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Impact of Climate Change on Psychological Well-being of Indigenous People: A Narrative Review

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ABSTRACT

There were several previous studies that discussed the relationship between climate crisis and mental health. Previous studies have already covered plenty of literature on climate crisis and mental health. The studies conducted to date mainly consider the direct, or the visible consequences, of climate degradation and the effects of a human being from a clinical psychology point of view, such as climate anxiety. However, it doesn't capture the full picture of the crisis. Qualitative work in this field is lacking, and needs to be done to a phenomenological and ethnographic approach to the challenges. This narrative review highlights the results of studies conducted around the world, in different geographical regions, focusing on the psychological impacts of climate change, and especially of climate change on indigenous wellbeing. They are known for their unique cultures and close association with their ancestral land by the indigenous communities. The literature was conducted in a number of recognized scientific databases, published from 2015 to 2025. Seven studies met the inclusion criteria and were included in further discussion. The paper included was about the psychological implications of the indigenous people due to the climate related issues. They have culture and cultural identity which is in close association with their land and their surrounding environment, therefore, the state of their land affects their culture, lifestyle and sense of belonging. As a result of environmental degradation and biodiversity loss, the indigenous communities are increasingly being confronted with environmental problems that cause them psychological distress such as ecological grief, solastalgia, anxiety and identity crisis, which are all linked to their connection with their ancestral land. In addition to these material and economic losses, they are suffering intangible losses such as the loss of traditions, spiritual and emotional disaffection from the land, and loss of social cohesion and social ties within their community, due to the disruption of their ecosystem. This is because these vulnerabilities are not usually considered in mainstream environmental and psychological studies. Research and attention should be paid to those communities and regions that are less represented and are facing specific hardships, and the efforts they are employing to overcome these hardships at the local level. To conceptualise a more culturally relevant model, it is crucial to have a grasp of their traditional ecological knowledge and culture-specific barriers.



Keywords: indigenous people, climate change, psychological well-being, mental health



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INTRODUCTION

Indigenous peoples are the original inhabitants of a region and maintain historical continuity with pre-colonial societies. They possess distinct cultures, languages, and social systems and share a deep connection to their ancestral lands and resources ([United Nations, 2009](#)). The [WHO \(2007\)](#) states that there are about 350 million Indigenous

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individuals worldwide, each with unique cultural identities and histories, who have lived on their ancestral lands for thousands of years.

There are various definitions of Psychological Well-Being. [Carol Ryff \(1984\)](#) describes it as a multidimensional construct encompassing self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relationships with others. The [WHO \(2004\)](#) similarly defines it as a state in which individuals recognize their abilities, manage everyday stressors, work productively, and contribute to their community. [Ed Diener \(1984\)](#) adds that it is a subjective assessment of life marked by frequent positive emotions, infrequent negative affect, and cognitive evaluations of life and overall life satisfaction. However, most of these definitions are rooted in Western individualistic perspectives. For Indigenous peoples, well-being also involves a reciprocal relationship closely tied to their land, community, spirituality, and non-human entities.

The United Nations (UN) characterizes climate action (Goal 13 of the Sustainable Development Goals) as urgent measures to address climate change and its effects. It is viewed not only as an environmental and economic challenge but also as a psychological and cultural crisis. Indigenous communities, whose identities and livelihoods are deeply connected to their natural surroundings, face significant threats to both their physical health and mental well-being from climate change. Increasing evidence links ecological crises to mental health issues such as anxiety, depression, post-traumatic stress, and ecological grief. These effects are heightened for Indigenous peoples due to their close ties to land and ecosystems. Climate change disrupts traditional landscapes, alters practices, and weakens cultural continuity, impacting spiritual, emotional, and social health. Conventional psychological models tend to emphasize biomedical and economic aspects of human-nature relationships, overlooking the relational and holistic view found in Indigenous worldviews. Indigenous notions of mental health emphasize relationships with land, ancestors, community, and spiritual systems. Despite being among those most affected, Indigenous experiences of climate-induced psychological harm are often underrepresented in mainstream research.

