Our Lands, Our Minds: Research and Action Agenda on Indigenous Mental Health in a Changing Climate

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Foreword by the Authors

The threads of ecological unravelling and social fractures weave a tapestry that defies straightforward solutions. Amid this warming and warring world, we must expand our maps, recalibrate our compasses and acquaint ourselves with the realities of one another. We are asked to engage in exercises of encounter and dialogue, for these bridges offer a bedrock from which collaborations can strengthen connection, trust and belonging.

During this short project, as Indigenous dialogues research leads, we engaged in an intentional process of honouring community knowledge and making it central to our process. Trust-building and cultural sensitivity were essential for fostering trust and connections; we committed to upholding these principles in all our engagements. We worked with partners and collaborators at each stage of the process, recognising the vital need for intercultural approaches to this intersection between climate change and mental health. We are extremely grateful to the members of our Advisory Group and our inter-community dialogue partners who have guided the project throughout, providing critical feedback and insights into the process of shaping these dialogues, and who will also play a crucial role in continuing efforts stemming from this project.

Each person who participated in the dialogues is a collaborator and contributor to this project. We thank each and every collaborator that contributed to this work - not only for their insights, but above all, for their trust and generosity. Given the vastness and cultural richness of Indigenous populations across the world, the findings and recommendations offered in this report represent only a minute aspect of the incredibly rich tapestry of cultures and individual experiences.

Lastly, and importantly, what our Indigenous collaborators, partners and advisors shared are not only crucial perspectives, insights or strategies. The root to understanding this workstream is in recognising that what the project – and the professionalised sectors of mental health and climate science at large – may refer to as strategic frameworks or recommendations are profound ways of world-making for Indigenous Peoples, embedded in a thick braid of ancestral knowledge and plural intelligences beyond academic knowledge. While we are encouraged to take these insights as sails for navigating the rough waters ahead, please keep in mind that such an exercise cannot capture the depth of embodied ways of being.

This is primarily an invitation to humility for all – and especially those who hold institutional power – to listen and learn from those who have lived through many world-endings about other ways of relating to our webs of life, our health and each other. An encouragement to learn from their determination and worldviews, demonstrated through unwavering concern, robust advocacy and tangible care for the Earth's lands, skies and waters.

Executive summary

Climate change is increasingly recognised as a threat to mental health, compounding risks for poor mental health outcomes and destabilising the conditions needed for good mental health.[1,2] Connecting Climate Minds (CCM) is a Wellcome-funded initiative to cultivate a collaborative, transdisciplinary climate change and mental health field with a clear and aligned vision. Over the last year, we have convened experts across disciplines, sectors and countries to develop regional and global research and action agendas. These agendas set out 1) research priorities to understand and address the needs of people experiencing the mental health burden of the climate crisis, and 2) priorities to enable this research and translate evidence into action in policy and practice. This report presents a research and action agenda for climate change and mental health for Indigenous Peoples.

Indigenous communities grapple with myriad challenges stemming from climate change that significantly affect their mental health and which are systematically compounded by histories of colonisation and structural oppression. Some of the most significant challenges surfaced in the CCM dialogues that are causes *and* consequences of the climate crisis include the detrimental impacts of extractivism, struggles for land rights and the lack of territorial sovereignty, which intensify disconnection from land and collective vulnerability to loss and damage. Limited access to clean water, disruptions in food sovereignty and forced displacement and migration – driven by climate change-related issues, extractive industries and development projects – amplify mental health and wellbeing challenges in these communities and disrupt traditional practices that confer ecological and psychological resilience. Furthermore, the impact of climate change on cultural practices, coupled with the desecration and loss of sacred sites, results in a profound loss of cultural identity. At the root of all these challenges are deep-seated colonial legacies, coupled with drastic contemporary environmental transformations, which compound the complex issues faced by Indigenous populations.

Certain subgroups within Indigenous communities – including Elders, environmental defenders, widows, children, those with existing health conditions, displaced people living in temporary settlements, those with disabilities and those residing in reservations – confront disproportionate challenges related to mental health and climate change.

To foster right relations[3] with the environment and promote healing for both people and land, it is imperative for researchers, policymakers and practitioners to adopt frames that align with Indigenous worldviews. Research, policies, programmes and practices that acknowledge and support the importance of cultural practices and dynamic transmission – two-way communication and feedback between Indigenous worldviews and Western biomedicine that helps find common ground – can contribute to building and maintaining positive connections between Indigenous communities and their environment. This approach not only promotes mental health but also contributes to the overall wellbeing of both people and the planet.

Building from our dialogue with representatives from Indigenous Groups, this agenda puts forth priority research themes covering myriad areas, including:

- Understanding the mental health effects of climate-related disruptions to traditional practices, rituals, sacred sites and spiritual connections to the land

- Exploring how various factors, such as intergenerational trauma stemming from colonial violence and the compounding stress of climate-related crises, can intensify the impacts of climate change on mental health
- Exploring how to integrate ancestral and traditional medicinal approaches into co-created and culturally appropriate climate-mental health interventions
- Understanding the impact of territorial sovereignty on mental health in the context of climate change
- Understanding the barriers to climate-mental health support, particularly for Indigenous Peoples in remote/rural areas

The research team, with guidance from the Indigenous Advisory Group, has been mindful to assert the non-homogeneity and recognise the vast diversity of Indigenous Peoples' perspectives and experiences across the world. While key lessons and findings are important, the most substantial aspect of this work is related to the process of engagement with Indigenous collaborators. Future research in this area can benefit from the lessons on enabling collaborations in research and implementing processes which support right relations, Indigenous sovereignty and ownership of knowledge. Key process lessons from this work included adapting informed consent protocols to align with Indigenous sovereignty, centring access for non-English speaking participants and prioritising Indigenous framings on mental health and climate change, such as by using the lenses of ecological wellbeing and kinship relationships over Western biomedical framings. Programmes such as ours are a step towards building connections between different ways of knowing and doing. This is vital to help support and advocate for integrating these approaches into wider climate and mental health action.

Figure 1: Visual Summary of Virtual Indigenous Dialogue

Introduction

Context

Climate change and mental health are two of our greatest global challenges, and awareness of the intersection between mental health and the climate crisis has grown rapidly in recent years.[4] Climate change exacerbates mental health challenges by increasing exposure to extreme heat and the traumas of extreme weather events,[5] destabilising the conditions needed for good mental health and wellbeing (for example, water and food insecurity, forced migration, polluted air, loss of treasured environments),[5] disrupting access to healthcare,[6] and increasing psychological distress through awareness of climate threats and insufficient climate action.[7] People living with mental health challenges are also particularly vulnerable to the stressors of the climate crisis, such as increased risk of physical heat stress and death during heatwaves.[8, 9, 10]

In response to the mounting mental health toll of the climate crisis, research in the climate and mental health field has grown rapidly. Nevertheless, key evidence gaps exist in many regions, including the mental health burden attributable to climate change, the pathways and mechanisms underlying these impacts, the co-benefits of climate action for mental health and the best interventions or solutions to support mental health in a changing climate. Climate change and mental health research remains frustratingly disconnected across disciplines, sectors, and geographies, and is unevenly focused on certain topics and global regions.[11] Moreover, siloed decision making slows the translation of evidence to aligned action across climate and mental health policy and practice.[12, 13] A more inclusive, connected agenda is urgently needed to generate the evidence to truly understand, monitor and respond to the interconnections between climate change and mental health.

Connecting Climate Minds

Connecting Climate Minds (CCM) is a Wellcome-funded project launched in 2023 to develop an inclusive agenda for research and action in climate change and mental health. The project has two key, intertwined aims. The first is to develop an aligned and inclusive agenda for research and action that is grounded in the needs of those with lived experience of mental health challenges in the context of climate change, to guide the field over the coming years. The second is to kickstart the development of connected communities of practice for climate change and mental health in seven global regions (designated by the Sustainable Development Goals), equipped to enact this agenda. We aim to combine the strengths of a global perspective and regional focus, and bring together diverse disciplinary perspectives into a shared vision that can ensure research is effective at addressing priority evidence gaps and informing changes in policy and practice at the intersection of climate change and mental health.

The focus on Indigenous communities in CCM is in recognition of the indispensable need for place-based and culturally-relevant knowledges in research and action around climate and mental health, and of the ways in which these have been systematically marginalised, excluded and/or appropriated from sense-making in efforts at this intersection, as well as western research at large.[14] The Lived Experience Working Group (LEWG) of the CCM project prioritised the engagement and leadership of Indigenous communities that sought to understand the ways mental health is being affected by climate change particularly for Indigenous communities and what solutions exist. This process facilitated the

development of a lived experience-informed research and action agenda for the climate change and mental health field for this diverse group.

Objectives of the research and action agenda

The research and action agenda is designed to focus future efforts to help those who are experiencing, or will experience, the compounding mental health challenges of climate change. It aims to support those who are already responding to these challenges – through communities, research, policy and practice – by building a more connected and collaborative climate change and mental health field. It also aims to empower experts across disciplines and sectors to join and make progress in this area by identifying clear priorities and fostering a more inclusive and transdisciplinary field.

The agenda addresses these aims through three core objectives, which are to:

1. Identify a set of themes to frame research priorities that can inform action to meet the needs of Indigenous People experiencing and responding to the mental health impacts of climate change.
2. Offer recommendations for researchers and practitioners on framing culturally sensitive, place-based understandings of climate and mental health for diverse Indigenous populations, needed to appropriately conduct research and translate evidence to action in policy and practice.
3. Foster cross-disciplinary collaboration among researchers, funders, and policy experts to advance Indigenous-led climate change and mental health research. Provide actionable priorities for effective collective impact.

