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Indigenous Ecological Knowledge, Religion, and Environmental Stewardship among the Khasi Community in Bangladesh¹

Rdzenna wiedza ekologiczna, religia i dbałość o środowisko w społeczności Khasi w Bangladeszu

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Abstract

This article examines the traditional beliefs and practices of the Khasi indigenous community in Bangladesh from an ecological perspective, with particular attention to their indigenous ecological knowledge and environmental practices. It explores how Khasi religious beliefs, rituals, agroforestry, sacred forest traditions, and everyday cultural practices contribute to environmental conservation and ecological sustainability. Based on qualitative fieldwork and textual analysis, the article argues that, within the studied community, Khasi religious and cultural practices are associated with biodiversity conservation, sustainable resource use, and community-based environmental ethics. The findings further suggest that Christianization has modified some ritual forms while allowing certain ecological values to be reinterpreted through a syncretic ethic of stewardship. The findings contribute to current discussions on Indigenous Ecological Knowledge, religion and ecology, and the inclusion of locally grounded Indigenous perspectives in environmental governance. These findings are context-specific and do not support general conclusions about Khasi communities in Bangladesh as a whole.

Keywords

Khasi community, Indigenous Ecological Knowledge, ecological sustainability, religion and ecology, environmental conservation, sacred groves, agroforestry, environmental stewardship, Bangladesh, SDG 15 – Life on Land, Christianization

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Streszczenie

Niniejszy artykuł analizuje tradycyjne wierzenia i praktyki rdzennej społeczności Khasi w Bangladeszu z perspektywy ekologicznej, ze szczególnym uwzględnieniem rdzennej wiedzy ekologicznej i relacji z przyrodą. Omówiono w nim, w jaki sposób wierzenia religijne Khasi, rytuały, agroleśnictwo, tradycje związane ze świętymi lasami oraz codzienne praktyki kulturowe przyczyniają się do ochrony środowiska i jego zrównoważonego użytkowania. Na podstawie jakościowych badań terenowych oraz analizy tekstów wykazano, że w badanej społeczności praktyki religijne i kulturowe Khasi wiążą się z ochroną różnorodności biologicznej, zrównoważonym użytkowaniem zasobów oraz wspólnotowym poczuciem odpowiedzialności za środowisko. Wyniki wskazują ponadto, że chrystianizacja zmodyfikowała niektóre rytuały, umożliwiając jednocześnie reinterpretację pewnych wartości ekologicznych w ramach synkretycznie pojmowanej odpowiedzialności za środowisko. Badanie wnosi wkład do współczesnej dyskusji na temat rdzennej wiedzy ekologicznej, relacji między religią a ekologią oraz uwzględniania zakorzenionych w lokalnym kontekście perspektyw ludności rdzennej w zarządzaniu środowiskiem. Uzyskane wyniki odnoszą się jednak do konkretnego kontekstu i nie stanowią podstawy do formułowania ogólnych wniosków dotyczących społeczności Khasi w Bangladeszu jako całości.

Słowa kluczowe

społeczność Khasi, rdzenna wiedza ekologiczna, zrównoważenie ekologiczne, religia i ekologia, ochrona środowiska, święte gaje, agroleśnictwo, odpowiedzialność za środowisko, Bangladesz, SDG 15 – Życie na lądzie, chrystianizacja

Introduction

Background and Context of the Study

The Khasi are an Indigenous people living in Bangladesh and in the neighbouring Indian state of Meghalaya (Nath et al. 2003; Miri 2022). The community examined in this study is located in Sreemangal Upazila, Moulvibazar District, Bangladesh. Khasi society is matrilineal and has a distinctive cultural and religious tradition known as *Niam Khasi* (Nongbri 2003; Miri 2022). Within this tradition, natural features such as hills, rivers, forests, and sacred groves are regarded as spiritually significant and may be associated with spirits or deities (Mawrie 1981; Miri 2022). Christian missionary activity over the past two centuries has led many Khasis to adopt Christianity and has contributed to religious and cultural change (Syiemlieh 2007). Nevertheless, elements of traditional ecological knowledge and practice continue within contemporary Khasi communities (Datta, Singha, and Hurlbert 2024).

