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Climate Crisis and Indigenous Well-being: Ancestral Land, Psychological & Ontological Impact, and Resilience in Fijian Communities

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Abstract

This study investigates the impacts of the climate crisis (CC) on the ancestral lands of Indigenous Fijians, examining the associated psychological and ontological aspects. This study adopts an Indigenous methodology to demonstrate two Indigenous Fijian communities' intense connection with their ancestral lands, how CC has disrupted this relationship and their psychological reactions to these disruptions. Additionally, it investigates how CC has undermined the ontological security of Indigenous Fijian communities, affecting their collective epistemic identity. This research introduces the term 'pre-traumatic stress' to capture the anxiety and distress confronted by individuals in these Indigenous communities when faced with possible relocation due to CC. Data analysis revealed that in addition to psychological consequences like eco-grief, eco-stress, and solastalgia, the ontological foundation of these Indigenous communities is persistently disrupted. The study's findings offer valuable insights into the climate-related pre-traumatic stresses impacting frontier Indigenous communities and the ontological changes linked to CC. While some aspects are unique to the context of Indigenous Fijians, the insights provided can inform policies to enhance the psychological welfare of frontier Indigenous communities, preserve cultural integrity, and foster community resilience. This perspective will lead to the development of adaptation strategies that are culturally sensitive, sustainable, and equitable, while also recognising the significance of Indigenous knowledge in tackling the global climate crisis. Such a viewpoint broadens the climate crisis discourse to encompass both cultural and psychological dimensions.

Introduction

The ongoing climate crisis (CC) brings about a range of challenges that go beyond the immediate ecological consequences. It requires a holistic understanding and exploration, including the extent of these impacts on the psychological and cultural dimensions of climate-threatened communities. While many studies have focused on the impacts of the climate crisis and ways to mitigate, adapt, and build resilience, there hasn't been much exploration into the CC and mental health discourse (Hayes et. al, 2018). This study explores this area by focusing on the psychological well-being of two Fijian indigenous communities at the forefront of the climate crisis.

In doing so, this study aims to highlight not only the climate-related impacts on indigenous communities' ancestral lands but also the profound impacts on the psychology and ontology of the two indigenous communities. This study does not only seek to raise awareness about the complex impacts of CC on indigenous Fijian communities but also aims to expand existing research, policies and preparedness strategies, and to prioritize mental health and cultural preservation in CC frontier communities. It fills a research gap especially when it comes to Pacific Island indigenous communities by considering the psychological and ontological aspects of potential relocation due to CC.

Literature Review

Indigenous perceptions and experiences of the climate crisis

Indigenous communities globally are significantly affected by the climate crisis, which has profound impacts their traditional practices and livelihoods. Their in-depth environmental understanding, captured in their traditional ecological knowledge (TEK), has historically allowed them to adapt to climatic variations. This knowledge, rooted in generations of interaction with

the environment, highlights adaptive strategies to environmental changes (Berkes et al., 2000; Xu & Rana, 2005). In the Eastern Himalayas, the change of livestock grazing practices by the Lachenpas and Dokpas in response to changing climate conditions such as reduced snowfall demonstrates the dynamic nature of TEK (Ingty & Bawa, 2012). However, the relevance of TEK faces challenges from the unpredictability brought about by the climate crisis. Studies from diverse regions, including Himachal Pradesh in India and rural Ghana, show indigenous communities adapting their agricultural practices due to changing weather patterns, highlighting the ineffectiveness of TEK due to CC (Cobbinah & Kwadwo Anane, 2015). In Northern Alaska, research shows that recent climate changes exceed indigenous knowledge expectations, highlighting a mismatch between TEK and current environmental conditions (Carothers et al., 2014). While indigenous experiences often align with scientific understandings of climate change, there are notable inconsistencies. For instance, Quechua farmers in Bolivia view climate change through a moral and spiritual lens, diverging from scientific interpretations (Boillat & Berkes, 2013). This diversity in understanding highlights the complexity of TEK and the importance of integrating these rich perspectives into climate-related discourses and policies.