The Indigenous thematic agenda will be integrated with other thematic agendas to Inform a global research and action agenda for climate change and mental health, which will also integrate insights from agendas developed in seven global regions.

Connecting Climate Minds project overview

The project was led by a consortium including the following members: Climate Cares at Imperial College London, Climate Mental Health Network, SustyVibes, Force of Nature and the Red Cross Red Crescent Climate Centre and is funded by the Wellcome Trust.

Methodology

Research and action agenda development process

We produced this research and action agenda through a robust and inclusive methodology to capture, combine and refine a rich diversity of perspectives while fostering connection across a growing community of practice. These agendas were produced in parallel with seven regional research and action agendas and will inform the creation of a global research and action agenda. Viewing the research

process as part of the outcome and impact of this project was made possible by an environment of institutional flexibility and iterative, collective alignment.

Contributors

The formulation of this agenda was a result of a collaborative effort that engaged multiple diverse groups, including the Connecting Climate Minds core team, the Lived Experience Working Group, the Indigenous Advisory Group and our Inter-community Dialogue Partners. In addition, we partnered with the UNITAR Global Indigenous Youth Summit on Climate Change (GIYSCC) to hold a session on our Indigenous Dialogues.

The formats and methods employed in the Indigenous dialogues were a result of collaboration with our partners and Indigenous Advisory Group, who played a crucial role in the iterative development of the methodology, fostering the exchange of processes, learnings, and challenges across different regions.

Indigenous advisory group

A set of six advisors were onboarded in a compensated capacity to help guide the Indigenous dialogue workstream. Recruitment for the Advisory Group consisted of outreach across existing CCM networks, contacts from Regional dialogue leads, and the UNITAR GIYSCC network. The selection was based on availability as well as active engagement with the intersections between climate change and Indigenous health. The Indigenous Advisors' backgrounds included Indigenous researchers, health workers and young activists from The United States, Singapore, Japan, Cameroon and Australia. The Indigenous Advisors provided feedback on internal processes and framings, guided ethical considerations, brokered connections for the dialogues and offered insights on the analysis of the data.

Consent process

Cultural awareness and accessibility are key considerations when seeking consent from Indigenous communities and individuals.[15] These processes considered local language and cultural protocols determined by the Indigenous communities involved in the research. After consultation with our Indigenous Advisors, we engaged in a two-step process for obtaining informed consent for the inter-community in-person dialogues, involving collective consent from traditional authorities as well as individual consent from dialogue participants. We sought individual consent for the virtual dialogue.

Collective consent

Collective consent processes are an ethical standard in Indigenous research that help balance Indigenous sovereignty and collective ownership of knowledge versus individual intellectual property rights.[16] This approach was validated by our Indigenous Advisory Group and Indigenous partners. Importantly, collective consent does not intend to take away from individuals providing informed consent and protecting individual identifying information. Rather, collective consent marks approval from local overseeing bodies to enable research to take place and outlines the collective rights and expectations involved in the research. It also includes the collective power to give or withhold consent, make decisions and ensure collective self-determination.[17] Furthermore, Indigenous communities continue to advocate for integration of collective consent processes in Indigenous research across the world, such as in New

Zealand with Māori (Indigenous) peoples, who have advocated for consultation-based, collective consent processes being integrated into mainstream ethics protocol processes.

In our inter-community dialogue consent process, the letter of invitation and informed consent was sent to the overseeing traditional authorities (e.g., in Spanish to community leaders across Kichwa communities in San Martín, Peru; in English to the King's regent in Kom village, Cameroon). They granted permission for the participation of their communities in the dialogues before our dialogue partners engaged individual community members.

Individual consent

In addition to collective consent, free, prior, informed consent was sought from all participants.[18] At the inter-community dialogues, all individual participants were informed of the purpose of the dialogues verbally through reading the participant information sheet aloud and were offered written copies of the document. The process required by the Imperial College Ethics Review Board was explained to all dialogue participants, who were informed that the ethics requirements require informed consent evidenced through individual, written, signed documents. Participants were provided an opportunity at this stage of the process to respond to the request for written confirmation. Considering the varying levels of literacy among Indigenous community members, some members provided signatures, while others gave consent via fingerprints.

Pre-dialogue scoping

The project team identified an international outreach list and engaged in snowball networking to reach new networks of Indigenous communities across the world. We hosted over ten informational calls and learning sessions with practitioners working in this area to socialise the project and gauge interest for participation. Some of the groups networked with include: Land Body Ecologies, Amazon Frontlines, Waman Wasi, Center for Cosmovision and Indigenous Knowledge, Conscious Food Systems Alliance, Fondo Agroecológico para la Península de Yucatán (FAPY), Minority Rights International, Child Trends, The Planetary Health Alliance and others. Our team also received outreach support from the CCM regional communities of practice who helped connect us with relevant participants. The lived experience working group for CCM was also involved in outreach to key lived experience networks across regions, particularly in Sub-Saharan Africa.

Dialogue methodology

The LEWG of the CCM project prioritised the engagement and leadership of Indigenous communities in dialogues that sought to understand the ways mental health is being affected by climate change particularly for Indigenous communities, and what solutions exist. Our overall goal was to generate a mutually beneficial space of exchange within and across territories that could surface the needs, priorities and approaches of Indigenous worldviews at this intersection.

Formats

Recognising the vast diversity within and across Indigenous communities, we offered various spaces and modalities for participation. The Indigenous sub-thematic dialogues took place in 1) two in-person inter-community dialogues; and 2) a global online dialogue. The project team discerned that multiple formats

for engagement were necessary for creating access for participants to contribute who face barriers to online dialogue formats, and in order to establish spaces of mutual benefit to the collaborators involved. This hybrid model, encompassing both physical and virtual dialogues, supported accessibility, place-based ownership and steer of dialogues, and the possibility for transnational exchange around the subject matter.

1. Inter-community dialogues

The opportunity to localise the dialogue process for Indigenous communities in different parts of the world enabled stewardship of the process by trusted, local community members and networks who were recruited by the project team to lead the in-person dialogues. The international research team would always be unfamiliar with place-based context and relationships in these communities, and a process led without local leadership would risk being extractive. Face-to-face interactions facilitate a stronger sense of community connection. Indigenous populations often place great value on communal relationships, and in-person dialogues offer an opportunity for community members to come together, share experiences, and support each other. The resulting sense of shared ownership and mutual benefit ensures that the research process can become a catalyst for community empowerment, cultural continuity, and resilient adaptation to changing environmental conditions. As a baseline for this, the partners and community members set the agenda for the encounters (see Appendix 2) and had the possibility to re-write and adapt the proposed dialogue questions.

In order to carry out these dialogues, a sub-granting model was implemented with an allocated $2,500-2,700 USD per inter-community dialogue to cover operational costs and compensation for participants.

a. Kichwa inter-community gathering, Peru

Where: Kichwa communities in Alto Huaja, San Martín, Northern Peruvian Amazon.

Partner: Centro Waman Wasi, Community education centre

Aims: The aim of this two day inter-community gathering was to generate a space for exchange at the territorial level that was of benefit for the communities, and that reflected the needs, priorities and approaches of Kichwa worldviews, allowing us to gain deeper understandings of relevant frameworks on climate change and mental health (that is understood and discussed in these communities in terms of spiritual and emotional health).

Format and activities: The dialogue happened within a regular meeting space for community exchange that happens every three months across the various Kichwa communities, organised and facilitated by Centro Waman Wasi. 150 people attended the gathering from diverse Kichwa communities, travelling from 3 provinces in the San Martin region of northern Peru. Our partner delivered an agenda for the encounter based on previous activities, CCM thematic alignment and research questions, which included talking circles, an agrobiodiversity fair, seed exchange, cultural ceremonies, storytelling spaces in the evening, visits to the *chacras* (family agricultural plots), exhibition on community initiatives by young Indigenous members, and sharing medicinal plants with the elders.

b. Kom and Anam gathering, Cameroon/Nigeria/Kenya

Where: online, with members of Kom kingdom in the North West Region of Cameroon, Kom diaspora in Nigeria, and in exchange with members of the Anam tribal community in Kenya. Given a lot of the Kom community has migrated out of Kom Kingdom in Cameroon, the online format ensured the participation of Kom diaspora, in conversation with the Anam community.

Partner: Ibanikom Community Climate Mental Health Literacy Evolution Project (Cameroon and Nigeria) and Centre for Inculturation (Nairobi, Kenya)

Aims: The aim of this dialogue was to generate and activate exchange of cultural knowledge, traditions, belief systems, faith, and rituals connected with climate change and mental health, that reflects the needs, priorities and approaches in the context of the Kom culture and belief system, discuss relevant frameworks for crafting eco-spirituality based actions that can support psychosocial interventions, and exchange community perspectives on climate change across tribal communities.

Format and activities: The two-hour dialogue happened virtually, with the presence of over 25 collaborators, ranging from community members in Kom village (Cameroon), and the Anam community in Kenya, as well as Ibanikom's institutional partners of the Claretian University of Nigeria, and Centre for Inculturation, Nairobi, Kenya. The dialogue consisted of semi-structured facilitation led by our partner, with open spaces for community exchange and storytelling. To ensure internet accessibility, the participant remuneration was sent out beforehand to buy internet bundles.

