The Mental Health Impacts of Climate Change-Induced Threats to Indigenous Food Sovereignty

by

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Nā Aria Ngarimu

Mihi:

Tukua te wairua kia rere ki ngā taumata
Hei ārahi i ā tātou mahi me tā tātou whai i ngā tikanga ā rātou mā
Kia mau, kia ita, kia kore ai e ngaro, kia pupuri, ia whakamaua, kia tina!
Hui ē! Tāiki ē!

In Braiding Sweetgrass, Potawatomi botanist and author, Robin Wall Kimmerer said:

> Something is broken when the food comes on a Styrofoam tray wrapped in slippery plastic, a carcass of a being whose only chance at life was a cramped cage. That is not a gift of life; it is a theft.
>
> (2013, p. 48).

One of the byproducts of capitalism is the replacement of intimate, localised food systems with intensive, large-scale food production systems whereby food becomes a commodity that solely exists to serve humanity. As a result of this overconsumption, we are becoming more and more disconnected from our food. How many of us know where our food comes from and the impact it has had on the environment in order to reach our plates? The consequences of this system are becoming increasingly visible as the effects of anthropomorphically induced climate change escalate. Although everyone is suffering, it is those with close relationships to their environments that stand to lose the most. As this review shows, there is strong evidence that the erosion of food sovereignty due to climate change is contributing to negative mental health outcomes for Indigenous Peoples.

Yet, where there is a problem, there is always a solution and as alluded to by the karakia, the answers lie within our cultures and wisdom of our ancestors. Indigenous ways of living evolved through generations of observation, adaptation and knowledge sharing, deeply embedded in relationships with the natural world. Indigenous mental health outcomes can be improved

through food sovereignty: through connection to traditional food practices, the intergenerational transmission of knowledge and restoring the relationships between people and the environment that sustains them.

From an Indigenous perspective, food is more than calories and nutrition; food is the platform upon which their relationship with the environment sits. Food shapes culture and identity, and when Indigenous Peoples enact food sovereignty, they are also reclaiming their autonomy, strengthening their community and improving their overall and mental wellbeing. As we continue to navigate climate change, it is these Indigenous philosophies that are rooted in reciprocal relationships of respect and balance that offer a pathway forward.

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Kia mau, kia ita, kia kore ai e ngaro. Let us hold fast to these teachings so that they may never be lost.

Introduction

Overview

In 2021, the World Health Organisation (WHO) declared that “climate change is the single biggest health threat facing humanity” (p. 2). The effects of climate change are widespread, permeating various aspects of people's lives. Although climate change is a global phenomenon affecting every region across the globe, communities who have contributed the least to climate change, including Indigenous Peoples, tend to be disproportionately impacted (IPCC, 2023; Middleton, 2020; Cunsolo Willox et al, 2012; United Nations Permanent Forum on Indigenous Issues (UNPFII), 2009).

The impacts of climate change are multidimensional, affecting communities in a plethora of ways including among other things, threatening or eroding their food sovereignty, which has direct implications for the mental health and wellbeing of Indigenous peoples. For Indigenous Peoples worldwide, the health of their environment is often an accurate reflection of their own health. Indigenous philosophies typically exemplify this relational worldview; for Māori, the whakataukī "Ka ora te whenua, ka ora te tangata" (when the land is healthy, the people are healthy) articulates the interdependence between environmental and human wellbeing (Durie, 2003, 1999, 1998). Similarly, for the Tseshaht people of the Northwest Coast of North America, the proverbial saying, "ḥačatakma ċawaak" (everything is interconnected) guides their relationships with the natural and spiritual worlds (Coté, 2022, p. 8). Therefore, the impacts of climate change on food sovereignty are amplified for Indigenous Peoples, especially for those who live in areas vulnerable to climate change where their economies rely on the environment. This is especially so for those already at risk of chronic health burdens, and those who are generally experiencing the effects of systemic marginalisation, colonisation and inequity (Middleton et al., 2020). For Indigenous Peoples, food is more than just sustenance – it is medicine that heals the physical, spiritual, relational and mental aspects of wellbeing (Huambachano, 2019; Coté, 2022). Therefore, climate change, which threatens Indigenous food sovereignty also poses a serious risk to the mental wellbeing of Indigenous Peoples.