Small Island Developing States (SIDS) and Pacific Island Countries & Territories (PICTs) face greater vulnerabilities due to the climate crisis, with sea-level rise (SLR) posing significant existential threats (Martyr-Koller et al., 2021; Petzold & Magnan, 2019; Thomas et al., 2020). The geographical and environmental specificity of these communities highlights their acute vulnerability to climate impacts, including coral bleaching and native biodiversity loss. Kelman (2018) emphasizes the importance of acknowledging the unique experiences of island communities in the climate narrative, advocating for TEK-driven community-level adaptation and resilience strategies. Research within PICTs reflects a complex understanding of climate

impacts, with indigenous communities identifying drought, cyclones, and erosion among key concerns (Nunn et al, 2024; Raisele & Lagi, 2023). The cultural emphasis on 'sharing and caring' within these communities fosters adaptive strategies, highlighting resilience in the face of climate crisis (Beyerl et al., 2018). Studies in Vanuatu and Fiji have illustrated the strong ties to land and culture, with internal relocation preferred over cross-border relocation, stressing the importance of land to identity and cultural continuity (Perumal, 2018; McNamara & Combes, 2015).

The psychological impacts of the climate crisis on indigenous communities

The climate crisis (CC) also bears significant psychological impacts on indigenous communities, with the loss of land and cultural disruption leading to conditions such as solastalgia and eco-anxiety (Albrecht et al., 2007; Cunsolo-Willox et al., 2013). These emotional responses, rooted in the deep connection to land, highlight the need for further research on the mental health implications of CC, particularly in the Pacific region where sociocultural systems and heritage are intimately linked to the environment (Asugeni et al., 2015; McNamara & Gibson, 2009).

The threat of the CC to cultural heritage is profound, with UNESCO and other organizations emphasizing the need for global collaboration and adaptive management to protect cultural sites (Bosher et al., 2019). The integration of traditional knowledge into disaster risk reduction and climate adaptation strategies is highlighted as crucial for preserving both tangible and intangible cultural heritage (Raisele, 2021; Raisele & Lagi, 2023) which plays a vital role in maintaining community identity and resilience (Perkins and Kruse, 2018). This review sets a foundation for exploring the complex impacts of the climate crisis on Indigenous Fijian

communities, focusing on the disruption of their ancestral lands and the ensuing psychological and ontological effects.

Methodology

This study investigates the psychological and ontological impacts of the climate crisis on two indigenous Fijian communities. Utilizing the Community Engagement Protocol (Raisele & Lagi, 2023) derived from the Vanua Research Framework (VRF) developed by Nabobo-Baba (2008) and the Na Bu ni Ovalau Research Framework (NBnORF) by Lagi (2015), which respects indigenous perspectives and traditions, this methodology aims to empower Indigenous peoples to reclaim their knowledge systems and narratives (Vunibola et al, 2024). The VRF and NBnORF guided this study, emphasizing traditional protocols, values and customs at the heart of the research process (Nabobo-Baba, 2008) bearing in mind that different *vanua*[1] communities may have variations in their traditional practices (Lagi, 2015).

This study focused on two Indigenous Fijian villages, Nukui and Vunisavisavi. These were chosen for their firsthand experiences with the climate crisis, including the challenges posed by rising sea levels, highlighting their status as frontier communities in the fight against climate change. Funded by the University of the South Pacific (USP), the study adhered to the ethical standards set by the USP Research Office, ensuring alignment with the Vanua Research Framework's (VRF) and Na Bu ni Ovalau Research Framework's (NBnORF) core values of respect, reciprocity, and community empowerment. This careful selection and adherence to ethical guidelines underscore the commitment to conducting research that is not only

[1] Refers to land, sea, sky, spirit, people and how they are related to and with each other.

methodologically sound but also deeply respectful and beneficial to the communities involved.