Khasi livelihoods in Bangladesh have historically depended on forest resources and agriculture. In the study region, betel leaf cultivation under tree cover is a central livelihood practice and constitutes a form of agroforestry (Nath et al. 2003; Saha and Azam 2004; Rahman, Rahman, and Islam 2009). This system can

help maintain forest cover, although its environmental effects depend on local management practices and should not be assumed to be uniformly sustainable. The relationship between Khasi agricultural practices and environmental conservation therefore requires analysis within its specific social and ecological context.

Khasi religious and cultural practices frequently refer to seasonal cycles, harvests, and relationships with natural entities (Mawrie 1981; Miri 2022). Such practices may express norms concerning the use of local resources and human responsibilities toward the environment. However, their ecological significance should be evaluated through specific practices and participants' accounts rather than assumed to reflect a uniform environmental consciousness across all Khasi communities. The present study therefore examines how members of the studied community understand these relationships.

Existing scholarship describes Khasi understandings of nature as encompassing material, social, and spiritual dimensions (Mawrie 1981; Miri 2022). Natural environments may therefore be understood simultaneously as sources of livelihood and as places of spiritual significance. This study examines how ecological meanings associated with these traditions are maintained, negotiated, or transformed in the accounts of Christian Khasi participants in the studied community.

Statement of the Research Problem

Previous studies have examined Khasi livelihoods, agricultural practices, forest management, and socioeconomic conditions (Nath et al. 2003; Saha and Azam 2004; Rahman, Rahman, and Islam 2009). Less attention, however, has been paid to the relationship between Khasi religious beliefs and ecological practices, particularly to how these relationships are interpreted within communities. This study addresses that gap by examining how religious guidelines may influence ecological values and environmental practices in the studied Khasi community in Bangladesh.

Objectives and Scope of the Research

- a) To examine how traditional Khasi beliefs and practices are related to forest conservation and ecological sustainability in the studied community.
- b) To analyse how Christianization has influenced Khasi ecological beliefs and practices.
- c) To investigate how Khasi Indigenous Ecological Knowledge shapes everyday environmental practices and the community's relationship with nature.

Research Questions

The main research questions are as follows:

- a) How are traditional Khasi beliefs and practices related to forest conservation and ecological sustainability?
- b) How has Christianization influenced Khasi ecological beliefs and practices?
- c) How does Khasi Indigenous Ecological Knowledge shape everyday environmental practices and the community's relationship with nature?

Significance and Rationale

This study contributes to research on Indigenous Ecological Knowledge by examining the relationships among religious beliefs, cultural practices, and environmental stewardship in a Khasi community in Bangladesh. It also considers how these relationships are affected by Christianization and modernization. The findings may inform discussions on incorporating locally grounded Indigenous knowledge into environmental governance, although their applicability beyond the studied community requires further research.

1. Literature Review

1.1. Summary of Existing Key Studies

Several studies have examined Khasi livelihoods, agro-farming, and forest-based economy in Bangladesh (Saha and Azam 2004; Rahman, Rahman, and Islam 2009; Nath et al. 2003). These works describe the role of betel leaf cultivation, agroforestry, and community-managed forestry in sustaining Khasi livelihoods and the local environment. Research on Khasi religious life presents an animistic worldview, sacred groves (*Law Kyntang*), and rituals associated with the preservation of biodiversity (Gurdon 1914; Mawrie 1981). Additionally, the impact of Christian missionaries on Khasi language, education, and religious conversion is extensively documented (Bareh 1985; Syiemlieh 2007), including the translation of the Bible into the Khasi language and the adaptation of indigenous music to Christian cultural practices.