This review examines literature at the intersection of climate change, food sovereignty and Indigenous mental health. While it is widely acknowledged that the effects of climate change are and will disproportionately affect Indigenous Peoples, there is a lack of literature on the intersection between climate change, food sovereignty and mental health, particularly in Aotearoa New Zealand (hereafter, Aotearoa). As a result, the review extends Aotearoa to other Indigenous communities, aspiring to connect and empower Indigenous Peoples in realising their food sovereignty ambitions as a means of mitigating negative mental health impacts linked to climate change.

The overarching theme to emerge from this process was the deeper significance of food to Indigenous Peoples. Three subthemes provide more definition: (1) environmental loss and cultural grief, (2) disruptions to food systems and community identity, and (3) resilience and adaptation through Indigenous knowledge. Throughout the review it became apparent that despite widespread recognition on the vulnerability of Indigenous Peoples to the effects of

climate change, there remains a lack of understanding on how this plays out. Building on such recognition, the themes in this review contribute further understanding on the intricate relationship between food, culture, identity and wellbeing for Indigenous Peoples. In particular, they reveal how environmental degradation not only threatens physical sustenance but also disrupts cultural continuity, intensifies emotional and psychological distress and undermines community resilience. At the same time, however, the findings underscore the strength and adaptability of Indigenous knowledge systems, demonstrating that food sovereignty is not only a means of survival but also a powerful framework for healing, resistance, and self-determination in the face of climate change.

Key concepts

Before proceeding, it is worth discussing some key terms and concepts related to the research question at hand to enable an understanding of the broader context in which climate change, kai sovereignty and the mental health of Indigenous People can be conceptualised.

The Intergovernmental Panel on Climate Change (IPCC) has confirmed that anthropogenic activities have "unequivocally caused" global warming (IPCC, 2023, p. 4). In its Sixth Assessment Report (AR6), it outlines observed climate-induced changes including increased frequency of weather and climate extremes such as heatwaves, heavy precipitation, rising sea levels, droughts, and tropical storms (2023). These shifts have led to food and water insecurity, particularly for communities living in environments highly vulnerable to climate change (IPCC, 2023). In this context, Indigenous Peoples are consistently identified among those most at risk (IPCC, 2023; Middleton, 2020; Cunsolo Willox et al, 2012 UNPFII, 2009).

The United Nations (UN) has refrained from providing a strict definition of the term 'Indigenous' and instead promotes an inclusionary approach (UNPFII, 2009). Drawing on Cobo's (1987) research, the concept of "Indigenous" could be described as:

> Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their

> continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system. (United Nations Permanent Forum on Indigenous Issues, 2009, p. 4-5).

Indigenous communities are "distinct and unique", and literature that discusses pan-Indigenous Peoples often emphasise this fact (Coté, 2022, p. 43). However though, Indigenous communities are diverse, they share a common worldview in which all elements of existence are interconnected (Coté, 2022; Roberts, 2013).

The term "sustainable food systems" (SFS) was defined by the Food and Agriculture Organisation of the United Nations (FAO) (2018, p. 1) as "a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised".

Climate Change, Indigenous Food Sovereignty and Mental Health

Climate change significantly alters the way the Earth's biosphere, cryosphere and atmosphere operate, creating vulnerable ecosystems. This destruction leads to the loss of intergenerational symbiotic relationships between people and place, affecting food production, hunting and gathering practices. The concept of food sovereignty was first proposed at the World Food Summit in 1996 by La Via Campesina, an international movement aiming to connect those who exist outside large-scale food systems, including Indigenous Peoples (La Via Campesina, 1993). They defined food sovereignty in the Nyéléni Declaration as:

> ... the right of peoples to healthy and culturally appropriate food produced through socially just, ecologically sound and sustainable methods, and their collective right to define their own policies, strategies and systems for food production, distribution and consumption. (La Via Campesina, 2007, p. 1).