Data Collection Approach

The study utilized the Indigenist Approach adhering to the Community Engagement Protocol (CEP) and *Veitalanoa*[2]. Community Engagement Protocol (CEP), rooted in indigenous Fijian methodologies, involves traditional ceremonies like *sevusevu*, where researchers seek formal consent from village chiefs through a gift of *yaqona* (piper methysticum), ensuring the team's commitment to ethical conduct (Raisele & Lagi, 2023). Following CEP, *Veitalanoa* (multilogue; free flowing conversations) sessions were conducted in the local language and facilitated in-person, guided by the research topics and ensuring respectful knowledge exchange. The *veitalanoa* sessions were conducted with the following focus group:

- 15 youth (ages 18-30)
- 15 women (age 30+)
- 15 men (age 30+)

Context

Nukui Village is located in the Rewa province on the southeastern coast of Viti Levu, Fiji's largest island. It faces significant environmental challenges such as coastal erosion and sea-level rise (SLR). On the other hand, Vunisavisavi is a village in the Cakaudrove province,

[2] Multilogue, an Indigenous Fijians culturally accepted way of conversing or sharing of ideas in the local language. The rules of engagement are established during the *sevusevu* where who is to participate in the discussion, what is to be discussed, how and where is established.

situated below steep hills on the eastern coast of Vanua Levu—Fiji's second-largest island. This village is known as the ancestral home of the Tui Cakau, the Paramount Chief of the Cakaudrove province. Similar to Nukui, Vunisavisavi confronts its own environmental challenges, notably the impacts of sea-level rise. This comparison of two distinct yet environmentally challenged communities highlight the widespread and diverse nature of the climate crisis across Fiji's landscape.

Analysis Approach

In our analysis approach, the research team engaged youth, women, and men from both communities to ensure diverse perspectives. We recorded and transcribed *veitalanoa* sessions from each focus group, following the emphasis on data triangulation for validity (Carter et al., 2014). This process allowed each demographic to affirm their views within peer groups before broader discussion, capturing the complex experiences of these communities with CC. The team conducted a thematic analysis, synthesizing conversations into three key themes: impacts of CC on ancestral lands, psychological reactions, and ontological and epistemic shifts, highlighting how CC disrupts their connection to land and alters community identity and knowledge.

Findings

Table 1 below presents an overview of thematic themes along with codes derived from transcribed findings. These findings highlight a profound connection between CC and its diverse effects on the two indigenous communities.

Table 1: An overview of thematic themes and codes from veitalanoa sessions in Nukui and Vunisavisavi villages.

Theme	Nukui village codes	Vunisavisavi village codes
Effects of the climate crisis (CC) on ancestral lands and community	Sea level rise, changed weather patterns, saltwater intrusion into farms, destruction of ancestral burial sites.	Sea level rise, Resistance to relocation, concern over sacred sites being affected by SLR, emphasis on cultural heritage preservation.
Psychological reactions to CC effects	Stress, worry, solastalgia, fear of cultural dislocation and loss of traditional roles, and concerns over heritage sites.	Concerns about rising sea levels affecting sacred sites, fear of cyclones and saltwater intrusion, worries about future generations.
Ontological and epistemic shifts within the community	Identity tied to land and sea, existential threat to traditional role as *Gonedau* (traditional fisher-folk) role, potential loss of social and cultural identity.	Preservation of cultural heritage and sacred sites as central to community well-being and identity, resistance to relocation for heritage preservation and traditional role as *Sauturaga* (kingmakers).

1. Effects of the climate crisis on communities' ancestral lands.

Nukui Village: participants shared significant environmental changes, including sea level rise impacting farmlands and ancestral sites, and changing weather patterns affecting traditional weather forecasting.

> "Na tubu ni iyalayala ni waitui. Uwa sa yaco mai vanua." [There is sea level rise. The shoreline has moved inland] (youth focus group)

> "Iliu, oira na qase era se kila rawa na draki, era se rawa ni tukuna. Gauna qo, na draki sa sega soti ni tukuni rawa na drake." [In the olden days, our ancestors could forecast weather. Now we cannot predict weather changes compared to before] (women focus group)

Vunisavisavi Village: In contrast, Vunisavisavi residents emphasize the cultural impacts of SLR on sacred sites, prioritizing heritage preservation over relocation. Their refusal to move,

despite government advice, underscores the importance of safeguarding the chief's ancestral site from SLR.