1.2. Identification of the Research Gap

Previous studies have examined Khasi livelihoods, agricultural practices, forest management, religion, and missionary activity (Mawrie 1981; Nath et al. 2003; Saha and Azam 2004; Syiemlieh 2007; Datta, Singha, and Hurlbert 2024). These areas, however, have frequently been considered separately. Comparatively less

attention has been paid to how religious change intersects with Indigenous Ecological Knowledge and environmental practices among Khasi communities in Bangladesh. In particular, limited research has directly explored how Christian Khasis understand human–environment relations, including how they refer to traditions, beliefs, and practices associated with *Niam Khasi*. The present study addresses this more specific research gap.

1.3. Theoretical Framework

This study uses Indigenous Ecological Knowledge (IEK) as its primary theoretical framework and Religious Syncretism as a supporting analytical concept. IEK is used to interpret how ecological knowledge is embedded in Khasi religious beliefs, customary norms, agricultural practices, and everyday relationships with forests and other natural elements. Religious Syncretism is used to examine how ecological values associated with *Niam Khasi* are preserved, reinterpreted, or transformed following Christianization. Together, these perspectives enable the study to distinguish between continuity and change in Khasi environmental practices and to explain how Indigenous ecological values may be maintained within a changing religious context.

2. Research Methodology

2.1. Research Approach

This study adopts a qualitative research approach to explore the interconnections between the Khasi community's traditional beliefs, religious practices, and ecological perspectives in Bangladesh. It includes an interpretative analysis to examine how Christian Khasis understand the traditions, beliefs, and practices associated with *Niam Khasi*.

2.2. Study Location and Participants

The fieldwork was conducted in *Nirala Khasi Punji*, an Indigenous Khasi village situated in Sreemangal Upazila, Moulvibazar District, Bangladesh (coordinates: 24.3065° N, 91.7296° E; WGS 84). The coordinates indicate the central point of the study site. Participants were recruited from among community leaders, adult residents, workers, and individuals with varying levels of formal education. The participants included women and men aged between 22 and 60 years.

2.3. Data Collection

Primary data were collected through semi-structured interviews and participant observation. Ten interview sessions were conducted with a total of 15 participants: 7 individual interviews involving 7 participants and 3 joint or group interviews involving 8 participants. The sample comprised six men and nine women. Fieldwork was conducted over a two-week period, from 3 April to 17 April 2024, in *Nirala Khasi Punji* in Sreemangal Upazila in the district of Moulvibazar. During this period, the authors observed the community's daily routines, agroforestry practices, rituals, and festivals. The observational material was subsequently analysed together with the interview data. Secondary data were collected through a review of relevant available resources, including books, articles, and online sources on the Indigenous Khasi religious and cultural beliefs and practices.

2.4. Sampling Method

The study involved 15 Khasi residents of Nirala Khasi Punji, whom the authors describe as Christian. No participants practising *Niam Khasi* were included in the sample. The study therefore does not compare two separately constituted religious groups. Instead, it examines how Christian Khasi participants describe environmental beliefs and practices in relation to local traditions associated with Niam Khasi, drawing on interview material, field observations, and relevant literature. The analysis concerns continuities and changes in religious and ecological meanings within this local context, rather than differences between participant groups.

2.5. Data Analysis

Interviews were compiled and reviewed together with the observation records and were manually coded by both authors. The analysis followed a hybrid inductive–deductive approach. Initial codes were developed from recurring patterns in the empirical material. The research questions and the two theoretical perspectives—Indigenous Ecological Knowledge and Religious Syncretism—were then used to guide the interpretation and organization of these codes. Related codes were grouped into broader themes, compared across the interview and observation materials, and refined into the final thematic categories presented in the Findings.