Purpose of the review

Climate change is a worldwide problem that directly or indirectly impacts all of our lives and is a constant issue. The popular discussions focus on the physical and observable psychological effects of environmental change but ignore the cultural, emotional and spiritual aspects. The objective of this paper was to integrate the culture-specific struggles encountered by different indigenous communities globally and present a common impediment these people have to deal with in their daily lives. Psychological distress as a consequence to ecological deterioration will be explained to researchers as an issue that must be discussed with this special population. These insights will contribute to the formulation of more inclusive climate policies, as well as to culture-fair psychological models and to the formulation of community therapies which will be more relevant and effective.

Key questions

1. What are the impacts of climate change on the psychological well-being of Indigenous people?
2. How do they define psychological well-being?
3. What are the coping strategies they practice to protect themselves from these problems?

METHODOLOGY

A review of literature was conducted to identify and summarize relevant studies on the effects of ecological disturbances on the mental well-being of indigenous populations from different parts of the world. It is important for this paper to employ a narrative review to combine diverse perspectives and give them a meaningful synthesis that cannot be achieved by any other method. Furthermore, this method delivers an overview by integrating these broad and fragmented findings into a common phenomenon, making it a more valuable resource for researchers interested

in this field ([Baumeister & Leary, 1997](#)). Therefore, a narrative review is essential for building a reliable narration of these topics.

The purpose of this review was to identify the mutual psychological obstacles encountered by these communities and the unique coping strategies they employ while dealing with ecological challenges, and to examine what is already studied about these concerns. The main aim is to sensitize academic bodies to the exclusive complications affecting these vulnerable ethnic cohorts and encourage them to develop more culturally sensitive practices and models.

Search strategy

From an initial search across academic databases, including JSTOR, PsycINFO, Web of Science, and Google Scholar, published in English between 2015 and 2025, approximately 23 studies were retrieved. The keywords and search terms used are “indigenous,” “psychological well-being,” “mental health,” “climate change,” and “solastalgia.” Followed by screening the titles and abstracts of the articles against the inclusion and exclusion criteria, in this stage, 7 studies met the criteria and were retained for further analysis. The studies were excluded because they did not focus on the consequences of natural environmental disturbances on the psychological well-being or mental health of the indigenous population. For instance, research that focuses on the general or urban population or mental distress that arises from other environmental factors that have nothing to do with one’s culture, tradition, religion, or ancestral lands was excluded from this review. The selected papers included both qualitative and quantitative studies, which give more insights and support to the topic with numbers and in-depth interpretations, resulting in a comprehensive understanding of the subject.

Results and Discussion

To indigenous people, the concept of psychological well-being has a different meaning from what we define in the dominant Western psychological models. To them, it is not just about oneself but is defined by one’s relation and engagement with their community, ecological environment, and traditional practices. Across the reviewed studies, three main themes emerged: (1) Indigenous well-being as relational and ecological, (2) climate change as a factor of psychological distress and cultural disruption, (3) Intangible loss and climate injustice, and (4) Indigenous resilience and culturally grounded climate responses.