> "Na tiko na koro qo e dua ga na ka keimami lomaleqa tiko kina na tubu ni yalayala ni waitui sa vakacacana vakalevu na neimami yavu tabu." [In this village, the only thing that we are worried about is sea-level rise that is badly affecting our sacred site] (men focus group)

> "Ratou lako mai na matanitu me caka na toki, keimami sa qai vakarogotaka vei Tui Cakau sa qai tukuna o koya ena sega ni caka na toki vakaveitalia se cava e takoso e bibi tiko na kena tawani na yavu kei na vanua." [Government representatives came and told us to relocate and then we conveyed the information to our chief (Tui Cakau) he opposed the idea and told us that we will not move unnecessarily, what is more important is to stay and preserve our cultural heritage] (youth focus group)

2. Psychological reactions to these effects

Nukui Village: Nukui villagers report various stresses, including worry, sadness for their village has changed drastically (solastalgia), and fear of relocation affecting their culture and traditional roles. This is especially true for the Gonedau (chief's fisher-folk), for whom identity and livelihood depend on their fishing grounds.

> "Na itavi ga, ike keimami kilai tani na gonedau. Qo na ka keitou kilai tani kina. Koya ga qo keitou leqataka, na yaco na gauna na ka ya sa na, sega ni macala na qai cava caka tiko." [Our traditional roles as traditional fisher-folk. This is our identity and what we are known for. This is what we are worried about, that a time might come, and we are not certain of what we will be doing] (youth focus group)

> "Rivariva bi taki tiko na vanua o Nukui baleta na loka. E sega ni dua na delana era na dro kina na tamata. Oya edua na ka au dau lomaleqataka tiko, ni na cabe mai na loka, sega ni dua na vanua na dro kina na lewenikoro." [We are quite worried about tidal waves, as there are no high grounds in this village for villagers to escape to] (women focus group)

Vunisavisavi Village: Residents worry about protecting their sacred sites and the community's risk from severe weather, including cyclones and saltwater intrusion. They share a

common fear for their children's future and safeguarding cultural landmarks from natural disasters.

> "Na tiko na koro qo e dua ga na ka keimami lomaleqataka tiko kina na tubu ni yalayala ni waitui sa vakacacana vakalevu na neimami yavu tabu." [In this village, the only thing that we are worried about is rising seas that is badly affecting our sacred site] (women focus group)

> "Na leqa levu talega keimami sa dau vakasamataka tu na qase e ra na qai lei toki I vei o ira na neimami gone kevaka me keimami sa na takali yani." [One of our biggest worries and concerns too is the future of our children. Where will they relocate to if the village becomes inundated and encroached with sea water] (men focus group)

3. Ontological and epistemic shifts within the community

Nukui Village: For Nukui villagers, land and sea are crucial to their identity, tradition, and livelihood, providing ontological security. Climate crisis-induced relocation threatens these connections, risking a significant shift in their cultural continuity and self-identity. The *Gonedau's* (traditional fisher-folk) dependence on their *iqoliqoli* (fishing grounds) illustrates the potential loss of their social and cultural identity if relocation were to happen.

> "Na vuna beka ga au kaya kina na via dredre na toki baleta ga na vei yavu makawa etu. Kevaka keimami na toki sa na sega ni vaibalebale tu na neimami tu, na ka keimami kilai kina na neimami yavu makawa. Kena ikarua keimami qara ga iwai, sa matau tu ga vei keimami na bula mai kina, na sasalu ni waitui. Ni keimami na toki sega ni macala keimami na toki ivei. Sega ni macala keimami na lai vulica tale beka se cava na ka keimami na bula kina na vanua keimami na toki kina. Sa na via taura tale toka dua na gauna. Sega ni vaka na tu ike, sa lako tu ga mai." [The reason relocation will be a challenge is that we have our ancestral sites here. If we are to relocate, our life becomes meaningless, as what we're known for, and our ancestral sites are no longer. Secondly, our livelihood will be always tied to the sea. If we relocate, we don't know where we will relocate to. We are not sure if we are going to have to learn again how to survive in the new place. This will take a lot of time] (women focus group)
>
> "Na marama era sega ni dau vakararavi vei ira na watidra. Era dau rawata ga na nodra bula, ia era sa dau vakararavi tu ga ena veika e rawa mai waitui. Edua ga na vanua ni vaqaqara, iwai ga. Ke mani yaco mai na gauna me keimami toki, sa na sega ni macala me vaka keimami sega ni kila na vanua keimami na toki kina. Mai liu mai liu, keimami sa bula ga mai wai." [Women here do not depend on their husband. They can survive on their own and they always depend on the sea for their survival. The sea is our only source

> of living. If a time comes for relocation, we are not sure as we do not know the new land. From the earlier times, we have always relied on the sea for our survival] (women focus group)

Vunisavisavi Village: Participants emphasize protecting cultural heritage, viewing the land as a guardian of history, traditions, and community welfare. Their resistance to relocation highlights a commitment to preserving ancestral legacies and their spiritual relations to their land. Prioritizing sacred site preservation reflects the community's deep connection to their roots, crucial for their spiritual and material well-being.