2.6. Ethical Considerations

All participants provided consent prior to their participation in the interview. Consent was specifically

given for participation in the research and for the use of quotations from anonymous sources in published research papers. The names of participants and any personal identifying information were not revealed in this manuscript in order to maintain their confidentiality. Nevertheless, given the small size of the community and the possibility that individuals could be identified based on age, community position, and religion, particular care was taken to preserve anonymity.

3. Findings

3.1. Traditional Khasi Religious Beliefs and Ecological Practices

3.1.1. Nature-Centric Animistic Beliefs

The traditional Khasi religion, *Niam Khasi*, is animistic but also includes belief in a Supreme Creator Deity – U Blei Nongbuh Nongthaw. According to this belief system, natural elements such as trees, rivers, and hills, etc. are inhabited by divine spirits (Nongbri 2003; Mawrie 1981). This view was echoed by a Khasi elder when he was asked about Khasi religious beliefs and practices: “According to our indigenous religious beliefs, the divine spirits dwell in all natural elements like rivers, hills, trees, etc. Because of this, we perform rituals to respecting them. We believe these elements save us and our environment.” In addition, the Khasis have a tradition of sacred groves where tree cutting and animal hunting are prohibited. These activities are strictly prohibited by religious beliefs and social regulations. During an interview, a Khasi community leader told us: “Nature works like our second mother; if we destroy the trees, we face the biggest loss.” Similarly, another respondent talked about the significance of the sacred groves: “The sacred groves are holy areas, where no one is allowed to cut trees or hunt animals, because these places keep our forests greener and save animals in the forests.”

Despite Christianization, many Khasis still maintain this respect for these natural elements. During an interview, a young Khasi Christian told us: “Our church always motivates taking care of the forest and the rivers. Our local priest tells saving the natural environment is a part of loving God.” This account suggests that, for at least some Christian participants in the studied community, environmental care is expressed through Christian teachings rather than through traditional ritual forms.

3.1.2. Sacred Groves and Religious Understandings of Nature

Scholarly accounts describe Khasi sacred groves, known as *Law Kyntang* or *Law Lyngdoh*, as forest

areas protected because of their religious and cultural significance. More broadly, sacred groves have been discussed as institutions in which biodiversity conservation intersects with cultural heritage, spiritual values, and Indigenous knowledge (Rathore 2024). In Khasi communities, customary norms generally restrict tree cutting, hunting, and the removal of natural resources within these groves (Nawaz 2021; Tiwari, Barik, and Tripathi 1998). These practices illustrate an institutional relationship between religious belief and local forest conservation, although their observance and contemporary significance may vary among Khasi communities.

Some participants provided only brief accounts of traditional Khasi religion. Several described ancestral beliefs using the category of Hinduism, while also distinguishing these beliefs from the worship of Hindu deities such as Durga, Shiva, Kali, or Lakshmi and instead referring to spiritual forces associated with natural entities. By contrast, scholarly sources generally describe *Niam Khasi* as a distinct Indigenous religious tradition (Gurdon 1914; Mawrie 1981; Miri 2022). This difference between participants' descriptions and scholarly classifications may reflect contemporary processes of religious identification, cultural interaction, or the use of more familiar religious categories to describe Indigenous beliefs. Because the study did not systematically examine the reasons for these self-descriptions, the available evidence does not support a definitive explanation of this divergence.

3.1.3. Daily Cultural Practices Supporting Ecology

During fieldwork in the studied *Khasi Punji*, the authors observed fruit trees and flowering plants in the front yards of several homes. An older interviewee described household planting as an intergenerational cultural practice connected with care for nature: "Decorating our homes with flowers and fruit trees is not only about beauty; it is a tradition passed down from our ancestors. Just as our elders taught us, we teach the next generation to care for nature. Protecting the natural environment is part of our Indigenous rituals and cultural practices." This account illustrates how household planting may acquire aesthetic, intergenerational, and ecological meanings within the studied community.