2. Global virtual dialogue

The three-hour dialogue with Indigenous Peoples and Traditional Wisdom Keepers aimed to create an inclusive process that created space for the diverse lived experience and wisdom of participants to emerge. The decision to include Traditional Wisdom Keepers in the virtual dialogue stems from a commitment to honouring the unique perspectives and knowledge systems deeply rooted in Indigenous cultures. We opened the virtual space by honouring all of our non-human kin and with opening blessings from two of our Indigenous Advisors. Our team used a semi-structured facilitation guide that allowed for emergent topics to arise naturally, with two break-out moments (comprising three groups, of which one group of Spanish speakers) with guiding questions for the discussion (see Appendix 3). Indigenous Advisors and inter-community dialogue partners had a space to share their lived experiences and stories from the gatherings with the whole group.

Collaborators and recruitment

The process of recruitment was done relationally with significant time committed to sharing the research process, providing additional information when required and creating space for feedback on the ways the dialogue would be delivered. We relied on personal and professional networks of our research team and Indigenous Advisors, and we reached out to several networks and organisations working on either Indigenous rights, Indigenous health, cultural heritage or

advocacy around traditional ecological knowledge. Thirty-six collaborators across 21 time zones actively engaged in the dialogue, with representation of all regions except for Europe. The spectrum of expertise included Indigenous health professionals, researchers, traditional healers, cultural workers, activists, psychologists and community members.

Compensation
All collaborators were provided an honorarium of 40 USD for their time engaging in this dialogue that supported transportation, wifi, and time costs for engagement.

Analysis methodology

The qualitative data from the dialogues was analysed by our research team, with the support of two members of the Indigenous Advisory Group. Coding followed a thematic analysis process that included deductive coding according to the CCM core research categories, with adjustments to the categories and themes made inductively based on the dialogue data. During the process of coding, emergent themes and sub-themes were coded and the prevalence was calculated for each.

- **Research categories:** The Climate Cares Centre conducted a global landscaping exercise of relevant existing climate change and mental health reviews and identified four broad research categories as areas of critical need for further work globally. This framework was used as the basis for structuring discussions within dialogues to generate research priorities and formed the global coding framework for analysis.
- **Analysis:** Dialogue data (transcripts of breakout rooms, notes and inter-community dialogue reports) was analysed using a narrative coding approach. The analyst team populated a matrix based on the global coding framework by coding quotes and emergent themes based on prevalence.
- **Draft priority research themes:** This matrix was used to draft a list of priority research themes, refined through consultation with the Indigenous Advisory Group. Selection of priority research themes adhered to a globally developed structure and selection criteria (e.g., potential to answer greatest regional emerging needs and evidence gaps, potential to inform decision making in policy and practice, research feasibility).
    - Research themes were refined in response to this feedback and shared with dialogue participants. Participants gave free text responses to the question ‘Is there anything you would like to change, remove or add to this research theme?’ and were given the option to suggest additional research themes.
- **Finalisation of priority research themes:** A final list of priority research themes was generated based on incorporation of feedback, Indigenous experts and the CCM core team.

Ethics, data collection and storage

This study has been reviewed and given an ethical favourable opinion by the Imperial College Research Ethics Committee (study title: “Global Dialogues to set an actionable research agenda and build a community of practice in climate change and mental health”; study ID number: 6522690).

Taking guidance from the Indigenous Data Sovereignty (IDS) movement[192021], we committed to ethical conduct of research involving Indigenous persons with a framework for the dialogues that emanated

from four core principles: Respect for Persons, Concern for Welfare, Mutual Benefit and Transparency. The Indigenous dialogues were based on a process-oriented approach to research, wherein the process itself is just as important as the final output. In this iterative process, centred around relationship-building and active listening, we put into practice several additional mechanisms to respect the autonomy and safeguard Indigenous community members, considering the potential impacts on their physical, mental and spiritual health, and physical, economic and social circumstances, following the principles of Ownership, Control, Access and Protection (OCAP)[22]. These included: granting control to Indigenous collaborators over the design and stewardship of the dialogues, liaising with the Imperial College Ethics Review Board to ensure co-ownership of data with the Indigenous collaborators, providing stipends and compensations for all collaborators, providing feedback mechanisms as well as regular check-ins to ensure accountability and transparency during the process.

Data collection and storage followed the process designed by the CCM global team at Imperial College London with certain adaptations mentioned above related to Indigenous data ownership and sovereignty (Appendix 1).

Current state and emerging needs for climate change and mental health within Indigenous populations

This section sets out the context of the research agenda, exploring the current state of evidence on mental health and climate change for Indigenous Peoples, and key insights and emerging needs for this population.

Current research on climate change and mental health in Indigenous populations

Climate change's ability to disrupt mental wellbeing and health has received increasing attention in recent years. In 2010, a United Nations report concluded that, "Indigenous people with close emotional and ancestral ties to the land are also likely to be disproportionately affected by environmental change and extreme weather events."[23] Over the past decade, the intensification of climate-related events – such as wildfires, floods and droughts – has magnified the threats to Indigenous livelihoods, cultural practices and overall wellbeing, especially among those living on the frontlines of climate change.[24] Mental health researchers and practitioners, as well as Indigenous Peoples themselves, recognise the socio-psychological legacies of colonisation.[25] Indigenous communities continue to experience ongoing systems of inequity and marginalisation, facing widespread human rights abuses and land dispossession globally.[26, 27] Historical traumas are further intensified by climate change threats that actively disrupt key determinants of health and mental wellbeing for Indigenous Peoples, such as relationships to place, livelihoods and cultural identity.[28,29] New challenges include ecological grief and anxiety,[30] experiences of solastalgia due to the loss of cherished places,[31] and grappling with the intangible consequences of environmental loss and damage.

Despite the enormous toll that climate change and structural oppressions place on Indigenous mental

health and wellbeing, there remains insufficient research on the specific impacts of climate change on the mental health of Indigenous communities across diverse geographies. A dimension of this gap in evidence is that many Indigenous languages do not have distinct vocabulary for conditions like depression or mental illness,[32] resulting in research not adequately reflecting the lived realities of these communities. Equally or more overlooked are the particular culturally-relevant frameworks and understandings of 'mental health' and wider framing of health and wellbeing across Indigenous populations.

Mainstream and public mental health services often overlook Indigenous frameworks for health, restricting their ability to fully address the healing needs of diverse individuals, particularly those outside Western, middle-class, white, urban, industrialised contexts and outside of Western therapeutic settings. Increasing evidence around a First Nations therapeutic rationale has shown the significant positive impact of participation in traditional cultural practices as treatment for psychosocial unwellness[33], as well as fostering strong connections to land and Country[34, 35] — both particularly relevant in the context of climate-related loss and damage.

As research at the intersection of climate change and mental health expands, it is imperative that non-Indigenous researchers and practitioners uplift and take guidance from what many Indigenous scholars and communities have been advocating for: "Nothing about us without us."[36]

Framing of key concepts

'Climate change', 'mental health' and their intersections and related terms, along with other relevant key concepts, are understood and defined in diverse ways across Indigenous populations. Identifying, acknowledging and honouring the ways these terms are understood and used in different settings is critical to help foster connections, awareness and recognition across disciplines, cultures and communities. This section highlights relevant understandings among Indigenous Peoples, designed to reveal the diversity of perspectives around key concepts and other discussions throughout the project.

We engaged in conversations around the framing of the Indigenous Peoples dialogues from the beginning of our work, including discussions with Indigenous Advisors and inter-community dialogue partners. The need to interrogate and adjust the framing of mental health for this particular dialogue series was evident from the outset, as Indigenous perspectives diverge from dominant biomedical approaches that often compartmentalise mental health from the interconnected realms of social, cultural, territorial and spiritual health and wellbeing. Without such interrogation, the project ran the risk of further erasure and harm of Indigenous worldviews.

Based on these preliminary conversations, the dialogues were intentionally framed in ways – and using vocabularies – that validate Indigenous worldviews and understandings of climate change and mental health (touched upon in the Introduction, and in section below). The invitation for the virtual dialogue converged around the following question: 'Healing our bodies and territories: *How are the drastic changes to the health of our lands affecting our collective, spiritual and mental health?*' The inclusion of spiritual and collective health in the framing of the global virtual dialogue was an intentional effort to reflect multi-dimensional understandings of the health of bodies and territories and as advised by our advisors and partners. Inter-community dialogue partners steered all conversations and framings in their dialogues to ensure relevance and respect for contextualised worldviews.

Understanding of mental health

The term mental health was used throughout the dialogues by facilitators and appeared in several of the questions asked. Despite this, other terminology and/or framings were nearly always used by our collaborators to answer questions posed and when sharing their lived experiences. Notably, in the inter-community dialogue among Kichwa communities in the Peruvian Amazon, there was no mention whatsoever of 'mental health' in the community responses. By recognising and valuing these interconnected dimensions held by some Indigenous communities for what Western paradigms call mental health and/or mental wellbeing, we can move beyond the limitations of such dominant frameworks, fostering culturally responsive approaches that aligns with the rich tapestry of Indigenous wisdom and knowledge.