> "Keitou maroroya tu qo na delaniyavu na Lalagavesi kei na nona sautabu. Keimami sa kila na vinaka ni muri lewa me keimami mai tawana tiko ga na vanua qo veitalia se cava se cava." [We are preserving our paramount chief's sacred site and his burial site. We have experienced the benefits of obeying chiefly advise for us to remain on this land regardless] (men focus group)

> "E levu na ka e tu na koro qo koya keimami maroroya tiko e vurevure tiko ni neimami bula vinaka kei na bula sautu." [There are a lot of cultural sites in this village that we are preserving which is our source of wellbeing and good fortune] (youth focus group)

Both communities show a deep bond with their environment, significantly affected by CC across cultural, psychological, and ontological aspects. Nukui villagers highlighted how climate threats endanger their livelihoods and identities, while Vunisavisavi focused on protecting their cultural heritage from climate impacts. Their stories illustrate the intricate relationship between CC and cultural identity, mental wellbeing of indigenous communities, showcasing their united resilience through a strong connection to their *vanua*.

Resilient Strategies

Participants from both villages shared resilience strategies rooted in their deep cultural, social, and traditional connections to their *vanua*, showing strong resistance to relocation. Their identity is closely tied to their *vanua*, leading them to employ adaptive and mitigative strategies

against CC. This reflects their strong dedication to maintaining their way of life, ancestral lands, and heritage.

Nukui village resilience strategies

Environmental Conservation: Villagers are actively planting mangroves to control coastal erosion and tackle SLR, demonstrating their commitment to environmental protection.

Infrastructure and Preparedness: They have built seawalls using local materials to reduce seawater intrusion and formed a natural disaster committee, working with the Red Cross on emergency preparedness, showcasing proactive measures for safety.

Community Mobilization: Sharing weather updates community-wide ensures everyone is informed and ready to respond to natural disasters promptly.

Vunisavisavi village resilience strategies

Cultural preservation: Prioritizing the protection of cultural sites, especially the ancestral land called *Tui Cakau Yavu-Lalagavesi*, highlights the community's commitment to their identity and prosperity.

Community support and healing: The village strengthens its community bond through collective efforts like solesolevaki (working together) and using spaces like the church for supportive conversations, aiding in post-disaster rebuilding and emotional recovery.

Solidarity in recovery: A unified approach to disaster recovery, engaging the entire community in helping affected families, showcases their solidarity. The church's leadership in these efforts

emphasize the role of spiritual support in enhancing resilience. Testimonies from Vunisavisavi include:

> "Keimami dau cakacakavata kei na solesolevaki me vakataucokotaki/vakacokotaki kina na bula se na veika era sa yali me keimami veivuke vei ira era vakaleqai." [We work together in rebuilding the lives of those that were affected and families that are in need] (men focus group)

> "E levu na gauna sa dau vakayagataki na lotu me liutaka na cakacaka baleta e dau yaga sara vakalevu ena kena dau caka na veivakayaloqaqataki kei na kena dau sagai me vakalesui mai na nodra vakasama na tabagone, gone kei na qase." [In most cases we have been utilizing the church to lead the rehabilitation process after disasters because the church is important in the lives of our people to heal the trauma and the struggle in our families in times of crisis] (youth focus group)

Both villages show strong adaptive responses to CC, weaving contemporary and traditional methods to boost resilience. Nukui prioritizes environmental and infrastructural solutions, while Vunisavisavi focuses on preserving cultural heritage and adopting spirituality as a resilience strategy. Their strategies highlight innovative approaches to mitigating and adapting to CC and a profound relationship with their *vanua* environment and traditions. This illustrates resilience's complexity, involving physical, cultural, and psychological aspects, and highlighting the importance of holistic communal collaboration in addressing CC.