The concept of Indigenous food sovereignty builds on this definition by including relational responsibilities between Indigenous Peoples, the land, and all living beings (Hutchings, 2020; Indigenous Food Systems Network, 2006). Before the 1990s, food security discussions focused primarily on ensuring a stable food supply. "Food security" is still used today and is defined by the U.S. Department of Agriculture as "access by all people at all times to enough food for an active and healthy life" (National Research Council, 2006, p.1). The introduction of "food sovereignty" represents a fundamental shift, recentring food within Indigenous cultures,

traditions and self-determination (Maudrie et al, 2023). It is not simply concerned with whether food is available, but also with what the kind of food available, where it came from, and who was involved in its production and distribution. According to La Via Campesina:

> Food sovereignty does not align with the capitalist values that uphold large-scale food production methods, in contrast, it shortens the distance between consumers and providers, placing producers, distributors and consumers at the centre of food systems and policies (2007, p. 1).

Traditional ecological knowledge, which positions humans as equal to or subordinate to their environment, is central to the concept of food sovereignty (Huambachano, 2019). However, climate change-induced disruptions to the ecosystems and economies on which Indigenous food sovereignty are based have been linked to mental health challenges such as "ecological sorrow or anxiety" in Indigenous populations, threatening traditional ecological knowledge (Shoib et al., 2024, p. 616). Despite contributing the least to climate change, Indigenous Peoples have and will be the most affected by it (Nash et al. 2018). The mental health impacts discussed in this review are not strictly diagnosable psychological conditions but also encompass strong emotional responses and feelings.

It is also important to note that colonisation has played a significant role in disrupting Indigenous food systems, through land loss and often using hunger as a tool to control Indigenous populations and force dependence on colonial food systems (Robin et al., 2022). This disruption has weakened the relationship between Indigenous Peoples and their food sources. As a result, the pursuit of Indigenous food sovereignty is also an act of decolonisation (Jernigan et al., 2023; Robin et al., 2022; Coté, 2022; Hutchings, 2020) as a way of resisting such imposed controls.

Methods:

Literature Review

This review is part of a Summer Internship project funded by Ngā Pae o Te Māramatanga, Aotearoa New Zealand's Māori Centre of Research Excellence and is part of a larger Health Research Council-funded research project [24-399 Exploring the Mental Health Impacts of Climate Change on Kai Sovereignty]. The purpose of this literature review is to explore the

intersection between climate change, food sovereignty and mental health in Indigenous People.

Electronic search engines such as Google, Google Scholar, and University Library Databases such as Te Waharoa from Victoria University of Wellington, were used to establish the broad parameters of the review. Selection criteria prioritised content relevance over the academic credentials of the author. While many of the texts were peer-reviewed, prioritising qualitative literature ensured that crucial Indigenous perspectives were not arbitrarily excluded. Most of the literature was qualitative, focusing on peoples' lived experiences rather than quantitative data. Therefore, in this review, we opted to focus on qualitative literature, with some quantitative literature included where necessary.

First, a search was conducted using key terminology. The search terms included:

"indigenous" "native" "aboriginal" "food sovereignty" "food security" "food insecurity" "mental health" "climate change" "climatic change" "climate anxiety" "climate stress" "eco-anxiety". Framing the searches around these key words and combinations enabled scope and definition to the literature catchment.

Most literature that focused on a discussion of all three elements of the research question were included. Some texts did not explicitly state that Indigenous Peoples were the subjects of the research, but where it was clear that it was about Indigenous Peoples the research was included. Likewise, some texts used the term "food security" instead of "food sovereignty", but the ideas being discussed aligned with the concept of food sovereignty; in these cases, the literature was not excluded.