Below is a selection of insights that shed light on the language and understandings underpinning these concepts. These insights can be summarised by the following statement made by one of our collaborators: ***"When our life spaces are healthy, we are well."***

Relevant terminology

Vocabulary surrounding mental health impacts favoured mentions of 'stress', 'disillusionment', 'uncertainty', 'grief', 'anger' and 'worry'. For example, "*We are disappointed. We are all disappointed in this time."* Emma Lee, from Tebrakunna country who consented to be named, spoke on the incongruity of some dominant mental health terminology with Indigenous lived experience: *"Uncertainty is helpful as it allows us to fall into our elders, into our community. But anxiety is a western construct. The language of management, the language of crisis is not our language. That terminology of anxiety needs to go in a box somewhere. Important distinction."* Other collaborators noted that *"new diseases arise in the communities, such as stress, worry," and "some have passed away because of the stress."*

Furthermore, collaborators commented on the dangers of not integrating Indigenous paradigms in framings of interventions and research: *"Giving energy to mental health in isolation to wellbeing is a biomedical introduced reductionist approach that inadvertently disempowers Indigenous solutions."*

Spiritual, collective, and cultural health

Indigenous conceptions of health typically encapsulate an emotional and spiritual connection with the land, emphasising the absence of a dichotomy between subject and object. These perspectives, although diverse in their cultural expressions, were all anchored in a profound interweaving with nature and all beings, fostering a holistic understanding of the interconnectedness between humans, their health and wellbeing, the environment and the spiritual realm. Explicit linkages across cultural, spiritual, emotional and mental health were consistently made in responses, such as: *"There's clear connectivity to spiritual and cultural health and, as we place negative impact on these important practices, it also clearly has an impact on mental health [...] There's also spiritual health, emotional health, and cultural health."*

Many learnings from the Kichwa communities in the Amazon region spoke to the intimate relationship with non-human beings, where 'disharmony' was the origin of both unwellness/disease and climate-related events. Being 'unwell' mostly has to do with events involving the *animas* (spirits) or is a product of their influence. The openness of the world to the influence of the *animas* (spirits of beings) that live in the world, implies that a person is exposed to suffer the consequences of "abandonment" or "flight", of being

"*kutipado*" [possessed by a spirit] or "loved" by them. The affective and relational dynamics oscillate intermittently between harmony and disharmony between humans and other beings. Medical remedies and pills are used, but these are regarded only as complementary elements to traditional healing.

Relationship between land health and human health

The inextricable link between land health (understood as the health of all beings in the ecosystem comprising of land, water, skies) and human health forms the foundational essence of most conceptualisations of Indigenous wellbeing: *"I think about how physical health is related to mental health and is intrinsically tied to planetary health and how we as Indigenous people care for over 80% of the biodiversity on this planet."*; *"We need advocacy not only for the health of people but the health for all that exists."*

In line with these quotes, one collaborator proposed the following understanding of a 'triangular approach' to environmental, spiritual and physical healing, held together by cultural practices: *"We have our triangular approach based on our ancient wisdom. The first approach, at the top of the triangle, is healing our nature, the Mother Earth, the rainforest. Protect the nature. The next one is to continue to retain our spiritual connection to the Mother Earth as well as part of our survival. The third, the last one, is our physical healing. So once we see that this triangular approach will be implemented, then we can continue to survive here. [...] Culture is what connects all of these." (From an Indigenous chief from The Philippines).*

Land as healer

In Indigenous wisdom, the land is not merely a physical space but a profound healer, intricately linked to integral approaches to health. Recognising the land as a source of healing power, Indigenous understandings of healing embraces a holistic perspective that interweaves physical, mental, and spiritual wellbeing, again emphasising the interconnectedness of human health with the Earth. In the words of one collaborator: *"What would our communities look like if healing was based on land as a healer?"*

Given the deep interdependence with the other beings, the human-emotional world is far from being encapsulated in what is deemed as the 'mind', or what is 'mental'; that is, human experiences are never separate from the wider webs of life which they are part of. Incorporating Indigenous understandings of mental health and its inextricable connection to the environment are embedded throughout the overview of the priority research themes below.

Understanding the drivers of climate change

Coloniality, power and land health emerged as woven into many understandings of the drivers of climate change, alongside understandings of the profound spiritual disruptions that underpin the resulting drastic environmental losses and damage. Overall, they point to a deep recognition of violence – both historical and present – plaguing the entire web of life. The manifestations of climate change that many Indigenous Peoples are facing, therefore, are often seen as a result of these root drivers (i.e. violence, power imbalances, extractivism, colonialism), and are difficult to disentangle from the web of causalities.

From colonialism to climate disruptions, many collaborators named the historical thread that shows a striking continuity of violence across generations: *"In a sense, climate change is being seen much more*

holistically. We're looking at, what are, again, those intergenerational violences that we need to deal with? Some of it came through climate change. Some of it came through the terrible extraction practices. Others came through setting up systems of slavery. They're all mixed together."

Such statements came hand in hand with naming "development projects", including mass extraction on lands and industrial farming, as the culprits of climate change: *"This whole development model has gone hand in hand with the deterioration of nature and the health of the people."*; *"These changes are happening because mostly the corn business has come, that is the first place why we have stopped planting, they cut down all the mountains, the forests, now when we plant, they no longer want to produce, sometimes when we plant it grows small and dries up, sometimes the same even if it rains, the land is poisonous, the land is contaminated, it grows but it no longer bears fruit as before, the land no longer receives the roots of the seeds."*

There were also other accounts offered, including those that rely on spiritual explanations for the drastic shifts in the environment and climate observed, for example: *"They think that it's the god of the seas that they haven't really satisfied the god of the seas over some many years and now the seas are actually overflowing their banks and causing mayhem."* Another, shared that "*now the souls, the mothers of those animas (guardian spirits) are gone*," pointing to spiritual disruptions as the causes of ecosystemic imbalances.

More on how climate change is understood through this web of historical, multi-layered violence and its impacts on intergenerational trauma are explored in Theme **I (a)** in the research agenda.

Research agenda

Background to research categories and priority research themes

This research agenda presents an aligned vision to guide the climate and mental health field for Indigenous people. Research priorities have been generated through consultation with experts across disciplines, sectors and geographies in the region and iterated with experts regionally and globally. The priority research themes represent areas where targeted research investment could create a full picture of impacts, their mechanisms and solutions across both mental health and climate actions. We outline why these have been identified as priorities, and how they can be addressed by combining expertise across disciplines and sectors.

Research priorities are presented within four overarching research categories that were identified as areas of critical need for further work globally and that map the climate and mental health research space at a high level, based on an initial review of global literature. Note that some priorities span multiple categories.

- **Impacts, risks and vulnerable groups**: improving our understanding of the extent to which mental health is affected by climate change and for whom. For example: what mental health outcomes are impacted or at risk; the prevalence, severity, economic and societal costs of these impacts; and who is most vulnerable to these impacts.
- **Pathways and mechanisms**: improving our understanding of how climate change affects mental health and, in particular, whether there are factors specific to climate change that increase mental health risks or create new experiences of mental health challenges. This includes considering

biological, psychological, societal or environmental pathways and mechanisms.

- **Mental health benefits of climate action (adaptation and mitigation)**: understanding and quantifying when and how climate adaptation and mitigation actions, across sectors, can also have win-win benefits for mental health.
- **Mental health interventions/solutions in the context of climate change**: identifying the most effective mental health interventions and solutions to support mental health in the context of climate change, across diverse sectors. This encompasses providing support to people already experiencing negative mental health impacts and reducing risk or severity of future negative impacts.

We hope that these identified priorities, along with the created subcategories, will serve as a catalyst, directing research efforts, guiding resource allocation by funding entities and consolidating evidence production. Ultimately, this collective effort will empower policymakers and practitioners to effectively address the evolving and anticipated mental health needs of young people in the context of climate change.

Priority research themes

This document aims to encompass Indigenous Peoples' collective, relational perspectives on mental health and wellbeing, recognising the inseparable connection between human wellbeing and the land, in order to better conceptualise the health implications of climate change.[37, 38] Understanding these requires acknowledging the intricate relationships woven into Indigenous lived experiences, challenging the conventional categorical divisions of insights that fail to encapsulate the *interconnected* and *interdependent* nature of Indigenous perspectives on mental health and the environment. Embracing a holistic view is essential, as these findings underscore the deeply interwoven tapestry of types of wellbeing[39] (e.g., emotional, spiritual, psychological, social, cultural, ecological), defying neat divisions and emphasising the intrinsic interweaving of all aspects of Indigenous lived experience.

Below are recommendations under each theme for priority research questions. The research team made an intentional effort to keep themes inclusive of Indigenous framings of these issues.

Table 1: Priority research themes

Research category	Priority research themes
I. Impacts, risks and vulnerable groups	**a) Intergenerational trauma, including colonial violence and extractivism***

**Extractivism refers to the economic model that involves an intensive extraction of resources such as minerals, fossil fuels, or agricultural products, typically driven by external demands and resulting in environmental degradation and social injustices.*

Understanding how intergenerational trauma resulting from colonial violence manifests within Indigenous communities/groups – including impacts on mental health, cultural practices and social cohesion across successive generations – and why this understanding is vital to comprehending the intersections of climate and mental health for these communities.

Assessing whether the development and adoption of new terminology (e.g., solastalgia) contributes to a more nuanced and culturally-sensitive discourse surrounding the multifaceted impacts of climate change on the mental health and/or wellbeing of Indigenous Peoples, and how these groups perceive these terms.

b) Compounded grief and exacerbation of mental health-related challenges

Understanding the extent to which the ongoing and compounding experiences of the climate crisis cause stress/grief in Indigenous people and at what point these experiences become debilitating and impact personal and social functioning such that they constitute a mental health challenge.

c) High-risk population subgroups

Identifying specific climate-related risks, triggers and stressors that increase mental health burdens for particularly vulnerable Indigenous subgroups.