The impacts of CC on the two Indigenous Fijian communities reveal significant disruptions to their ancestral lands, psychological well-being, and ontological security. Through an indigenous methodology, this study has highlighted the profound connections these communities have with their ancestral lands and the severe challenges posed by CC, including the onset of pre-traumatic stress associated with the anticipation of forced relocation. In the discussion section, it will examine the implications of these disruptions, focusing on pre-traumatic stresses associated with CC, eco-grief, eco-stress, and solastalgia, and how they undermine the ontological foundations and collective epistemic identity of these communities.

The discussion will extend to examining how these findings can inform policy development, ensuring that adaptation strategies are culturally sensitive, sustainable, and equitable. This approach aims to highlight the necessity of incorporating indigenous perspectives into global climate action, advocating for policies that support the psychological health, cultural preservation, and resilience of indigenous communities at the front lines of the climate crisis.

Discussion

The impacts of the CC on the ancestral lands, psychological well-being, and ontological security of Nukui and Vunisavisavi villages, as identified above, demonstrate the extent of CC impacts. The adoption of the Vanua Research Framework (VRF) and Na Bu ni Ovalau Research Framework (NBnORF), indigenous paradigms respecting the communities' traditions, enabled the discovery of the diverse impacts of CC in Nukui and Vunisavisavi. The *veitalanoa* sessions within these communities highlighted their strong connection to their *vanua*, which is significantly impacted by CC.

The psychological impacts of the climate crisis on indigenous communities have emerged as a critical area of concern in this study. In Nukui and Vunisavisavi villages, pre-traumatic stress, eco-grief and solastalgia are already being experienced by the villagers. Eco-grief, according to Ágoston et al (2022), is an umbrella term for which emotional distress and anxieties related to climate change fall under. Pre-traumatic stress disorder associated with CC can be moderate to extreme anxiety relating to an impending environmental crisis (Gifford and Gifford, 2016). In Nukui and Vunisavisavi, villagers are beginning to worry about the impacts of SLR on their heritage sites. Translated excerpts from Nukui's transcribed data revealed:

- Stressful & worrisome to Nukui villagers as SLR continues to inundate their village, decrease in the number fish & sea creatures caught. These are crucial as sources of food & income.
- Their whole livelihood is dependent on their *iqoliqoli* (fishing grounds). The notion of relocation is an added stressor & worry as throughout their lives, they have depended on their *iqoliqoli* (fishing ground). Living and farming on a foreign land for their livelihood will be a new experience. They may need to learn new skills and traditional knowledge, take on new traditional roles and consequently identity.
- Villagers are also expressing solastalgia (distress from environmental transformation) as their land is beginning to be transformed from CC. Sea-level rise has contributed to saltwater intrusion to their subsistence farmlands and homes and coastal erosion increasingly becoming a common occurrence encroaching into their homes.
- They are also worried that there might come a time when they will forget their traditional roles and obligations as *Gonedau* (traditional fisher folk) due to a decrease in fish numbers in their *iqoliqoli* and ultimately there would be no fish left. Also, the notion of relocating due to SLR would affect their traditional roles as *gonedau*.

Similarly, the villagers of Vunisavisavi express deep-seated concerns over the intensifying impacts of the climate crisis, notably SLR and the impacts on their environment and sacred ancestral site the *Yavu-Lalagavesi.* Their testimonies reveal a community grappling with the immediate threats of saltwater intrusion, intensified sea waves, and the potential destruction brought on by cyclones, which not only threaten their ancestral lands but also pose existential questions about the future and safety of their children and future generation.

Amid these challenges, the villagers are proactively suggesting measures like planting mangroves to fortify their shores, yet the pervading sense of worry highlights a reality where the anticipation of climate-induced relocation and its effects has become a daily concern. This collective anxiety, articulated through the voices of the Vunisavisavi community, vividly illustrates the phenomenon of pre-traumatic stress, highlighting the real and present distress experienced by indigenous Fijian communities in the face of looming climate crises.

The insights from the villagers of Nukui and Vunisavisavi illuminate a profound reality: eco-grief and eco-stress are not abstract concepts but lived experiences for these indigenous Fijian communities facing the brunt of the climate crisis. The psychological landscape here is marked by pre-traumatic stress, a term Gifford and Gifford (2016) describe as ranging from moderate to extreme anxiety about impending environmental crises. This aligns closely with the villagers' expressed fears over SLR affecting their heritage sites and the viability of their traditional livelihoods, such as fishing, which are foundational to their identity and survival.

