is marketed for tourists. People come to take pictures but don’t know the story behind the stones” (Teacher T2, personal communication, April 2, 2025). Such commercialisation, while economically beneficial, detaches stories from their ethical context. As one elder warned, “If stories become only performances, they no longer serve as guidance” (Elder E3, personal communication, March 22, 2025). This recontextualisation reflects what Cultural Ecology would term an *adaptive imbalance*: traditional systems of moral education are absorbed into market structures that privilege visual appeal over moral instruction.

Although the promotion of cultural heritage helps preserve public awareness of local traditions, participants expressed concern that commercialisation often prioritises symbolic and economic value while overlooking the ecological and ethical meanings embedded in the narratives. Consequently, oral literature risks becoming a cultural display rather than a living tradition that continues to shape environmental responsibility and community identity. These findings suggest that the principal challenge facing Ternate oral traditions lies not in their disappearance but in the changing contexts through which they are transmitted, interpreted, and valued. Sustaining intergenerational transmission requires approaches that preserve both the narratives themselves and the ecological knowledge, moral values, and cultural meanings they embody.

These multilayered disruptions, digital fragmentation, and linguistic and institutional constraints converge to produce what Devkota and Hanemann (2025) describe as “knowledge transmission gaps”: structural breaks between generations that, if unaddressed, risk permanent erosion of culturally embedded ecological wisdom (Nyadzi, Ajayi, & Ludwig, 2021; Rao, 2024). Yet continuity endures. Elders, teachers, and youth innovators collectively demonstrate that adaptation is possible when oral tradition is recontextualised rather than romanticised. Revitalisation, therefore, requires bridging formal education, religious values, and digital media, transforming oral literature from a fading heritage into a dynamic moral ecology for contemporary Ternate society.

5. Community Responses and Revitalisation

Despite the challenges affecting intergenerational transmission, various community actors continue to develop strategies to sustain Ternate oral traditions. These initiatives emerge from local communities, educational institutions, cultural organisations, and youth groups, demonstrating that oral literature remains an active component of cultural life rather than a disappearing tradition. Two complementary forms of revitalisation emerged from the data: community-based initiatives that strengthen cultural continuity and educational and digital innovations that expand opportunities for cultural learning.

Community-Based Revitalisation

Community members continue to preserve oral traditions through storytelling sessions, cultural festivals, ritual performances, and intergenerational gatherings. Elders remain central to these activities by transmitting legends, proverbs, and ritual chants within both family and community settings. Rather than serving solely as ceremonial performances, these events reinforce collective memory, cultural identity, and ecological values embedded in oral traditions.

Participants emphasised that cultural festivals have become important spaces where traditional narratives are performed alongside religious and communal activities. Rituals associated with *Kololi Kie* and other local traditions continue to foster shared responsibility for cultural heritage while strengthening environmental awareness and community cohesion. These activities demonstrate that oral traditions remain socially relevant by continuing to connect cultural identity with moral responsibility and ecological stewardship.

Educational and Digital Innovation

Educational institutions and youth communities have also introduced innovative approaches to revitalising Ternate oral traditions. Although schools face curricular constraints, teachers continue to integrate local oral literature into classroom activities through storytelling sessions, environmental education, and locally developed learning materials. These initiatives provide students with opportunities to engage with oral traditions within formal educational settings while strengthening their understanding of local cultural identity.

At SMP Negeri 6, Teacher T1 used the proverb “*Ake ma nofo, bobo ma ngofa*” (“Water and forest are siblings”) to teach about the water cycle, prompting students to link ancestral wisdom to sustainability. “When students discuss proverbs, they see nature not as an object but as part of life” (Teacher T1, personal communication, April 2, 2025). In another class, students dramatised *Legenda Batu Angus* to explore themes of gratitude and humility toward nature. Such participatory learning transforms oral literature into *experiential pedagogy*, a living curriculum that merges moral formation with ecological ethics.

Teachers also collaborate with community elders by inviting them to participate in classroom storytelling activities, allowing students to experience oral narratives in their original linguistic and cultural contexts. Such collaborations bridge formal education with community-based knowledge, reinforcing the continuity of cultural transmission across generations. Cultural institutions such as the *Lembaga Seni dan Budaya Moloku Kie Raha* have revitalised storytelling through annual *Lomba Bertutur* (storytelling contests). In the 2025 event, six schools participated, with elders serving as judges. “We don’t want the stories to live only in books—we want them to live through children’s voices” (Cultural practitioner C1, personal communication, April 7, 2025).