Proposed vulnerable Indigenous subgroups for further study include: widows and single mothers, community Elders, environmental and land defenders, pastoralist communities, communities living in coastal areas and near rivers, children and youth, those with pre-existing health conditions, people with disabilities, those with limited mobility, displaced people, people living in temporary settlements and people living on Indigenous reservations.

d) Contextualised research practices and interventions

Understanding how contextualised research methods and approaches can address the historical and systemic issues of epistemic marginalisation of Indigenous knowledge in research on climate change and mental health.

Understanding how research efforts focusing on the impacts of climate change on mental health among Indigenous populations can be involved and contribute to broader decolonial and rights-based efforts.

Understanding how collective and group interventions, in comparison to individual clinical approaches, contribute to supporting Indigenous mental health in the context of climate change, and identifying the key factors that determine their effectiveness.

II. Pathways and mechanisms

a) Cultural disruptions, such as disconnection from land, and disruptions to ceremonies and healing practices

Understanding how climate-related changes, such as altered seasons or extreme weather events, affect traditional ceremonies, spiritual practices and sacred sites and how this impacts the mental health and wellbeing of Indigenous communities.

Identifying which medicinal plants are under threat due to climate change across various Indigenous territories and how this impacts the mental health and wellbeing of communities.

b) Cultural continuity as a protective factor

Understanding how the preservation of traditional practices, rituals, sacred sites and spiritual connections to the land contributes to the maintenance of cultural continuity and mental health resilience among Indigenous communities facing climate degradation.

c) Spiritual connection and kinship with nature

Understanding the ways Indigenous populations conceptualise the interdependence of human wellbeing with the natural world through spiritual connections and how those conceptualisations impact mental health amidst climate change.

Understanding the extent to which embodying a kinship relationship with the natural, often seen in Indigenous communities and worldviews, supports mental health in the face of climate change, and exploring how this way of relating with the natural world can contribute to positive mental health in non-Indigenous communities.

d) Responsibility of governments and institutional responsiveness

Understanding how the lack of due process, including the omission of proper consultation processes, for environment-altering projects (including those relevant to the climate crisis, such as renewable energy projects, fossil fuel extraction or mining of rare earth metals for batteries) impacts Indigenous communities and the challenges and consequences for Indigenous rights and mental wellbeing resulting from inadequate institutional responsiveness.

Identifying the most effective government policies and actions to safeguard the lands and health of Indigenous peoples in the context of the climate crisis and exploring which institutional mechanisms ensure that these policies align with international standards and legal frameworks.

Understanding whether, and how, a human rights-based approach to climate-related mental health among Indigenous communities can open new pathways for institutional support and uncover structural determinants of holistic health entrenched in policies and governmental conduct.

Determining the most effective strategies for fostering collaboration and meaningful consultation between Indigenous communities and state institutions on climate change and mental health, ensuring that decision-making processes are inclusive, culturally sensitive and aligned with the principles of justice and equity.

e) Health of territory as determinant of Indigenous mental health

Understanding how the recognition of the inseparable connection between the vitality of land and water and the health of Indigenous communities impact individual and collective mental health and wellbeing in these communities. Identifying the specific cultural practices and beliefs that reinforce this symbiotic relationship and contribute to the flourishing of ecosystems and individuals.

f) Loss of food security and livelihoods

Understanding the extent to which climate-induced challenges to food security and sovereignty result in mental health challenges within affected Indigenous populations.

Exploring the mental health ramifications of climate-related threats to traditional ways of life and food sovereignty.

Quantifying the mental health benefit of crop insurance schemes for Indigenous rural populations that depend on subsistence farming.

g) Water-related disruptions (floods, shortages, pollution)

Understanding how the cultural, economic and mental wellbeing impacts of water-related challenges affect the livelihoods and adaptation capacities of Indigenous communities.

Exploring how recurrent exposure to water-related challenges, such as floods, droughts and/or pollution, compounds mental health challenges and/or poor mental wellbeing in Indigenous communities.

h) Systemic climate-induced migration and displacement

Measuring the immediate and long-term impacts of climate-induced relocations on the cultural continuity, mental health and wellbeing of Indigenous communities.

Understanding how the right to stay or the need to leave experienced by Indigenous communities impacts mental health, and how financial and support resources available in those situations (e.g., visas, climate refugee status, compensation schemes), contribute to the climate and mental health outcomes.

i) Lack of land sovereignty and self-governance

Understanding the distinct stressors experienced by Indigenous populations due to the absence of control over their traditional territories and limited self-governance in the context of climate change, and how these stressors impact their mental health and wellbeing.

j) Regional and inter-community connection and exchange as a protective factor

Identifying the most effective knowledge exchange and mutual support mechanisms to foster wellbeing and mental health resilience in Indigenous populations in the context of climate change.

k) Lack of services in rural areas

Understanding how the scarcity of mental health resources and the lack of communication and support mechanisms for rural/remote settlements contribute to the challenges of addressing the unique climate-related mental health needs within Indigenous communities, and identifying the specific barriers that hinder accessibility to services and how these may be worsened in the climate crisis.

III. Mental health benefits of climate action

a) Fostering and enabling a strong connection to land

Identifying lessons learned for broader environmental and mental health initiatives that forge strong connections to the land for non-Indigenous populations.

Understanding how to tailor mental health policy and community-based interventions to promote ecological sustainability and mental wellbeing among Indigenous populations, through fostering a strong connection to the land and country.

Identifying supportive cultural practices, community-driven initiatives and institutional systems across diverse Indigenous communities that help sustain a strong connection to a particular territory and assessing their impacts on mental health.

Identifying effective policies and legal frameworks, both by governments and international regulatory bodies, to guarantee the protection of ancestral territories and to facilitate forms of self-governance in the face of climate change and understanding how this impacts mental health outcomes in Indigenous communities.

b) Exchange of ecological adaptation practices

Evaluating 1) the communication channels and pathways for exchanging climate adaptation practices among Indigenous communities at a local, regional and global level, 2) the external support mechanisms needed to bolster these, and 3) how utilising these mechanisms affects the effectiveness of the climate adaptation practice and mental health outcomes.

Understanding how initiatives such as seed rescue and home garden cultivation contribute to climate resilience and the preservation of cultural identity within Indigenous communities and how this impacts the social, economic and mental wellbeing of individuals and communities.

c) Intergenerational knowledge transmission

Understanding how different generations within Indigenous communities collaborate to address climate change based on traditional ecological knowledge and how this collaborative approach to intergenerational knowledge transmission impacts mental health.

Exploring the ways in which the reclaiming and revitalising of ancestral practices by Indigenous youth and Elders amidst the destruction of land and cultural heritage 1) provides opportunities for healing individuals and the environment, 2) contributes to a sense of empowerment and agency within Indigenous communities, and 3) impacts mental health outcomes.

d) Supporting community-led action for climate adaptation

Identifying the resources and support mechanisms that are essential for the success of community-led climate adaptation initiatives in Indigenous populations and understanding how to effectively mobilise them to deliver sustainable and culturally-sensitive interventions that support collective mental health.

Understanding how the integration of traditional ecological knowledge into community-led climate adaptation initiatives through collaborations with Indigenous communities impacts the effectiveness of these interventions and the mental health outcomes of their target communities.

Exploring how to amplify and resource Indigenous-led interventions in climate action that support mental health outcomes for those communities.

IV. Mental health interventions /solutions in the context of climate change

a) Self-determination and territorial sovereignty, including land stewardship

Understanding how the empowerment of Indigenous communities through territorial sovereignty contributes to a more holistic understanding of health in general, including mental health, by addressing the interconnections between social, cultural and environmental dimensions.

Evaluating how territorial sovereignty in the context of climate change for Indigenous populations is a mental health intervention in itself.

b) Health sovereignty, including access to traditional healing approaches

Recognising, evaluating and integrating ancestral and traditional medicinal approaches into research on climate change and mental health in order to identify and develop effective, culturally appropriate interventions for climate-related mental health challenges. This includes integrating the most effective medicinal approaches and/or healing practices to help community members cope with the mental health toll of climate change.

c) Indigenous leadership in climate action and mental health interventions

Exploring how to meaningfully include Indigenous Peoples – through participatory research, or other means – in designing, evaluating and implementing climate and mental health interventions.

Understanding the extent to which cultural revitalisation initiatives and community-led interventions serve as effective buffers against the mental health impacts of intergenerational trauma related to colonial violence and climate change among Indigenous groups, and what role these initiatives play in fostering resilience and improving mental health within communities.

d) Intercultural approaches to mental health

Exploring ways to encourage Indigenous healers, traditional wisdom keepers, community leaders and mental health professionals to co-create intercultural climate-related mental health interventions that draw upon the strengths of traditional Indigenous practices and contemporary biomedical approaches and evaluate the effectiveness of these interventions.

Identifying the challenges and opportunities for integrating intercultural approaches to climate-related mental health in the training and education of mental health professionals.

Evaluating the effectiveness and key components of existing intercultural mental health services and Indigenous-led services that have been integrated into public health schemes (e.g. in Mapuche territory in Chile, First Nations and Inuit mental health programs in Canada).

Understanding barriers and opportunities on decolonising mental health in the face of climate change.

Overview of themes for impacts, risks and vulnerable groups

a) Intergenerational trauma, including colonial violence and extractivism

Historical violence has inflicted enduring wounds on the mental health of Indigenous Peoples, perpetuating cycles of trauma that reverberate through generations. The suppression of cultural practices and Indigenous knowledge has created concrete blockages to cultural vitality, amplifying the mental health impacts among diverse groups. There is also an understanding that legacies of colonial systems – still present in the form of extractive industries and how development is conceived and rolled out, for example – are at the root of a complex web of social, economic and climate-related issues. This makes it difficult to untangle issues and to infer causality explicitly between climate change and mental health issues.