3.1.4. Agricultural and Agroforestry Practices

In the studied community, betel leaf (*Piper betle*) is cultivated on living support trees, frequently areca palms, creating a tree-based agroforestry system (Nawaz 2021; Nath et al. 2003; Rahman, Rahman, and Islam 2009). An older farmer described this practice as follows: "We let betel leaf grow on trees, and we plant more trees for this purpose. We do not cut trees unless it is necessary. The way we farm does not harm the mountain;

rather, it keeps it greener and more fertile.” This account indicates that the participant understood betel cultivation as compatible with maintaining tree cover. It does not, however, establish that this form of cultivation causes no environmental harm or that all Khasi farmers follow identical practices.

Betel leaf cultivation is an important source of livelihood for Khasi communities in the study region, although the extent of household dependence varies (Nath et al. 2003; Saha and Azam 2004; Rahman, Rahman, and Islam 2009). The crop is cultivated under tree cover on hilly terrain, linking household income to continued access to agroforestry land.

During a group interview, participants reported that betel cultivation in their community relies on living support trees rather than on clearing forest specifically for planting. They also stated that pesticides were not used and that manure was applied occasionally. Participants further described washing before entering the cultivation area as a customary practice intended to prevent the transmission of disease. These accounts document locally reported practices and their perceived purposes; the study did not independently measure pesticide use, soil fertility, disease transmission, or the broader ecological effects of these practices.

Field observations and participants’ accounts indicate that households in the studied community also cultivate areca nut, pineapple, and bananas and raise pigs, poultry, and cattle. Participants reported using compost and animal manure in some cultivation activities. These practices contribute to livelihood diversification, but the study did not systematically assess the quantities or environmental effects of agricultural inputs. They should therefore not be characterized as uniformly sustainable on the basis of the available data (Nath et al. 2003; Islam and Uddin 2013).

3.1.5. Housing Materials and Changing Construction Practices

Traditional Khasi houses have commonly been constructed from locally available materials such as bamboo, wood, clay, reeds, and leaves (Bareh 1985). During the fieldwork, the authors also observed houses constructed with bricks, concrete, and metal roofing. An older participant explained this transition as follows: “In the past, we built our houses with materials such as bamboo and wood. These materials have become costly and difficult to obtain, so people increasingly use bricks and metal sheets. In this sense, material scarcity and the need for more durable housing are encouraging a shift away from traditional construction.” This account suggests that changes in housing materials are influenced by availability, cost, and durability. Because the study did not compare the environmental impacts of different construction materials, traditional housing

should not be described as inherently environmentally friendly or modern housing as evidence of declining ecological attitudes.

3.1.6. Festivals and Seasonal Cycles

Khasi festivals such as *Seng Kut Snem*, *Seng Kihlang*, and *Ka Shad Suk Mynsiem* provide settings in which religious identity, seasonal cycles, and harvest traditions are expressed through collective rituals, music, dance, and offerings (Mawrie 1981; Deshwara 2024). Their relevance to the present study lies not in the use of natural materials alone, but in the religious and cultural meanings attached to seasonal cycles, gratitude for harvests, and relationships between communities and their environment.

3.1.7. Worship and Ceremonies

In *Niam Khasi*, rituals concerning ancestors, deities, and natural entities form part of religious life (Nongbri 2003; Miri 2022). Festivals such as *Ka Shad Suk Mynsiem* express thanksgiving for harvests through song and dance (Kharwanlang 2025), while sacred groves are treated as religiously significant spaces subject to customary restrictions. These examples indicate that some environmental practices may be embedded within religious meanings and obligations. Religious reverence for nature, however, should not by itself be treated as evidence that all Khasi religious practices directly produce biodiversity conservation or other measurable environmental benefits.