This review only included texts that were written in the English language, so there would likely be more literature on this matter to be considered. Over 40 sources were identified, some peer reviewed and others less formal.

Thematic Analysis

The literature was analysed thematically (Braun & Clarke, 2006) which in this review included using close script reading techniques and peer review to identify commonalities and points of difference in the catchment. This approach allowed for the identification of recurring patterns across a diverse range of texts while also recognising variations in how climate change, food

sovereignty and mental health intersect in different Indigenous contexts. The key themes to emerge from this analysis are discussed below in the Findings section of this review.

Findings & Discussion

Themes

Using a systematic review of academic and popular literature enabled a backdrop of instances that connect climate change, food sovereignty and mental health and wellbeing in Indigenous peoples. The key themes developed through this process highlight that the mental health effects of climate change are often characterised based on whether they arose through direct or indirect causal pathways (Vecchio, 2022; Clayton, 2014). Regarding Indigenous mental health outcomes related to climate change effects on food sovereignty, the overarching theme is that food sovereignty goes beyond mere sustenance and offers a pathway to mental health solutions. Within this overarching theme, three subthemes emerged: (1) environmental loss and cultural grief, (2) disruptions to food systems and community identity, and (3) resilience and adaptation through Indigenous knowledge. The literature tended to focus on the mental health issues caused by climate change on Indigenous food sovereignty, or took a positive perspective by discussing the solutions food sovereignty offers to Indigenous mental health outcomes in the face of climate change.

Overarching Theme: Going Beyond Sustenance – The Deeper Significance of Food

A recurring theme in the literature is that food is not merely a means of sustenance for Indigenous Peoples, it has a deeper significance tied to identity, culture and wellbeing. Climate change threatens these connections, and the practices associated with them, exacerbating mental health challenges. Food sovereignty, in an Indigenous context, represents a holistic approach that inherently promotes mental health and overall wellbeing within Indigenous communities through the aforementioned connections.

A comprehensive study in Rigolet, a remote coastal community in the easternmost province of Canada, Newfoundland and Labrador, conducted by Cunsolo Willox et al. (2013), linked environmental challenges to mental health issues, emotional responses, and large-scale sociopsychological change. The study identified numerous negative implications, including strong emotional reactions, elevated rates of mood disorders, anxiety, chronic stress, domestic

violence and conflict, suicidal ideation and suicide, loss of identity and purpose and substance abuse (Cunsolo Willox et al., 2013, p. 256). Importantly, the research highlights how the inability to practice traditional food systems due to climate change directly amplifies the risks associated with mental illness and potential comorbidities. Participants reported that activities such as hunting, fishing and gathering are not only sources of sustenance, but also integral to their mental and emotional wellbeing. Although the study focused on the effects of climate change in the Circumpolar North, research indicates that similar adverse impacts are occurring in Indigenous communities worldwide (see for example Gibson et al., 2020; Galappaththi et al., 2021; Middleton et al., 2020). Middleton et al. (2020) further emphasise that rapid environmental shifts will both trigger new and amplify existing mental health challenges for Indigenous Peoples, particularly through disruptions to place attachment and Indigenous identity. There were several possible direct and indirect pathways that could trigger these impacts, some relating to food sovereignty and some not.

While mental health is influenced by multiple factors, research consistently demonstrated a strong correlation between the inability to practice food sovereignty and negative mental health outcomes. Many of the study's participants reported that activities such as "hunting, fishing, trapping, and travelling to cabin not only provide sustenance and livelihoods, but also a deep sense of mental and emotional solace" (Cunsolo Willox et al. 2023, p. 261). Participants said that changes in the environment caused by climate change could invoke strong emotional reactions including impacts on "mental health and well-being: increased family stress; observed increases in drug and alcohol usage; reported potential for increases in suicide ideation; and the amplification of previous traumas" (Cunsolo Willox et al., 2023, p. 262). While these findings specifically reference the Circumpolar North, research shows that Indigenous communities globally are experiencing similar challenges as climate change disrupts their ability to practice food sovereignty (see for example Walker et al., 2021; Steckley, 2024; Shoib et al., 2024; Meek, 2018; Huambachano, 2019; Gibson, 2020; Galappaththi et al., 2021; Furberg et al., 2011; Cunsolo Willox et al., 2015; Cunsolo Willox et al., 2012; Cunsolo Willox et al., 2013; Bunce et al. 2016; Bryson et al., 2024; Blanchet et al., 2021).