On the interconnectedness of issues and violence:
"So much of our culture was disrupted by past policy, by colonisation, slavery, massacres, you name it. We had it."

"Because of colonial influence we've got a lot of intergenerational trauma, which results in a lot of issues, mental health, physical health. [...] All of that is a factor that really goes hand in hand with the trauma associated with environmental change, negative environmental change, because there's already that distrust with authority and anger and trauma related to disconnection from Country and being moved around and told that you're not allowed to perform certain practices or speak your language."

"Even if it's happened over a lot of years - we were already endangered because of colonialism, the stripping of our lifestyle and foods that have, we still don't have a strong identity in west–figuring out the self-sufficiency and value system of the west which is different from who we are innately."

On the challenge of extractive industries:
"As tradition-bearers in the Indigenous Peoples' communities, we have faced the challenges like mining, the multinational companies, and the exploitation, abuse, and the conversion of the ways and beliefs within the tribal communities." ; "We've got mines that are imposing on the [Tinga] community, for example, and the red tape of being able to access Country like sacred sites because of misinformation and all sorts of other things. So it's not just the physical aspects of environmental change but the colonial barrier that is stopping that connection from being established."

"There is too much extraction–out of the lands, but of us too—the mining of the spirit, the human being, the lands. And, you can see it in the mental health of our people—we are being mined and you can see it in the mental health people, we are empty shells, and in some cases, we might have been part of that extraction of our own souls."

b) Compounded grief and exacerbation of mental health-related issues from climate-related events

Anticipating potential climate-related events generates great uncertainty and fear regarding the safety of communities and their livelihoods. Frequent exposure to climate devastation as well as the progressive degradation of lands and waters leads to feelings of compounded grief over the immense losses, which contributes to heightened stress, fatigue, a sense of disillusionment about the future and increased rates of addiction and suicide.

"Because of the mental stress, the grief that they were experiencing due to flooding… Flooding was just being a stressor or a trigger, so to speak."

"One thing we talk about in my spiritual care world is anticipatory creep. You go through the trauma of experiencing things, but then the foreknowledge of how bad things can get… You're already anticipating grieving even before things actually manifest. It's a part of the heart of people to do so, but it can also really take a wear and tear on the spirit and psyche."

"Environmental change has led to increases in suicide rates, addiction, increased mortality – even among elders."

c) High risk population sub-groups

The following population sub-groups were mentioned in the dialogues as having increased vulnerability to life-threatening risks, as well as a corresponding risk of mental-health related difficulties:

- Children
- Communities living on coastal areas and rivers
- Community members with pre-existing health conditions
- Displaced people and people living in temporary settlements
- Elders
- Environmental and land defenders
- Pastoralist communities
- People living in Indigenous reservations
- People with limited mobility
- Widows

"You heard about some that have passed away because of the stress, especially the elderly that can't really cope with this kind of problem."

"When climate change affects productive processes, this leads to migration. The territories become more vulnerable, and this affects, mainly emotionally, children and women."

"Even the Tribal leaders have been killed as they are protecting their own ancestral landscape and the sacred land. So they are killed just to get the minerals in the ancestral lands."

"Youth there, specifically boys, migrate illegally which affects a lot of them. They need to know the value they have in the community."

"Young widows are a major gap. They don't have a livelihood to depend on, usually dependent on husbands who died during the crisis in Cameroon. They're really struggling."

d) Contextualised research practices and interventions

Research methods and interventions framed by Western worldviews can disempower Indigenous engagement by overlooking or dismissing the rich depth of Indigenous knowledge. Such approaches may inadvertently perpetuate a sense of cultural marginalisation, undermining the effectiveness of interventions and hindering the self-determination of Indigenous communities. Actively integrating Indigenous perspectives from the outset, in the design of research and action, is essential to ensure that outcomes are culturally sensitive and aligned with the needs and worldviews of Indigenous populations. Additionally, crafting sustained, caring partnerships with collaborators is essential to avoid the pitfalls of extractive research processes that feel disrespectful.

"I think the harms I've seen so much is the demanding of a biomedical and a colonial model before creating space for a different view. That can create so much damage and lose a lot."

"How do I put this? They're still colonising it in a sense by bringing in experts from outside."

"If there's no sustainable relationship, people will be reluctant to show you what they're doing."

Overview of themes for pathways and mechanisms

a) Cultural disruptions, such as disconnection from land and disruptions to ceremonies and healing practices

Climate-induced shifts in ecosystems threaten traditional practices deeply intertwined with the land, diminishing the capacity of Indigenous communities to live out their cultural identity. This includes the desecration or loss of sacred sites, disruptions to cultural practices, the clash between worldviews and a lack of sense of belonging. Environmental changes not only erode the physical landscape but also inflict a profound psychological toll, a loss of identity and sever the spiritual bonds that connect Indigenous Peoples to their ancestral territories and cultural heritage.

"The challenge is that with climate change, we have added the loss of good practices of our ancestors, the culture of barter, respect for ecosystems. Today the fight is to start from rescuing native species that have been replaced by transgenics, added to what I call the loss of values in government and other competent authorities."

Disruptions to rituals and ceremonies: *"As the Earth gets warmer, it actually becomes more dangerous and has an impact on the health of our people participating in these sacred ceremonies."*

Disruption to the balance of life and ability to sustain life: *"With the disruption of climate systems, we have the breakdown of that balance of course and an opportunity to fill the gaps together. [...] In Alaska we have an amplification of climate change that threatens our sky, water, and earth clans and, therein, all of our life and our ability to belong here on this planet and to sustain ourselves."*

Acculturation and clash of worldviews: *"We live in a world so fast paced that we don't have a chance to try and catch up with who we really are. In trying to find identity in the mainstream or cultural world, they just collide and don't fit together and all of that causes a series of medical conditions—cancer, diabetes, but also mental conditions as we are not good enough for the mainstream cultural world."*

Disruptions to traditional medicinal approaches: *"I remember that my grandmother, less than 500 meters from home, used to get mosses to cure the energy imbalance that children or adults suffered, she cured them with those mosses. Nowadays these mosses are no longer easily found in the forests, you have to go deep into the forest to get them, but it is very little anymore. This healing is linked to a whole spiritual ceremony which is also no longer given in many communities because there are no longer enough elements to do it or they are seen as retrograde practices."* and *"The diversity of these [medicinal] plants is dwindling because of climate change and it is impacting the mental health of traditional healers because they are really worried. Traditional healing and attachment to nature is inseparable."*

Lack of sense of belonging: *"A lot of people don't have the privilege of our feeling a sense of belonging or learning from our land; which has profound impacts to our sense of self, sense of belonging, and mental and spiritual health."*

Loss of identity: "*We forget about our identity as an ecowarrior, as, what do you call it, a tribal leader, and Indigenous wisdom keeper because of these changes that we have now. So what are the results of these changes? So we have disappointment, abuse."*

b) Cultural continuity as protective factor

Cultural continuity stands as a formidable protective factor for Indigenous populations grappling with the mental health repercussions of climate degradation.[40] The preservation of traditional practices, rituals, sacred sites and spiritual connections to the land fosters a sense of identity and belonging, acting as a resilient force against the disorienting impacts of environmental change. As climate degradation threatens the very landscapes intertwined with Indigenous cultures, the maintenance of cultural continuity becomes not only a source of strength but a vital strategy for mitigating the psychological toll of ecological disruptions.

"When we are allowed to be Māori, we are allowed to be well."

"If you're not strong in your Culture, you're living a superficial life. You're just like a butterfly that is just flying with nowhere to perch. Culture is very necessary [...] The knowledge that people have gathered and continue to practice for centuries is culture. Culture is dynamic. We need to study our Culture and live in our Culture."
(Accompanying image by Kisani Upward, one of the Indigenous

Advisors to this project)

"We are now starting to look to our Culture for sustenance rather than other world cultures. We can still practise rituals for death and need to stop seeing ourselves as victims but leaders who can connect the world spiritually."

"So a lot of our cultural practices are starting to re-emerge post-that [colonialism] and it just so happens that climate change has formed this nexus of that and then the changing environment. Our ceremonies are coming back, but that's not due to climate change. That's due to us reawakening that."

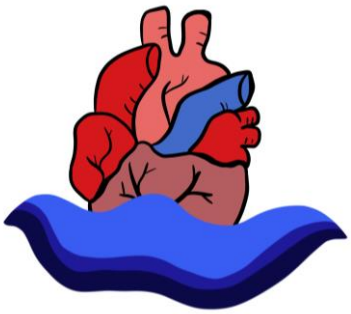
c) Spiritual connection and kinship with nature

Spiritual connection with the web of life and a sense of kinship with the natural world are crucial pathways to understanding the mental health outcomes of Indigenous populations, particularly in the context of climate change. These connections provide a framework that encompasses the interdependence of human wellbeing with the natural world, shedding light on the profound impact of environmental shifts on the spiritual and mental dimensions of Indigenous lives. Recognising the intricate relationship between spiritual connections and mental health is essential for developing culturally sensitive approaches that address the unique challenges faced by Indigenous communities in the face of climate-induced changes.

"One of our most, I want to say, coveted relatives and kind of like a spiritual relative is manoomin or wild rice [...] So I think if I were to make that parallel that's vital for us and that I don't think a lot of governments, federal or state agencies understand, it's that that spiritual relationship really guides our mental health and our physical health and is so important for that as we maintain those relationships with our non-human relationships."

"The only thing that would bring intervention is to do some spiritual sacrifices to the god of the sea in order to avert that climate change."