3.2. Human–Environment Relations and Local Ecological Knowledge

During fieldwork, the authors observed extensive tree and plant cover within the studied *Khasi Punji*. When asked about tree use, participants generally reported that living trees were not cut unless necessary and that dead or old trees and fallen branches were used as fuel. Several participants described nature or the forest as a “second mother,” emphasizing their practical dependence on trees and other local resources. Participants also reported that official permission was required to cut trees. These accounts indicate that resource-use norms in the studied community are expressed through both practical dependence and moral or religious language. The study did not independently verify the frequency of tree cutting or compliance with government regulations.

3.3. Impact of Christianization on Khasi Ecological Ethics

3.3.1. Religious Syncretism and Ecological Ethics

The interview material indicates that some Christian participants interpret environmental care through the Christian concepts of creation and stewardship. An older church leader stated: “The church encourages us to protect the forest as God’s creation.” This account suggests that Christian language can provide a religious rationale for environmental practices also associated with local ecological knowledge. The evidence supports interpreting this relationship as a possible form of religious syncretism, but it does not establish that all Christian Khasi combine Indigenous and Christian traditions in the same way.

3.3.2. Language and Cultural Adaptation

The translation of the Bible into Khasi and the incorporation of Khasi music into Christian worship illustrate processes through which Christianity has been localized in Khasi cultural contexts (Syiemlieh 2007). The continued importance of matrilineal social organization also indicates that religious conversion did not necessarily entail the complete abandonment of Khasi social institutions (Nongbri 2003). These examples suggest selective cultural adaptation rather than either complete cultural continuity or complete cultural loss.

3.4. Reported Environmental Significance of Local Practices

3.4.1. Sacred Groves and Forest Protection

Participants associated customary restrictions on tree cutting, hunting, and resource extraction with the protection of local forests. An older resident stated: “We do not cut trees without a valid reason because we regard the forest as our mother. Harming the forest would also harm us. This understanding encourages us to avoid destroying the forest and to plant trees around our homes and farmland.” Previous research has documented the biodiversity value of Khasi sacred groves, particularly in Meghalaya (Tiwari, Barik, and Tripathi 1998). The participant’s account and the existing literature indicate the potential conservation significance of customary restrictions. The present study, however, did not measure species diversity, forest condition, or rates of resource extraction at the study site and therefore cannot independently establish their ecological effects.

3.4.2. Community Responses to Natural Hazards

An older participant emphasized collective action as a response to natural hazards: “When natural hazards affect us, we do not blame nature. We work together to address the difficulties and to maintain a balanced relationship with our environment.” This account indicates that the participant understood community cooperation as an important response to environmental disruption. The study did not systematically examine disaster response and therefore cannot determine whether this interpretation is shared throughout the community or whether it produces specific ecological outcomes.

3.5. Modernization and Changes in Housing Practices

Field observations and participants’ accounts indicate a transition from houses constructed primarily from bamboo and wood to buildings using bricks, concrete, and metal roofing in the studied community. As reported in Section 3.1.5, one participant associated this change with the reduced availability and rising cost of traditional materials, as well as with a preference for more durable housing. These findings document a change in material practices, but the study did not assess its scale or its effects on forest cover, soil quality, or customary resource governance.

4. Discussion

4.1. Interpretation of the Results

The findings suggest that, in the studied community, ecological norms are embedded in religious meanings, customary restrictions, and livelihood practices rather than operating as a separate body of environmental rules. From the perspective of Indigenous Ecological Knowledge, participants’ references to sacred groves, tree-use norms, agroforestry, and intergenerational knowledge illustrate how environmental knowledge may be transmitted through everyday cultural and religious practices (Berkes 2018). The evidence does not establish that all such practices are environmentally beneficial, but it shows that ecological reasoning is articulated through locally grounded moral, cultural, and spiritual categories.

Christian participants also expressed environmental care through the concepts of creation and stewardship. Religious Syncretism helps interpret this relationship as selective reinterpretation rather than either the complete preservation or replacement of *Niam Khasi*. Some ecological meanings associated with Indigenous tradition appear to be expressed in Christian language and practice (Sanneh 1989). The results should not, however, be treated as evidence that all Christian Khasi integrate these traditions in the same way.