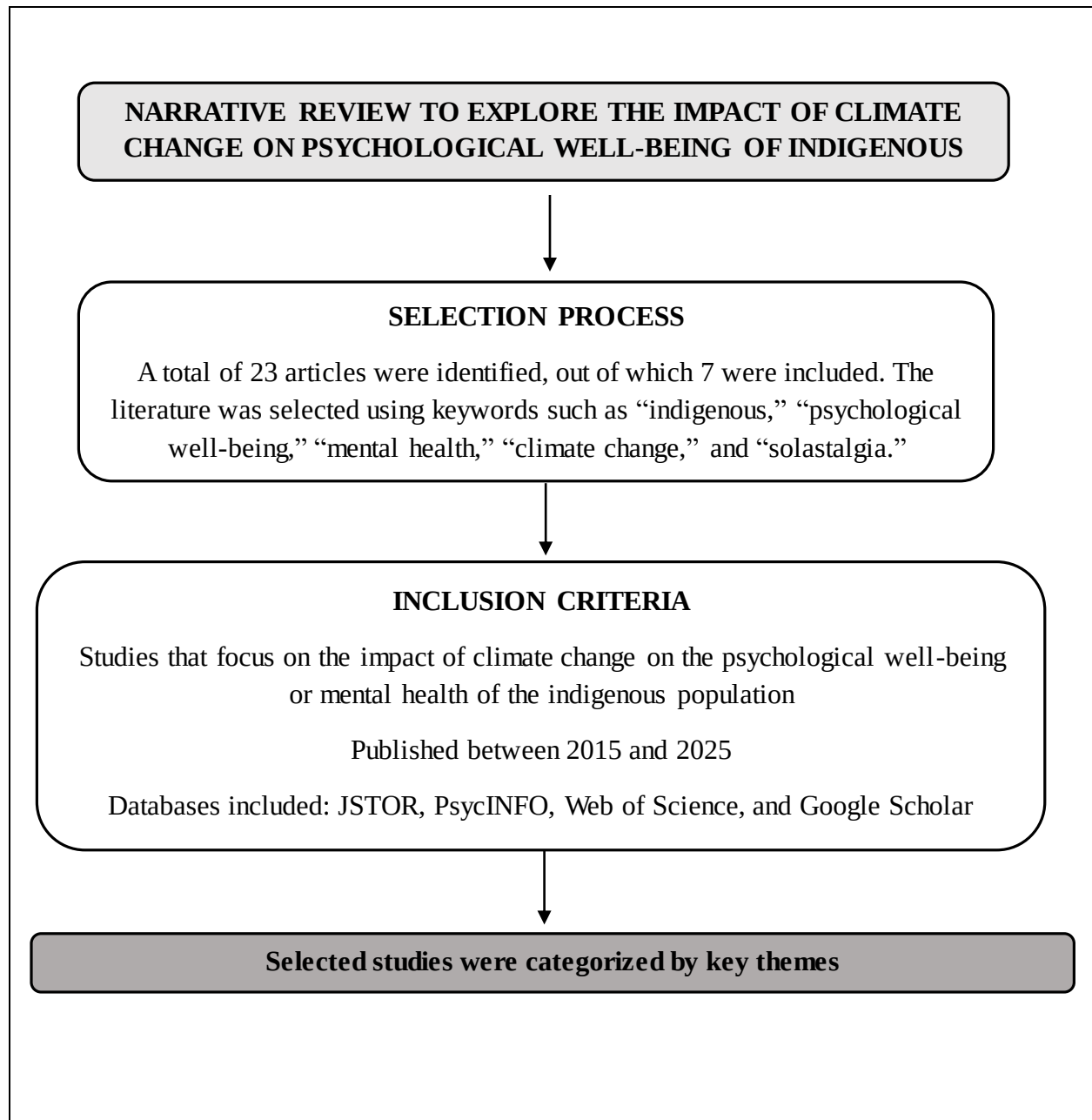


Figure 1: Steps of narrative review methodology.