This study's findings resonate with the broader discourse on eco-grief and eco-stress, as explored by scholars like Cunsolo and Ellis (2018), who detail the emotional toll of environmental loss and change. The villagers' experiences of solastalgia—a term introduced by Albrecht et al. (2007) to describe the distress caused by environmental alterations in one's home environment—further highlights the complex psychological impact of the climate crisis. The narratives from Nukui, where villagers articulate stress and worry over the loss of fish and the transformative impact of SLR on their land, exemplify this distress. Similarly, the concerns in Vunisavisavi about the future of their children and the protection of sacred sites such as *Yavu-Lalagavesi* from SLR highlight the intersection of eco-grief and the anticipatory stress of potential relocation.

Moreover, the proactive steps suggested by villagers, such as planting mangroves, while indicative of their resilience, also speak to a pervasive anxiety about the future. This aligns with Clayton (2020), who discusses the importance of recognizing and addressing the mental health impacts of the climate crisis. The actions and worries of these communities reflect an engrained eco-stress, where the environmental crisis threatens not just physical well-being but also cultural heritage and identity.

Therefore, integrating the lived experiences of the Nukui and Vunisavisavi villagers into the broader academic discussion on eco-grief and eco-stress not only validates these concepts but also highlights the urgent need for culturally sensitive policy interventions. These should aim not only to mitigate the environmental impacts of climate change but also to support the psychological resilience and well-being of Indigenous communities deeply connected to their ancestral lands. The realities faced by these communities highlight the critical role of indigenous knowledge and practices in formulating responses to climate challenges, advocating for a holistic approach to climate adaptation that encompasses both environmental and psychological well-being.

Ontological security and epistemic identity

Testimonies from Nukui and Vunisavisavi villages vividly illustrate how the climate crisis is not just an environmental issue but embedded with these two indigenous communities' ontological security and collective epistemic identity. Ontological security is a concept that involves material, social, and cultural security reassuring a sense of identity, stability, continuity, and order in one’s life (Campbell, 2019). It is crucial in understanding how individuals and communities perceive their existence and identity within the world (Farbotko, 2019; Hawkins & Maurer, 2011; Pileggi & Lamia, 2020). The insights from Nukui and Vunisavisavi villages

highlight the disruption of ontological security as their physical and cultural landscapes are threatened by the climate crisis, thereby impacting their collective epistemic identity — the shared knowledge and understanding that form the basis of their communal identity (Alcoff 2010; Osbeck and Nersessian, 2017). Ancestral lands, fishing grounds, farmlands, and heritage sites are part of these communities' epistemologies, and when disrupted by the CC impacts, their epistemic identity is also disrupted.

For Nukui villagers, the *iqoliqoli* is not merely a fishing ground; it represents their ontological security, providing a sense of purpose, identity, and continuity. The role of Gonedau (traditional fishermen) transcends an occupational status, embedding within it the social and cultural structure of the community. This identity, tied to the *vanua iqoliqoli* and the land, faces existential threats from climate-induced environmental changes, notably SLR. The prospect of relocation due to these changes signifies not just a physical displacement but a profound dislocation of their ontological and epistemic foundations. This echoes the findings in environmental psychology literature, such as those discussed by Devine-Wright (2013), which examine place attachment and identity in the context of environmental change, emphasizing how disruptions to physical environments can lead to a crisis of identity and belonging.

Similarly, the villagers of Vunisavisavi articulate a deep connection to their ancestral lands, viewing them as repositories of history, culture, and *mana* (spiritual power). The resistance to relocation, as advised by government representatives, highlights a collective prioritization of cultural heritage over physical safety, highlighting the integral role of these lands and sites in their ontological security and epistemic identity. This stance aligns with the broader discourse on Indigenous peoples' rights and environmental justice, which advocates for

the recognition and preservation of Indigenous lands and cultures as essential components of their identity and well-being, as explored in works of Whyte (2017) and Tauli-Corpuz (2016).