4.2. Convergence and Divergence with Previous Research

The findings are consistent with earlier studies describing the religious significance of natural entities and sacred groves within Khasi traditions (Mawrie 1981; Nongkynrih 2002; Miri 2022). Participants' accounts of customary restrictions on tree cutting and resource use also support previous research linking sacred groves with locally grounded forms of forest protection (Tiwari, Barik, and Tripathi 1998). The present study does not independently confirm the biodiversity effects reported in that literature, but it shows that similar religious and moral meanings remain present in the accounts collected from the studied community.

In relation to Christianity, the findings complicate a simple model in which religious conversion necessarily replaces Indigenous ecological meanings. Some Christian participants expressed environmental responsibility through the concepts of creation and stewardship while also referring to practices associated with local ecological knowledge. This suggests continuity through selective reinterpretation rather than either complete cultural preservation or complete cultural erasure. Given the limited and locally situated sample, this conclusion should be understood as an interpretation of how Christian Khasi participants relate environmental responsibility to traditions associated with Niam Khasi, rather than as a general account of Christianization among Khasi communities.

4.3. Religious Reinterpretation as a Possible Mechanism

The findings suggest that some environmental obligations may be reinterpreted through Christian concepts rather than simply abandoned following conversion. The church leader's description of the forest as "God's creation" provides a localized example of this process: environmental care is expressed through the Christian language of creation and stewardship while remaining connected with practices already present in the community. Religious Syncretism helps interpret this as a selective translation of ecological meanings across religious contexts. This interpretation remains provisional, however, because the interviews did not systematically reconstruct participants' conversion histories or examine changes in their beliefs and practices over time.

4.4. Contribution to Indigenous Ecological Knowledge and Environmental Ethics

The study contributes to discussions of Indigenous Ecological Knowledge and Indigenous environmental ethics by illustrating how ecological norms may be maintained through reinterpretation within changing religious contexts. In the studied community, participants referred to ecological traditions associated with

Niam Khasi and to Christian stewardship when discussing environmental responsibilities. This pattern supports an understanding of IEK as a dynamic and socially embedded knowledge system rather than as a fixed inventory of premodern practices (Berkes 2018; Thornton and Bhagwat 2020). The available evidence does not, however, demonstrate uninterrupted continuity across all practices or establish their direct conservation outcomes. The study's contribution is therefore to identify a possible process of adaptation and moral translation, not to claim that Khasi IEK has survived religious change in an entirely unchanged form.

4.5. Contribution to Debates in Religion and Ecology

The findings contribute to debates in religion and ecology concerning whether Christian worldviews should be characterized as necessarily anthropocentric or environmentally destructive (White 1967). The studied case suggests that Christian ecological interpretations are shaped by local religious and cultural contexts. Some participants articulated environmental responsibility through Christian concepts of creation and stewardship while also referring to practices associated with Khasi ecological knowledge. Comparable research from Bangladesh has examined how Islamic teachings and practices may likewise provide a religious basis for environmental responsibility in the distinct urban context of Dhaka (Sayem and Yasmin 2025). Taken together, these examples support greater attention to lived and locally situated expressions of religious environmental ethics rather than treating religious traditions as having a single environmental orientation. Given the limited and localized sample, the study does not support general conclusions about Christianity as a whole or comparisons between Khasi environmental ethics and religious approaches throughout the Global North.

4.6. Theoretical and Practical Implications

Theoretically, the study demonstrates the value of using Indigenous Ecological Knowledge as the primary framework and Religious Syncretism as a supporting analytical concept for interpreting relationships among religious beliefs, cultural practices, and environmental responsibilities. In practical terms, the findings suggest that policymakers and conservation practitioners should consider locally grounded knowledge and customary institutions when developing environmental initiatives affecting Khasi communities. Given the limited and localized sample, however, specific policy measures should be developed only through further research and direct consultation with the communities concerned.