"I am a woman of sea Country and we have lost over 95% of our kelp species in the past few years. without our kelp, I feel that we are losing the veins and arteries of the sea country body. our inshore body is collapsing and that has material effect on our bodies as women who are custodians." (Quote attribution: Emma Lee, tebrakunna country, Accompanying image by Kisani Upward, one of the Indigenous Advisors to this project)



d) Responsibility of governments and institutional responsiveness

This theme highlights the critical role and responsibility of the state in safeguarding the lands and health of Indigenous Peoples, including institutional responsiveness that upholds international standards and legal frameworks. Many Indigenous communities have experienced a lack of due process, with states and institutions often omitting proper consultation processes before initiating projects that drastically alter environments, emphasising the urgent need for accountable and transparent governance to protect Indigenous rights and wellbeing.

"In Guatemala - there is no prior consultation with the communities, which we have here nearby."

"We understand that it is not us mob who have created this catastrophe. It is the responsibility of those who have colonised us."

e) Health of territory as determinant of Indigenous mental health

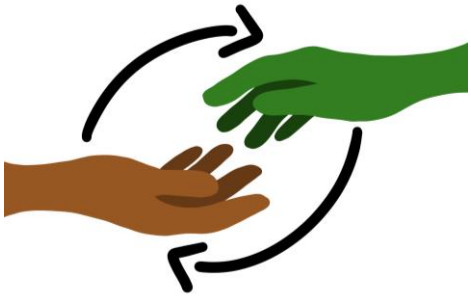
This theme reflects a deep understanding of the inseparable connection between the health of the land and the wellbeing of their communities. Diverse Indigenous worldviews recognize that the vitality of the land and water directly influences the physical and spiritual health of their people. This intrinsic link underscores a holistic worldview where the flourishing of individuals is intricately tied to the flourishing of the ecosystems they inhabit, emphasising the symbiotic relationship between human health and the health of the Earth.

"Here in Aotearoa New Zealand we see that the land is not well so the people cannot be well."

"I hope as we move forward as a society, the interlinkages of restoring the health of the Earth and restoring the health of our people are more globally recognised. This is wisdom and practice of Indigenous people all over the world that is not new and we've lost a lot of it."

"We are understanding that it's all our relations that go through these levels of violence"

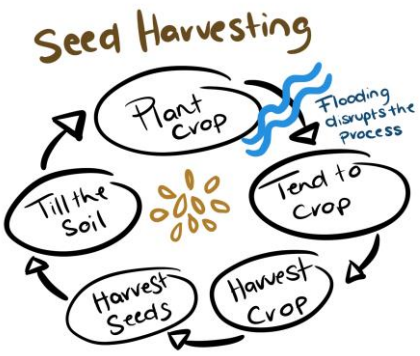
"We believe that the rainforest is our market, our hospital, our pharmacy. The medicinal plants that we have are there. So it affects our survival sense in a physical way since those medicinal plants are gone. These changes will really affect our mental health since, as the Elder said, we are all refugees of our own land since these capitalists, these people, these outsiders are destroying our sacred ancestral lands."



"Nature is their brother, their closest neighbour. If you care for nature, nature cares for you. If you don't, nature won't." (Accompanying image by Kisani Upward, one of the Indigenous Advisors to this project)

f) Loss of food security and livelihoods

Climate-related impacts often lead to the loss of harvests, heightened economic stress, and present a profound threat to food security for affected communities. These interconnected challenges not only jeopardise the traditional ways of life and food production (food sovereignty) but also contribute to a sense of uncertainty and vulnerability, intensifying the broader impacts of climate change on Indigenous wellbeing.



"The agricultural seeds that parents preserve each year are flooded. Cassava seedlings. If you don't have seeds to start the next plantation, you will have problems the following year [...]

This has become an annual trauma that people face." (Accompanying image by Kisani Upward, one of the Indigenous Advisors to this project)

"Of course, the soil texture also changes [after flooding], so they're unable to really practise agriculture and it's really affecting food security for most of these communities. It's a really big challenge."

g) Water-related disruptions (floods, shortages, pollution)

Many Indigenous communities often grapple with a cascade of water-related disruptions, from recurrent flooding and pollution to water shortages, which in turn affect their access to basic services. These challenges jeopardise livelihoods and instil a pervasive sense of uncertainty as Indigenous peoples witness the deterioration of a vital resource intimately linked to their cultural, economic, and emotional wellbeing. In addition to financial and livelihood hardship, the need to turn away from traditional foods and practices, and the shift from being producers to consumers, brings added layers of distress.

"Where I live, there is no water. We share the streams and rivers with animals–this is causing challenges. With heavy rains, we cannot access health facilities, schools as infrastructure has been destroyed."

"We have a clear and very hard example, which were the floods in the Peninsula due to the tropical storms of 2020, the milpas and backyards were flooded, crops, breeding animals and many seeds and plants of importance for the food of the families were lost. Of course this caused great sadness, despair and crisis for the families, for lack of quality food. They had to resort to foods that are not typical of the Mayan Culture, accompanied by the need for money to buy them."

"Where it used to be wetlands it is now drylands and this is really affecting human beings. Now humans are sharing the little water that is available with their livestock and now diseases are spreading and it is becoming a problem to the health fraternity."

"Industrial farming has taken so much of Indigenous land—drainage of vast lakes, connected to marshlands, the largest migratory landing for birds in US, depletion of groundwaters. Regardless of whether there is water or not, whether it is dry or not, my people will be there."

h) Systemic climate-induced migration and displacement

Climate change-induced environmental disasters, as well as the slow degradation of land and water due to industrial activities, have triggered forced relocations and economic stress among different Indigenous populations. These challenges not only exacerbate the immediate loss and damage of the disasters but also perpetuate further cultural disruptions as communities grapple with the consequences of displacement and the erosion of Indigenous ways of life.

"When there's very long droughts, people have to sell their herds and the pastoral activity declines in those areas and Aboriginal People lose their jobs on the pastoral properties. The young people have to leave there and go to either the coast or to bigger centres to get work and leave the kids with grandparents and other family."

"Women and men have greater concern to solve and meet their needs for food, medicine and are faced with resorting to western medicine or migrate to other countries or other regions to meet their needs. Abandoning

their lands and therefore their practices and spiritual connection with Mother Nature."

"People are more and more city bound and disconnected from the natural world. Therefore new generations have less and less empathy for the needs of nature to thrive and the impact that has on our own wellbeing. Things are so bad we are resorting to using glycosphate to heal the land from those introduced pests. This has a toll on everyone's mental health even if we don't know the root cause."

"You heard community members complaining about flooding. They even moved to internally displaced temporary buildings and temporary areas of settlement. They ended up having a serious crisis and they really don't have clean water to drink."

i) Lack of land sovereignty and self-governance

Without control over their traditional territories and the ability to govern their own affairs, Indigenous communities experience heightened vulnerability to the ecological disruptions and cultural dislocation associated with climate change, contributing to increased stress, a sense of lack of agency in the face of destruction and debilitating wellbeing.

"It hurts the community not to be able to take care of their community and their families and also the country and to see it sitting there, just waiting for it to become an inferno again. We lost thousands upon thousands of animals in our last massive bushfire and we're just waiting for that to happen again. Yes. It's really traumatic."

"Whitefellas are taking up rent in our cultural heads. There are two aspects to this - more whitefellas are taking more from Country for their profit and greed, which affects our cultural health. the other is that the loss of Country is our physical loss through not being able to connect, care and cherish Country."

j) Regional and inter-community connection and exchange as protective factor

Regional and inter-community connections create a supportive network that enables the exchange of traditional practices and adaptive measures, enhancing the ability of Indigenous communities to cope with changing environmental conditions. The collaborative approach both at a local level and at regional level provides a platform for mutual support, fostering knowledge exchange and contributing to a more comprehensive response to climate-induced health challenges.

"One thing in the Caribbean we have been starting to think more regionally. Cultures can be similar and climate change is really affecting our communities across the region and globally. There are big similarities and opportunities to share practices when you listen to our shared stories."

k) Lack of services in rural areas

Many Indigenous communities frequently face a scarcity of mental health resources and availability of services due to lack of communication and support features for rural villages, exacerbating the challenges of addressing their unique mental health needs. The limited accessibility to culturally competent care further compounds the disparities.

"Because of the challenges you're facing, do you receive any mental health services? And if you do, how do you

get them? Because in my country, there is only one mental health facility."

Overview of themes for mental health benefits of climate action

a) Fostering and enabling a strong connection to land

Fostering a strong connection to the land among Indigenous populations featured as a co-beneficial action that harmoniously integrates both climate and mental health benefits, in line with a growing evidence base (see Introduction). This connection not only enhances ecological stewardship and resilience to climate change but also cultivates a profound sense of identity, cultural continuity and wellbeing, underscoring the interdependence of a healthy environment and mental flourishing within Indigenous communities.

"What we advocate for, is that reconnection with Country and community and healing our country, our mother, as well as healing our community and ourselves. Because of colonial influence and that sort of stuff, we've got a lot of intergenerational trauma, which results in a lot of issues, mental health, physical health [...] All of that is a factor that really goes hand in hand with the trauma associated with environmental change, negative environmental change, because there's already that distrust with authority and anger and trauma related to disconnection from country and being moved around and told that you're not allowed to perform certain practices or speak your language, that sort of thing."