Digital platforms have similarly emerged as important spaces for cultural Revitalisation. Rather than functioning solely as sources of fragmented cultural knowledge, social media and online platforms increasingly enable young people to document, reinterpret, and disseminate local oral traditions. Community initiatives such as *Cerita Kie Raha*, along with digital storytelling projects featuring legends, ritual chants, and proverbs, illustrate how traditional narratives are adapted to contemporary modes of communication without entirely losing their cultural significance. “If uploaded online, the stories won’t disappear” (Youth Y2, personal communication, April 5, 2025).

These educational and digital initiatives demonstrate that revitalisation extends beyond the preservation of oral texts. Instead, they create new opportunities for intergenerational dialogue, strengthen cultural literacy, and support the continued transmission of ecological knowledge within rapidly changing social environments.

6. Reinterpreting Ternate Oral Literature through Cultural Ecology and Traditional Ecological Knowledge

This study extends Berkes’ (2017) conception of TEK as a living system by demonstrating that in contemporary Ternate, ecological knowledge transmission has shifted from organic intergenerational practice to what this study terms “intentional adaptation” a deliberate, structured process mediated through education, Islamic ethics, and digital technology. This conceptual extension is consequential: it suggests that conventional TEK models, which assume relatively uninterrupted social environments of transmission, must be updated to account for post-colonial, urbanised, and digitally mediated contexts in which communities actively engineer the survival of ecological knowledge rather than simply inheriting it. The implications are theoretically significant for both Cultural Ecology and TEK studies. They are practically urgent for Muslim communities across small-island Indonesia, where oral traditions serve as moral, ecological, and spiritual resources.

The study also confirms that Traditional Ecological Knowledge (TEK) in Ternate is transmitted through intergenerational interaction involving elders, teachers, religious values, and community practices. Although younger generations increasingly encounter oral traditions through digital media, this does not necessarily signify cultural disappearance. Rather, digital platforms create new forms of

mediation that reshape how ecological values are communicated and understood. Youth initiatives such as Cerita Kie Raha demonstrate that oral traditions continue to evolve through changing social contexts, media practices, and intergenerational interaction. This finding extends Sihombing et al.'s (2025) argument that ecological literacy is most effective when grounded in local cultural knowledge. Where Sihombing et al. demonstrate this integration in formal Indonesian education generally, the Ternate case adds a critical Islamic dimension: the ecological values transmitted through oral literature are not merely indigenous. Still, they are actively harmonised with Islamic teachings on stewardship and balance, producing a distinctive form of culturally situated ecoliteracy. Adam and Ali's (2025) work on ecoliteracy-based teaching strategies further aligns with Teacher T2's Elder Story Sessions and Teacher T3's proverb-based environmental lessons. Yet, the Ternate context demonstrates that such strategies are most potent when they draw on texts that carry both ancestral authority and Islamic moral resonance, a dimension not fully theorised in Adam and Ali's framework. Recent systematic analyses of ecoliteracy competencies (Murti, Rohman, Sari, & Ibrohim, 2025) confirm that ecological knowledge, cultural participation, and moral values are co-constitutive domains, exactly the synthesis evident in Ternate oral pedagogy.

The findings further reveal that ecological values in Ternate oral literature are closely intertwined with Islamic moral teachings. Concepts such as *mīzān* (balance), *amanah* (stewardship), gratitude, and reciprocity shape how communities interpret relationships between humans and nature. In this context, Islamic values do not replace Indigenous ecological beliefs but function as adaptive moral frameworks that reinforce environmental ethics within contemporary Ternate society. It also reinforces previous studies highlighting the role of local wisdom in strengthening ecological literacy through cultural learning processes (Carroll, Edwards, Riley, & Redvers, 2025).

From the perspective of Cultural Ecology and Traditional Ecological Knowledge (TEK), Ternate oral literature can therefore be understood as a living biocultural system that continuously adapts to social transformation while preserving ecological wisdom, moral values, spiritual consciousness, and collective identity across generations. This perspective aligns with Maffi's (2007) concept of biocultural diversity, which holds that biological, cultural, and linguistic diversity co-evolve and must be maintained together. What the Ternate case adds to Maffi's framework is the role of Islamic ethics as an adaptive mechanism: rather than biocultural diversity diminishing under religious modernisation, the Islamisation of ecological narratives in Ternate actually expands their moral authority, enabling older cosmological values to persist through new theological idioms. Recent systematic analyses further confirm that biocultural diversity functions as a foundation for sustainable community well-being when maintained through active intergenerational dialogue (Otamendi-Urroz et al., 2025; Tauro & Rozzi, 2025).