4.7. Limitations of the Study

This study has several limitations. Its purposive sample of 15 participants from a single *Khasi Punji* cannot be regarded as representative of Khasi communities in Bangladesh or elsewhere. The study relied primarily on participants' accounts and field observations and did not measure biodiversity, soil condition, forest cover, pesticide use, or other environmental outcomes. Its cross-sectional design also does not allow causal conclusions about the effects of Christianization or modernization over time. Future research involving multiple Khasi communities, more systematically differentiated participant groups, and complementary ecological data could test and refine the interpretations proposed here.

Conclusion

Summary of Key Findings

The study shows that, within the examined Khasi community, religious meanings, customary norms, and livelihood practices are closely interconnected in participants' accounts of human–environment relations. Sacred groves, restrictions on tree use, betel leaf agroforestry, and household planting were described as practices with potential environmental significance, although the study did not measure their ecological outcomes. Christian participants also expressed environmental responsibility through the concepts of creation and stewardship, suggesting that some ecological meanings associated with *Niam Khasi* may be selectively reinterpreted rather than simply abandoned following religious conversion.

These findings support an understanding of Indigenous Ecological Knowledge as a dynamic and socially embedded knowledge system and identify religious reinterpretation as a possible mechanism of continuity and change. Field observations also documented changes in housing materials associated with availability, cost, and durability, illustrating one way in which modernization affects local material practices. Because the research was conducted in one community with a small purposive sample, it does not establish that all Khasi practices are environmentally sustainable or support conclusions about the effects of climate change across Khasi communities.

Recommendations for Policy and Further Research

Environmental policies and conservation initiatives affecting Khasi communities should be developed through direct consultation with community members and should take locally grounded knowledge and customary institutions into account. Recent conservation-oriented analysis from northeastern India similarly

emphasizes that sacred groves are sustained through community institutions, customary restrictions, and culturally embedded forms of stewardship, which should be recognized in contemporary conservation policy (Rathi 2026). Any inclusion of Khasi ecological knowledge in educational materials should involve appropriate community participation, consent, and attribution. Further multi-site research should combine qualitative analysis of religious and cultural meanings with ecological assessment to determine which practices produce measurable conservation outcomes and how modernization affects their continuity.

Statements

Author Contributions:

Conceptualization, M.A.S. and H.M.K.U.; Methodology, M.A.S. and H.M.K.U.; Formal analysis, H.M.K.U. and M.A.S.; Writing – original draft, M.A.S.; Writing – review & editing, M.A.S. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board / Ethics Statement:

The fieldwork and interviews were conducted from 3 April to 17 April 2024. Before data collection began, the Department of World Religions and Culture and the University of Dhaka granted institutional permission to conduct the research on 3-17 April 2024 (no reference number was assigned). The study did not undergo prior review by an institutional ethics committee. The document WRC/2347, issued on 9 July 2026 by the Higher Studies Committee of the Department of World Religions and Culture, University of Dhaka, constitutes a retrospective ethics review and authorizes for publication of the previously collected data.

Data Availability Statement:

The interview and observational data generated during this study are not publicly available because of participant confidentiality and the sensitivity of research involving a small Indigenous community.

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AI Tools Declaration:

During the preparation of the original manuscript, the authors did not use artificial intelligence tools. During the revision following peer review, AI-assisted editorial suggestions generated with ChatGPT (OpenAI, GPT-

5.5) were used to support language editing, the restructuring and clarification of selected passages, and the checking of consistency between in-text citations and the reference list. QuillBot was used to support language editing. These tools were not used as sources of scholarly evidence or to generate or analyse the empirical data. All AI-assisted suggestions were critically reviewed and approved by the authors, who take full responsibility for the content of the manuscript.

Conflicts of interest:

The authors declare that there is no conflict of interest regarding the publication of this research.

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