According to Middleton et al. (2020) in a systematic scoping review of global literature, the rapid climate-change related environmental shifts will trigger new and exacerbate already existing mental health challenges for Indigenous Peoples. While these changes will manifest

and be experienced in different ways, they all have potential to disrupt place attachment and indigenous identity, aggravating Indigenous mental health statistics (Middleton et al., 2020). There is a growing awareness that food sovereignty practices play a crucial role in promoting Indigenous mental health and wellbeing. In this context, enacting food sovereignty reconnects people to traditional food sources, strengthens individual and community wellness, and asserts cultural and political autonomy (Coté, 2022).

Subtheme One: Environmental Loss and Cultural Grief

Climate change-induced environmental loss has profound psychological and cultural effects on Indigenous communities. Many Indigenous cultures are deeply connected to the land, water and ecosystems, meaning that environmental degradations result in a form of "cultural grief", particularly when Indigenous food sovereignty is threatened. Building on this notion, Huambanchano (2019) and Hutchings & Smith (2024) emphasise that food is not just nourishment, but a form of cultural expression and autonomy. The erosion of ecosystems coincides with the erosion of traditional food systems, which undermines self-sufficiency and disrupts the transfer of intergenerational knowledge, disconnecting people from their ancestors and contributing to feelings of isolation (Snook et al., 2020). Furthermore, they found that the decline of the woodland caribou populations due to several stressors including climate change, has had significant negative health and wellbeing impacts on the Indigenous Peoples who live across Canada and "rely on the caribou for food, culture, livelihoods and well-being" (2020, p. 8178). Similarly, other Indigenous Peoples such as the Inuit have an established relationship with the caribou that spans over thousands of years, and the sudden population decline is having serious impacts on Inuit mental, physical and emotional health (Snook et al., 2020).

The loss of traditional hunting grounds, fishing territories and plant-harvesting areas due to climate change represents more than just a physical displacement; it severs ancestral ties and disrupts intergenerational knowledge transfer. In many Indigenous worldviews, the environment is not just a resource but a living entity with which communities maintain reciprocal relationships (Harmsworth et al. 2016; Whyte 2017; Moewaka Barnes and McCreanor 2019). As these landscapes change or disappear, it makes it more difficult for the associated cultural practices, stories and identities tied to them to survive, exacerbating mental health challenges tied to the value of the environment and culture for Indigenous Peoples.

Conversely, Coté (2022) and Meek (2018) discuss how food sovereignty acts as a buffer against climate-related trauma.

The White Earth Anishinaabe Tribal Food Policy Draft emphasises the importance of the relationship between Indigenous health and wellbeing and their traditional Anishinaabe foods and explain how the effects of climate change negatively impact the health and economy of the people, social indicators that are clearly interlinked (White Earth Land Recovery Project, 2012). These compounding effects illustrate the profound mental health burden of climate-related disasters and the necessity of integrating mental health support into climate adaptation and disaster response strategies for Indigenous communities.

Subtheme Two: Disruptions to Food Systems and Community Identity

Extreme climate change weather and events can have detrimental impacts on Indigenous food systems, affecting the availability, accessibility and quality of traditional foods. The effects include disruption and destruction to infrastructure and local ecosystems relied upon for food production and threats to family and community members. These disruptions have significant cultural and psychological consequences, as food is deeply tied to identity, intergenerational knowledge transfer, and social cohesion within Indigenous communities. When access to traditional foods and systems is restricted by climate change effects, it not only threatens food security but also weakens the social and relational fabric that sustains mental wellbeing. The erosion of the systems that uphold food sovereignty contribute to a loss of collective agency for Indigenous Peoples, leading to feelings of stress and uncertainty about the future.