Table 1: Summary of the findings from studies

Author(s) & Year	Method	Population	Key Findings
Durkalec et al. (2015)	Qualitative case study; participatory and collaborative approach; focus groups, interviews, participant observation	Inuit community members	Sea ice plays a crucial role in well-being, symbolizing freedom, identity, and cultural continuity. Climate change damages sea ice, leading to stress, injuries, and the erosion of emotional, spiritual, and cultural health advantages. Environmental dispossession impacts mental health and community cohesion.
Tschakert et al. (2019)	Systematic comparative analysis of >100 case studies	Indigenous and non-Indigenous communities worldwide	Climate change results in intangible losses such as identity, belonging, and cultural significance. These aspects are frequently neglected but have a profound impact on psychological health and underscore issues of climate injustice.
Middleton et al. (2020)	Systematic scoping review; thematic analysis	Indigenous populations globally	Climate change impacts mental health by causing ecological grief, anxiety, depression, and increasing risks of suicide, while also disrupting cultural continuity. Connections have been found between environmental changes, food insecurity, mobility issues, and attachment to place.
Johnson et al. (2021)	Qualitative case study; conceptual and policy-oriented research	Māori community (Kaipara Māori)	Indigenous well-being is relational and collective, emphasizing community connections. Climate change leads to intangible losses, including spiritual, cultural, and social impacts. There are ongoing calls for Indigenous-centered research frameworks and the incorporation of Indigenous knowledge into climate policy.
Jarillo & Crivelli (2024)	Systematic review (103 articles)	Indigenous Peoples and Local Communities (IPLC)	Well-being is frequently inadequately defined in climate research, underscoring the importance of context-specific, culturally grounded definitions. It also emphasizes the relational and psycho-cultural aspects of well-being in adaptation.
Venhof et al. (2024)	Systematic literature review; thematic analysis	Sámi and other Circumpolar Indigenous communities	Environmental change adversely impacts mental well-being, identity, and cultural practices. It emphasizes the limited research on resilience and strength-based factors and advocates incorporating Indigenous perspectives into mental health studies.
Vela Sandquist et al. (2025)	Scoping review; quantitative and qualitative synthesis	General populations exposed to environmental change (including Indigenous contexts)	Solastalgia is strongly linked to depression, anxiety, and PTSD. It serves as an important concept for understanding the emotional suffering resulting from environmental degradation.

Indigenous Well-being as Relational and Ecological

Across the literature, one common component closely related to the well-being of this population is their relationship with the natural environment and their efforts to adapt to climate change. Damaging their land not only brings health-related issues but also affects them on a spiritual, social, and emotional level. This differs from the predominant Western conception, which sees mental health and well-being at the individual level. Indigenous communities understand that mental health and well-being are interconnected with one's land, the more-than-human, the community, and the ancestors ([Jarillo & Crivelli, 2024](#); [Johnson et al., 2021](#)).

For the Inuit community in northern Canada, the changing environmental conditions, particularly in the sea ice structure, not only affect their physical health and increase stress, but also cause disruptions of place meaning and place attachment. Which ultimately affects their mental/emotional, spiritual, social, and cultural well-being. To these sea ice users, sea ice means freedom; it holds a place-based socio-cultural meaning, and environmental variability, along with the unpredictability of their seasonal cycles, brings about a crisis in their sense of cultural identity ([Durkalec et al., 2015](#)).

Among the Sámi people of the Circumpolar region, reindeer herding is one of the activities that has been passed down through generations. It is not just an economic activity but also sustains their ancestral tradition, culture, and social structure. This activity not just develops their self-worth and ethical pride but also increases community cohesion and individual resilience. Well-being goes beyond the individual level; it is interrelated to their cultural identity, spiritual beliefs, physical health, and also the condition of their reindeer. However, environmental changes disrupt their traditional livelihoods, cultural foundations, and food security, which leads to the erosion of their cultural identity and heritage ([Venhof et al., 2024](#)).

The Māori are the Indigenous Polynesian peoples of Aotearoa, New Zealand. They have a close relationship with their land, water, and spiritual entities, which are central to their cultural identity and spirituality. They view the environment as a living entity with its own life force, and they consider themselves as guardians of their environment, and it's a service to their deities and ancestors to protect the land, rivers, and natural resources. Hence, maintaining a harmonious relationship with nature is essential for their well-being. Activities such as harvesting, fishing, and caring for nature carry spiritual significance, helping them develop a collective identity and a reciprocal relationship with nature ([Johnson et al., 2021](#)).

In many indigenous and local communities, well-being goes beyond individualistic biomedical and anthropological perspectives and is more closely tied to the relationship they have with their natural environments. Their definition of well-being consists of community interconnectedness, holistic bonds with nature, ancestors, and spirits. Environmental degradation caused by climate change, such as land loss, water shortages, and biodiversity loss, erodes their traditional livelihoods, cultural sites, and spiritual connections, which leads to feelings of loss, helplessness, and grief. Collectively, they increase psychological distress, including eco-anxiety and trauma. In these cultures, nature does not appear as a lifeless, independent resource, but rather as part of their selves and their communities ([Jarillo & Crivelli, 2024](#)). This epistemological limitation needs to be addressed in the future development of psychological theories and methods.