This transformation shows that TEK continues to evolve through changing social contexts, media practices, and intergenerational interaction. Such mediated transformation echoes Berkes' (2017) framework of TEK as a living system integrating belief, practice, and environment, but extends it into pedagogical and digital domains (Dawson et al., 2021; Kelly et al., 2023). When teachers integrate the proverb *Ake ma nofo, bobo ma ngofa* ("Water and forest are siblings") into environmental lessons, or when youth upload *Legenda Batu Angus* to YouTube, ecological values are re-expressed through new pedagogical and technological means. The mountain's wrath, once interpreted as *roh marah* (angry spirits), is now retold as *peringatan Tuhan* (God's warning), maintaining moral authority while embedding Islamic theology within local cosmology. This reframing exemplifies a synthesis of ecological ethics and spiritual consciousness, positioning oral literature as both an environmental and a theological pedagogy.

Within this framework, adaptation in Ternate's oral traditions is better understood as negotiation rather than continuity. Storytelling no longer arises naturally from daily subsistence activities but from intentional collaborations among schools, communities, and cultural institutions that consciously sustain oral practices as moral education. This shift marks a movement from ecological adaptation, as seen in traditional TEK models, toward *intentional adaptation*, where survival depends on structured mediation through education, Islamic ethics, and digital technology. "Intentional adaptation" differs

from the ecological adaptation described in classical TEK models (Berkes, 2017; Steward, 1972), which assume that cultural knowledge adapts organically in response to environmental pressures. In Ternate, by contrast, adaptation is a conscious, institutionally organised act: schools partner with cultural organisations; teachers design proverb-based environmental lessons; youth collectives deliberately archive and subtitle elders' narratives; and the Kololi Kie ritual is revived through school-community partnerships. This deliberate character distinguishes "intentional adaptation" from concepts such as Berkes' "adaptive co-management," which focuses on resource governance, or general notions of "cultural resilience" (Akhiroh et al., 2025; Astari, Mayasari, & Saddam, 2024a), which emphasise endurance without specifying the agency driving it. Three concrete illustrations from the data illuminate this concept: the annual *Lomba Bertutur* contest (where cultural institutions deliberately engineer intergenerational storytelling encounters), the *Cerita Kie Raha* digital project (where youth consciously select, translate, and redistribute oral texts), and the *Sesi Cerita Bersama Tetua* classroom initiative (where teachers organise structured contact between elders and students). Each of these represents a designed, purposeful intervention rather than a spontaneous cultural continuity. The theoretical implication is significant: TEK scholarship operating in post-colonial, urbanised, and digitally saturated contexts must conceptually distinguish between organic transmission and intentional mediation, as the latter requires different analytical tools and different policy responses (Carroll et al., 2025; Dei et al., 2025).

Digital technology has further reshaped the ecology of storytelling. While elders fear that screens replace shared memory, digital media also create new "sacred spaces" for cultural continuity. Initiatives such as *Cerita Kie Raha*, in which youth record elders' stories and subtitle them for online audiences, illustrate how the digital environment serves as a vessel for ecological and moral renewal. This dual process reflects what might be termed a *digital ecology*: a mediated space where technology can either dilute ritual meaning or democratise cultural access. Youth-led projects such as *Cerita Kie Raha* exemplify this dynamic, transforming what might otherwise be passive cultural loss into active archiving and creative translation. This pattern aligns with Kasemsarn and Nickpour's (2025) framework for digital storytelling in heritage contexts, which identifies youth engagement and social media integration as the most effective vectors for the survival of intangible cultural heritage among younger generations. The digital ecology of Ternate oral tradition thus represents not a degradation of TEK but a new modality of its transmission (Viana, 2024).