In East Africa, increasing flooding risks leading to infrastructure damage has been linked to negative health outcomes (Atwoli et al., 2022). The destruction of homes, healthcare facilities, and essential services not only disrupts daily life but also contributes to heightened stress, anxiety, and post-traumatic stress disorder (PTSD) among the affected populations (The Royal Australian & New Zealand College of Psychiatrists, 2020). Displacement caused by severe flooding can lead to social disconnection, loss of cultural and community ties, and prolonged uncertainty about the future, all of which are significant risk factors for depression. Additionally, food and water insecurity following infrastructure damage can exacerbate psychological distress, as individuals and communities struggle to meet basic needs.

In a literature review by Lebel et al. (2022, p. 321), of the 26 studies reviewed, over half found that “land-based activities, which are taught across generations, were reported to be essential for cultural pride, self-value, confidence, motivation, and a sense of self-determination". This finding highlights the significance of food sovereignty as more than just the ability to produce food – food sovereignty is about having control over the systems that sustain the community; it is an expression of cultural identity and without these traditions, Indigenous communities risk losing a vital component of their collective resilience.

Food sovereignty serves as a mechanism for social cohesion, reinforcing familial and community relationships. Coté (2022, p. 66) discusses the significance of wild salmon to the Tseshaht people, explaining how during the summer months, the community would “come together every Sunday for a community Fishing Day”. While this activity was important for feeding the community, Coté reflected the significance of this day in how it strengthened community and familial bonds in a “context of reciprocity”, with everyone having a role to play (2022, p. 69). However, climate change is disrupting the reciprocal, intergenerational relationships between Indigenous Peoples and their environment, making Indigenous food systems increasingly unstable. The Anishinaabe Food Policy Draft echoes this concern, noting that environmental instability challenged Indigenous Peoples’ self-sufficiency, leading to stress and identity struggles (White Earth Land Recovery Project, 2012, p.1).

Tuvalu et al., (2020) provide more context, observing how the impacts of climate change to fishing and marine life and to crop growing are undermining mental health outcomes in their community. For example, 62.24% of the study’s participants reported “at least one extreme indicator of distress i.e., extreme *fanoanoa* (sadness), *manavase* (worry/anxiety), *kaitaua* (anger), or *se lei*, *se malosi/vaaivai* (poor health)” (Gibson et al., 2020, p. 4). Likewise, Tiatia et al. (2023) found that these outcomes existed all throughout the Pacific, with climate change being a key aggravating factor for mental wellbeing outcomes.

Similar observations were made in the previously discussed research by Cunsolo Willox et al. (2013), where study participants reported that changing climate conditions were disrupting their ability to access the land and participate in land-based activities, causing them to feel stress within themselves and their families. Participants also reported that “they themselves, family members or friends, were consuming more alcohol or drugs due to a sense of boredom of not being out on the land, lack of purpose, or loss of identity” (Cunsolo Willox et al., 2013,

p. 263). These observations are exacerbated by the fact that the psychological strain caused by climate change on food systems is linked to an increase in suicidal ideation and suicide (Cunsolo Willox et al., 2013; Meek, 2018).

Subtheme Three: Resilience and Adaptation through Indigenous Knowledge

Despite the challenges outlined in the previous section, Indigenous knowledge and food sovereignty practices are increasingly being recognised as powerful tools for enhancing Indigenous mental health. Indigenous-led food sovereignty movements emphasise self-sufficiency, land stewardship and the revitalisation of traditional food systems as both climate adaptation strategies and pathways to mental wellbeing (Coté, 2022). Reclaiming control over food systems not only ensures access to culturally significant foods but also strengthens collective identity, intergenerational knowledge transmission and self-determination (Panelli & Tipa, 2009; Taiapa et al., 2021).