Climate Change as a factor of psychological distress and cultural disruption

According to various literature, the effects of climate change, such as melting sea ice, deforestation, species extinction, and disruption of seasonal patterns, can lead to various psychological problems among Indigenous people, including depression, anxiety, suicide, PTSD, substance abuse, and strong emotional reactions. This is due to disturbances in

their place attachment, cultural continuity, food security, forced mobility, and intangible losses such as social networks, identity, and culture. Among the communities, there exist some variabilities in gender, where women are more likely to experience solastalgia, a form of emotional and existential distress experienced when their home environment is changing negatively, even though they are still living in it and they also experience greater fear, frustration, and sadness in response to the impacts of climate change, given their important role in family life and cultural preservation. Whereas men are reported to have higher anxiety and suicide risks related to land-based identity crisis. The ecosystem degradation compounded their generational trauma from colonization, feelings of helplessness, and loss of autonomy. In addition, higher correlation rates were observed among Indigenous communities experiencing long-term artificial environmental deterioration than among those that suffered natural catastrophes. In addition, traditional food systems are one of the most vital components of Indigenous psychological wellbeing. Hunting, sharing food, and related practices strengthen identity, social connections, and people's psychological well-being. At the same time, climate change negatively affects traditional food systems, making them less accessible to people, thereby impacting both physical and psychological well-being ([Middleton et al., 2020](#)).

One of the most common negative psychological effects of environmental change is solastalgia, the distress experienced in response to ecological alterations to one's home environment, a feeling of not being at home even when physically present. Studies reported that there is a moderate positive correlation between solastalgia and depression ($r=0.27-0.53$), anxiety ($r=0.21-0.51$), and PTSD ($r=0.29$). Solastalgia acts as a mediating factor between environmental change and mental health, which leads to strong emotional responses such as sadness, helplessness, and community distress ([Vela Sandquist et al., 2025](#)).

Climate-related disasters, such as floods, droughts, and heatwaves, are among the most common ones, and they vary from one region to another. The studies of such disasters are clustered in regions including northeast India, the Arctic, and the high mountains of the Andes and the Himalayas. For the non-indigenous peoples, they reported more of climate-related issues, such as harm to human life, the economy, and dignity. For indigenous and local communities, the effects of intangible harm (e.g., culture, lifestyle & traditions, mental well-being, sense of place, social fabric, identity, etc.) are more prevalent than those of tangible harm (e.g., economic or infrastructure damage). These intangible harms lead to mental health decline, a breakdown in social cohesion, loss of spirituality, and ecological grief, which describes a feeling associated with the loss of species, ecosystems, and cultural landscapes. Moreover, the psychological impact is heightened by the fear of an unpredictable pattern of future ecological change, as many indigenous communities see climate change as a threat to their physical territory and cultural sovereignty. Importantly, another crucial finding is the unwillingness of many Indigenous communities to relocate despite environmental threats to their communities. Relocation is seen as a form of cultural displacement that affects social networks, spiritual well-being, and connection to ancestral lands ([Tschakert et al., 2019](#)).

In Northern Canada, the safety of the Inuit people is at risk because of the changing ice conditions as a consequence of global warming. The sea ice becomes thinner, and there are many reports of injuries sustained from this unsafe ice condition. To these people, sustaining physical injuries is not the only problem; their cultural identity, traditional practices, and social bonding are closely linked to the sea ice. So, the unpredictability and changing structure of sea ice become a significant stressor. Within this community, older adults are especially vulnerable to climate change, as they have strong ties to the land, have lived in that environment for much longer, and also threaten the transmission of cultural knowledge to younger generations ([Durkalec et al., 2015](#)).