The narratives from both villages contribute to the growing body of literature on the psychological and cultural impacts of the climate crisis on Indigenous communities. By examining these experiences through the lens of ontological security and epistemic identity, this study highlights the deep implications of environmental disruptions on the very essence of community identity and continuity. As articulated by Albrecht et al. (2007) in the concept of solastalgia, the distress caused by environmental change in one's home environment can lead to a diminished sense of belonging and identity. These findings from Nukui and Vunisavisavi not only elaborate on the reality of such distress but also call for an in-depth understanding of the impacts of the climate crisis, transcending physical loss to encompass the loss of cultural, social, and ontological security.

In summary, engaging with the broader discourse on eco-grief, eco-stress, and solastalgia, the experiences of the Nukui and Vunisavisavi villagers illuminate the intricate ways in which climate change disrupts ontological security and challenges collective epistemic identities. This emphasizes the need for CC policies and interventions that are culturally sensitive and inclusive of Indigenous knowledge and perspectives, ensuring the preservation of both the environment and the cultural and epistemic continuities of Indigenous communities.

Policy Recommendations

The study is proposing the following key policy recommendations:

1. Mental Health Support and Services: Given the documented eco-grief, eco-stress, and solastalgia experienced by the Nukui and Vunisavisavi communities, it is imperative for

policies in Fiji to establish mental health support services tailored to the unique cultural contexts of these communities. Such services should aim to address the psychological impacts of CC, recognizing the importance of cultural sensitivity and the integration of indigenous healing practices. Collaborations with local community leaders can ensure that mental health programs are respectful of and integrated with traditional knowledge and practices.

2. Land Rights and Cultural Heritage Preservation: The extensive connection between Indigenous communities and their ancestral lands necessitates policies that prioritize land rights and the protection of cultural heritage. This includes legal frameworks that recognize and protect indigenous lands from climate-related and developmental threats. Policies should facilitate the active participation of indigenous communities in land management and decision-making processes, ensuring their autonomy over land use and conservation efforts. Additionally, mechanisms should be established to document and preserve cultural heritage, especially in cases where relocation becomes a necessity, to maintain the continuity of cultural and epistemic identities.

3. Indigenous-Led Climate Adaptation Initiatives: Supporting and funding indigenous-led climate adaptation projects is critical. Policies should encourage the weaving of indigenous knowledge and practices in broader climate adaptation efforts, recognizing the value of such knowledge in developing effective and sustainable strategies. This includes recognizing and integrating TEK in environmental monitoring, resource management, and conservation practices. Furthermore, policy frameworks should facilitate the co-creation of adaptation strategies with indigenous communities, ensuring that such strategies are aligned with community values, needs, and aspirations.

4. Weaving Indigenous knowledge and practices for CC adaptation and mitigation into the national school curriculum is essential. This approach not only prepares the younger generation to cope with the impacts of climate change but also equips them with the skills necessary to develop culturally sensitive interventions. By incorporating these traditional insights, students gain a comprehensive understanding of sustainable practices and are empowered to contribute effectively to community-based responses to environmental challenges.

The integration of these policy recommendations into national and international climate action plans would not only address the immediate needs of Indigenous Fijian communities facing the climate crisis but also serve as a model for inclusive, culturally sensitive, and sustainable climate governance. By prioritizing mental health, cultural preservation, and indigenous knowledge, these recommendations aim to foster resilience and well-being among indigenous populations, ensuring their voices and rights are central to climate crisis responses.

Conclusion

This study has demonstrated that the climate crisis significantly impacts the ancestral lands, psychological well-being, and ontological security of indigenous Fijian communities, notably Nukui and Vunisavisavi. Through indigenous methodologies, it has illuminated the intricate ways these communities experience and respond to environmental changes, revealing a deep-seated eco-grief, eco-stress, and solastalgia. The findings of this study highlight the necessity of integrating indigenous knowledge and perspectives into climate adaptation strategies to ensure they are culturally sensitive and supportive of the communities' psychological health and cultural continuity. By highlighting the resilience strategies of these communities, this study

contributes to the broader discourse on climate crisis, advocating for policies that prioritize the well-being and ontological security of indigenous peoples. In essence, it calls for a holistic approach to climate action, one that recognizes and values the interconnectedness of culture, identity, and the environment in the face of global environmental challenges.

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