Religious reinterpretation further strengthens this adaptive continuity. As elders recast ecological narratives within an Islamic framework, moral authority deepens rather than diminishes. The wrath of the mountain, the silence of the sea, and the loss of the forest are retold as *peringatan Tuhan*, divine reminders of human responsibility. This theological ecology aligns with Islamic environmental ethics, emphasising *amanah* (stewardship) and *mīzān* (cosmic balance) (Gada, 2024; Karim & Hasim, 2018; Saniotis, 2012), transforming oral literature into a form of dakwah ekologis, a spiritual pedagogy that teaches environmental care as both a moral duty and an act of worship.

This study presents several strengths and limitations that should be considered when interpreting its findings. Among its strengths, the research draws on rich empirical data gathered from 18 participants across 4 culturally distinct villages, integrating interviews, field observations, and textual analysis of 12 oral forms. The dual theoretical framework of Cultural Ecology and TEK enables a multilayered interpretation that neither a purely textual nor a purely ecological approach could achieve alone. The study also addresses a documented gap in Indonesian scholarship by applying TEK to Eastern Indonesian oral literature. It introduces two conceptually original contributions, "intentional adaptation" and "dakwah ekologis," that have potential applicability beyond the Ternate context.

Regarding limitations, the sample of 18 participants from 4 villages, while purposively selected for their cultural familiarity and depth of engagement, may not fully represent the heterogeneity of the larger Ternate community, particularly in urban neighborhoods less connected to traditional cultural institutions. Generalisation to other small-island Muslim communities in Eastern Indonesia should be approached with caution, as local ecological, linguistic, and religious configurations vary considerably across the archipelago. Field observations were conducted over three months (February–April 2025),

which, while sufficient for capturing core patterns, may not fully represent seasonal or ceremonial variations in storytelling practice. Finally, the potential influence of researcher positionality, including cultural familiarity or distance with respect to Ternate communities, on interpretive choices warrants acknowledgment as an inherent feature of ethnographic research. Overall, Ternate oral literature can be viewed as a *biocultural system*, a dynamic intersection of narrative, environment, and spirituality that persists through adaptive mediation. Its resilience lies not in static preservation but in creative recontextualisation across religious, educational, and digital domains. By transforming storytelling into moral pedagogy and ecological reflection, the community sustains both cultural identity and environmental awareness, reinforcing ecological literacy and local wisdom among younger generations. Thus, continuity in Ternate is not a return to the past but a negotiated future one in which tradition evolves through faith, memory, and media.

7. Conclusions

This study demonstrates that Ternate oral literature remains a living biocultural knowledge system despite significant transformations in cultural transmission patterns. Although intergenerational storytelling has become less frequent because of urbanisation, language shift, digital media, and changing educational contexts, oral traditions continue to preserve ecological knowledge, cultural identity, and spiritual values through legends, proverbs, ritual chants, and storytelling practices. Rather than signalling cultural decline, these transformations illustrate the community's capacity to adapt while maintaining the ecological and moral foundations of its oral heritage.

Drawing on the complementary perspectives of Cultural Ecology and Traditional Ecological Knowledge (TEK), this study shows that Ternate oral literature functions not merely as cultural heritage but as an integrated system through which ecological knowledge, moral values, and spiritual beliefs are continuously transmitted across generations. The findings further demonstrate that Islamic moral principles—particularly *mīzān* (balance), *amanah* (stewardship), gratitude, and reciprocity—provide an interpretive framework that reinforces, rather than replaces, Indigenous ecological knowledge. This interaction between local ecological wisdom and Islamic ethics represents the principal theoretical contribution of the study.

The study also identifies several challenges affecting the continuity of oral traditions, including digital transformation, language shift, limited curricular integration, and changing socio-cultural environments. Nevertheless, community storytelling initiatives, educational innovation, ritual Revitalisation, and digital documentation demonstrate that oral traditions continue to evolve through collaborative efforts involving elders, schools, cultural organisations, religious institutions, and youth communities. These findings highlight that sustaining oral literature requires preserving not only narratives and rituals but also the social relationships and cultural environments through which ecological knowledge and moral values are transmitted.

Practically, this study underscores the importance of integrating local oral traditions into formal education, community-based cultural programmes, and digital preservation initiatives to strengthen ecological literacy and cultural sustainability among younger generations. Future research should examine the long-term effects of digital mediation on oral literary literacy, compare patterns of ecological knowledge transmission across other small-island communities in Eastern Indonesia, and investigate the potential role of Islamic educational institutions in strengthening the transmission of Traditional Ecological Knowledge through culturally grounded environmental education.

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