Intangible Loss and Climate Injustice

Climate change is not only about the economic losses it causes, but also about the subjective values it impacts and the erosion of culture. The concept of values, including sense of belonging, cultural identity, spiritual connections, and

social cohesion, is abstract, hard to measure, and yet has a significant impact on climate-related hazards. Indigenous communities are also at risk and they can lose major and irreversible losses in these intangible aspects of life, including in cultural practices, sacred sites and social fabric. The harms are not distributed fairly and indigenous and marginalized groups are disproportionately impacted, even though they contribute a very small amount to greenhouse gas emissions. Moreover, the non-economic losses, which are intangible, are not always taken into account in conventional evaluation, resulting in climate injustice. Understanding intangible losses as real and significant as tangible losses is crucial for tackling climate justice, since it calls for equitable and reparative action for people whose cultural and emotional health has been greatly affected by climate change. (Tschakert et al., 2019). Although their significance may be hard to determine, their impact on psychological health is significant.

Existing studies overwhelmingly focus on the high-income countries of the developed world: Canada, Australia and Northern Europe, leaving aside Indigenous populations from Asia, Africa and Latin America (Jarillo & Crivelli, 2024). This geographic focus restricts the extent to which the findings are generalizable and does not reflect the variety of Indigenous experiences.

Indigenous resilience and culturally grounded climate responses

However, Indigenous peoples are very resilient and adaptable in their cultural practices and knowledge systems. Traditional Ecological Knowledge (TEK) has also been identified as a key factor in climate adaptation and environmental care, which highlights sustainability and balance (Johnson et al., 2021). The psychological resilience is acquired through cultural practices, which include rituals, ceremonies, natural environment in the form of activities, stories, etc., and through the identification with one's culture, a sense of belonging and the sense of spirituality (Jarillo & Crivelli, 2024). These practices ensure continuity and meaning in the face of changes in the environment.

Resilience can be identified among youth, especially those living in Circumpolar regions, who actively participate in efforts to revive their culture and protect the environment. Values such as responsibility, cultural pride, and self-reliance serve as protective factors against climate-related psychological challenges (Venhof et al., 2024). Families and communities help build resilience by providing support and using collective coping strategies. The results of this review stress the importance of utilizing a strengths-based perspective in discussing Indigenous people's mental health in relation to climate change.

CONCLUSION

The findings from the review demonstrate that the psychological well-being of Indigenous peoples is holistic, relational, and ecologically-based. Climate change poses a significant threat to their psychological well-being by disrupting the environmental, cultural, and spiritual systems that sustain Indigenous identities and ways of life. Climate change is not just an environmental and economic challenge but also a significant psychological and cultural crisis. Indigenous communities face various emotional reactions like ecological grief, solastalgia, anxiety, and identity loss, all closely tied to the destruction of their ancestral lands (Vela Sandquist et al., 2025; Tschakert et al., 2019). These effects are intensified by intangible losses, including the decline of cultural heritage and spiritual ties, which are frequently neglected in mainstream climate discussions. On the other hand, resilience within Indigenous communities is sustained by traditional ecological knowledge, culture, and social connections (Johnson et al., 2021). These aspects can serve as useful lessons for creating culturally based mental health programs and climate change adaptation measures. It is critical to consider several implications arising from this literature review. The psychological well-being of Indigenous individuals needs to be addressed by creating culturally-relevant policies that take into account land-based and community-oriented interventions for dealing with psychological issues. Importantly, Indigenous peoples must be recognized as key stakeholders and leaders in climate action. Nonetheless, there are some significant

issues to address in the future. Few studies focus on low- and middle-income Indigenous communities in Asia, Africa, and Latin America, and researchers should consider conducting longitudinal investigations to examine the long-term effects of climate change on people's well-being (Jarillo & Crivelli, 2024). Future research should prioritize Indigenous-centered frameworks and collaborative methodologies. In conclusion, addressing the psychological impacts of climate change on Indigenous peoples requires integrating Indigenous worldviews into both psychological research and climate policy. Such integration is essential for promoting holistic well-being, cultural preservation, and climate justice.

AUTHOR DECLARATIONS

CRediT Author Statement / Author contributions

Thoidingjam Rimota Devi: Conceptualization, Methodology, Formal analysis, Investigation, Writing — original draft, Visualization, Writing — review & editing.

Gangmumei Kamei: Formal analysis, Visualization, Conceptualization.

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