Coté (2022) highlights how Indigenous food sovereignty is deeply intertwined with mental well-being, demonstrating how reconnecting with traditional food sources fosters individual and collective resilience. For example, "integral to coastal Indigenous people's cultures is the social gathering or feast known as the Potlatch", a social event where everyone would come together for significant occasions in the community (Coté, 2022, p. 41). One of the community members who hosted a Potlatch for the naming of their children, described the feeling of being able to feed their guests over five gallons of qaałqaawi, wild blackberries, that their family had harvested themselves, as "my proudest moment" (Coté, 2022, p. 41).

Other research has highlighted the ways that both Māori and Quechua food sovereignty initiatives serve as a form of resistance to colonial food systems (Huambachano, 2019; Taiapa et al., 2021, Hutchings, 2020) and a way to reclaim traditional wisdom, creating a sense of empowerment and self-determination. According to Hutchings (2020) such initiatives enable identity connections, tikanga and mātauranga embedded within places of belonging that effectively position Indigenous Peoples as 'co-producers of nature' (p. 47).

Beyond cultural revitalisation, Indigenous food systems provide direct mental health benefits through active engagement with the land. Research on Indigenous fisheries and agriculture demonstrate how communities adapt to climate change while maintaining cultural integrity, leading to confidence in their community members (Galappththi et al., 2021; Petheram et al.,

2010). Studies from Haiti (Steckley, 2024) and Panamá (Walker et al., 2020) highlight the effectiveness of community-driven food initiatives in fostering psychological resilience and social stability. Wittman (2023) commented that intensive, industrial food systems are the very barriers preventing communities from meeting their food and resource needs, and the food sovereignty movement could hold many solutions.

By reinforcing land-based healing and education grounded in Indigenous philosophies, food sovereignty strengthens both mental health and environmental stewardship. Holistic climate adaptation strategies that centre Indigenous leadership and knowledge are essential; as shown by the literature, frameworks that support Indigenous sovereignty over food and natural resources can mitigate climate-induced mental health challenges while enhancing environmental sustainability.

Conclusion:

This review has explored the profound connections between Indigenous food sovereignty, climate change, and mental health. In doing so it seeks to contribute towards better understanding the vulnerability of Indigenous Peoples to the impacts of climate change on their ability to maintain sovereignty over their own food systems. Of particular concern is the undermining of mental health due to environmental loss, cultural grief, the loss of food systems, and the further breaking down of community identity. From this perspective the loss of kai sovereignty and the broader cultural fabric of food work in Indigenous communities due to climate change presents a significant public health issue that will be disproportionately borne by Indigenous Peoples.

However, despite the ongoing impacts of colonisation and environmental degradation due to climate change, Indigenous communities worldwide continue to assert their rights over food systems, drawing on ancestral knowledge to navigate the challenges of a changing climate. Multiple instances around the globe highlight that Indigenous food sovereignty is more than a solution for food insecurity, but also, a powerful mechanism for cultural revitalisation, self-determination, and psychological resilience, all of which lead to more positive mental health outcomes for Indigenous peoples. Through the lens of this review, Indigenous-led food initiatives are shown to foster mental well-being by reinforcing identity, intergenerational knowledge transmission, and community cohesion. From Māori and Quechua

agricultural practices to Potlatch traditions and community-driven projects in Haiti and Panamá, these initiatives show the ways Indigenous Peoples are actively shaping their own futures. By embedding cultural knowledge within land stewardship, Indigenous communities reaffirm their roles as caretakers of both the environment and collective well-being.

As climate change intensifies, holistic adaptation strategies that centre Indigenous leadership and knowledge are essential. Policies and frameworks that support Indigenous sovereignty over food and natural resources will not only enhance environmental sustainability but also mitigate the mental health impacts of climate-related morbidity. Recognising and upholding Indigenous food sovereignty as vital component of resilience can contribute to a more just and sustainable future, one where Indigenous Peoples thrive, their knowledge is valued, and their well-being is prioritised.

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