"Our answer is our need for our Indigenous People to help reconnect all people, not just our own, to our land and to the knowledge that keeps our land well so we can be well. That's the onus on us Indigenous people to not just hold on to the knowledge, but share it and connect with other people on other lands, that they now call home."

b) Exchange of ecological adaptation practices

Sharing adaptation practices rooted in traditional ecological knowledge is crucial as it leverages the acute observations embedded in Indigenous Peoples' engagement with their territory. This ancestral knowledge, rooted in interdependence and honed over generations, provides routes for adapting to changing environmental conditions. Initiatives such as seed rescue and the cultivation of home gardens not only preserve biodiversity but also serve as vital repositories of resilience, fostering community-based strategies that are ecologically attuned, anchored in reciprocity with nature and culturally relevant in the face of climatic challenges.

"We began a process of selecting seeds that withstood the winds, droughts, and storms. We began to document which seeds were the most resistant; which aspects we wanted to preserve. Many localities lost their seeds - we made a practice of sharing with the commitment that if you gave a bag of seeds, next year you had to return two, so the seed bank was multiplying." (collaborator from Guatemala)

"We've identified some plants and right now the community has built an ecological water treatment system using moringa plants, moringa sun filtration systems. That's one of the coping strategies. So with these floods, they are able to have plants within the environment and they can construct a water filter system. That has really cushioned their mental health. They are able now to address those particular problems because they have ecological solutions within that community." (collaborator from Cameroon)

c) Intergenerational knowledge transmission

Intergenerational knowledge transmission is a co-beneficial action that integrates climate and mental health benefits. Amidst the destruction of the land and cultural heritage, there is a growing movement to reclaim, renew, and revitalise Indigenous practices, including traditional ecological knowledge, which offers opportunities for healing people and land. As Elders pass down traditional ecological wisdom, it not only enhances the community's resilience to climate change but also fosters a sense of cultural continuity and strength, promoting mental health through a shared connection to ancestral practices and to what it means to live harmoniously with the Earth.

"What they have done in the face of the loss and disappearance of seeds is to go and collect with their grandmothers, not only the knowledge to leave it in writing (we are very influenced by Western Culture). They have gone to collect the seeds, and they have thought about how to raise these plants in another context."

"Something that we have been recovering is not only the seeds, but the whole process of intergenerational exchange. That wisdom, that each seed has its own Culture; the Culture of corn, beans, bananas. That is to say - we have a very rich cultural baggage, which these new generations can take. Of course, many generations are losing contact with the generations that have wisdom."

"Much of our work is to strengthen the cultural aspects, linked to traditional knowledge. Accompanying life in the community, strengthening it from its own cultural vision...The children receive an education with cultural survival, and the children do not lose their cultural identity."

d) Supporting community-led action for climate adaptation

Allowing Indigenous communities to manage both resources and expertise empowers them to develop adaptive strategies to their unique cultural and environmental contexts, fostering self-sufficiency in the face of climate challenges.

"These actions that the people themselves do - these crises lead us to recovery practices, to walk the flooded cornfields."

"We have some experiences of adaptation - of early warning systems. The use of renewable energy as an important component - here I send a photo of a beautiful ecological park. The project promotes unity, leadership, and governance. The community manages the resources. We work with a community hydro - where the energy is generated for a community, and belongs to the community. Projects are made sustainable by the participation of the communities. The community brings sustainability. We inform our producers with our frost alert system."

Overview for themes of mental health interventions/solutions in the context of climate change

a) Self-determination and territorial sovereignty, including land stewardship

Strengthening connections to the land through self-determination and territorial sovereignty not only enables being in 'right' relationship with the Earth, but actively supports community members' mental health amidst climate change. Granting communities the stewardship of their lands, integrates co-benefits listed in the research category above (III) by preserving cultural continuity and traditional ecological knowledge, fostering a sense of identity and belonging crucial for mental wellbeing. The inclusion and protection of Indigenous land rights in climate action not only addresses ecological concerns but also contributes to the mental wellbeing of Indigenous communities by reinforcing their role as custodians of the land.

"We need to heal this by restoring this ancestral landscape, planting the native trees, and restoring all the vegetation in it. The spiritual one… We need to continue our sacred rituals. We need to continue our connection to the Mother Earth by recognising, identifying the early warnings that we have, the behavioural changes that we have, and the emergency response."

"In terms of practical implementation…this project is built on the traditional legislative council. That means it's not built on colonial state governments. It's built on the traditional government structure. Right now, our community there in Cameroon is planting these plants right now as a community of practice which has been decreed by the king of the Kom kingdom, but not necessarily the state government because the state government is political."

b) Health sovereignty, including access to traditional healing approaches

Health sovereignty refers to the right and ability of communities or individuals to control and govern their own traditional healing practices, including the cultivation and use of medicinal plants, rituals and other cultural approaches to health and wellbeing. Traditional healing approaches not only address mental health challenges, but also paint a more expansive canvas of wellbeing where spirituality and nature entwine, creating a sanctuary for cultural identity to flourish amid the compounding crises.

"The Mayan Tojolabal women also have planted a forest and medicinal nurseries, which in addition to supporting community health have a function within the ecological balance."

"You find that when people are getting worried, they have to visit a soothsayer here for mental healing."

c) Indigenous leadership in climate action and mental health interventions

Supporting Indigenous leadership in climate action and mental health interventions is imperative to ensure culturally sensitive approaches rooted in spiritual and cultural wisdom, ensuring each step is a dance in sacred right relations. Ensuring equal inclusion in decision-making of those belonging to Indigenous groups in the frontlines of climate change, is crucial to address their mental and wellbeing needs while incorporating their unique knowledge of ecosystem handling and protection.

"We have been able to do Indigenous, spiritual, cultural diagnosis and interpretation about climate change and mental health. We actually built interventions, not just public health interventions but also cultural, spiritual, and ancestral interventions to healing."

"We must continue to support Indigenous and community communities not only to rescue species and landscapes, but also the culture for a Buen Vivir [Good Living]."

"In this work, follow Indigenous leadership. Much of what we're already doing - standing strong in your identity. Our work, your viewpoint are very much needed now."

d) Intercultural approaches to mental health

The need for intercultural approaches to mental health arises from the imperative to bridge the gap between dominant biomedical frameworks and Indigenous worldviews. By integrating diverse perspectives and understanding the nuances of cultural contexts, intercultural approaches facilitate more effective and respectful mental health interventions that acknowledge the richness of Indigenous traditions alongside contemporary biomedical practices.

"There's mostly colonised mental health practices; not a lot of access to indigenized mental health practices such as cultural and spiritual healing practices."

"No matter the scientific studies, we really need to anchor on Indigenous perceptions and how people really think through this process in order to build interventions. We cannot build interventions that are scientific without cultural or spiritual interventions. People wouldn't be satisfied or mentally healed, it is important there is a wholesome response."

"No matter how much you do this explanation, you still have to get an ancestral explanation for their mental health to really be stable."

Additional findings from the inter-community dialogues

In addition to the findings listed above, we have included some additional context surfaced in the inter-community dialogues to help contextualise the priority research themes.

Peru

Adverse changes in climate and territory are urgent problems in the region, where deforestation rates are high, pollution is widespread and agrochemicals are used for monoculture agriculture. These issues are often overlooked in projects that seek economic growth. Climate change is a significant concern for the indigenous communities in the region, and they are experiencing its effects first hand. Some community members highlighted the fact that the weather is no longer as it used to be, with summers and winters arriving at different times and the climate becoming disorderly. They attribute these changes to deforestation, the cutting of trees near the streams and the use of agrochemicals.

Kinship with seeds and harmony with the Mother (Earth) are two key conceptualisations that stand out from the inter-community dialogue among Kichwa communities in San Martín, Peru. These issues are key to understanding both climate change and wellbeing, as well as their intersection, for this population. Below are excerpts from Waman Wasi's report that illustrate these themes [*translated from Spanish, with some words in Kichwa]*. These serve as concrete examples of cultural elements needed to foster wellbeing and mental health in this particular climate-affected context.

a) Seed kinship: Testimonies from the dialogue denote a Kichwa worldview that intimately links humans and seeds in kinship, where growing plants/crops is talked about as an act of *criar* (raising, as in raising a child).
b) Harmony with the Mother: Rituals and Earth-honouring practices are at the root of wellbeing. The practice of "asking permission from the Mother" [Earth] implies a complex sense of direct participation not only in the world but also in the spiritual relationships and ritual. One of the rituals consisted of *ikarar* (cleansing and protection through the smoke of the *mapacho* [tobacco]) and served to resume the intimate bonds of trust with the Mother of the mountain.

Reflective lessons from the Indigenous dialogues on research approach and methodology

We uncovered several tensions while undertaking this project. An important tension, felt across the LEWG, stemmed from the difference in pace and scale between research carried out within Western 'scientific' paradigms and genuine engagement with lived experiences that must be carried out at the 'pace of trust'. Another, specific to this sub-thematic dialogue, regarded the confrontation between different worldviews which implied a constant mediation and consultation around fundamental framings of the research with the different teams and communities involved in shaping the project (for instance, University ethics boards with set processes and language, and the Indigenous contributors for whom we needed to seek consent appropriately, considering cultural needs and access that accounted for different languages and levels of literacy).

Studies on Indigenous populations led by non-Indigenous scholars have frequently justified the exploitation of personal narratives for research purposes and have often tokenised individuals and communities in favour of reducing diverse cultures and perspectives, thereby undermining the heterogeneity and depth of the world's Indigenous knowledges. Our research team recognised the importance of prioritising a set of value principles to ensure the safety of and respect towards Indigenous collaborators and their contributions. These included, primarily: cultural sensitivity, relationality (prioritising relationships) and attention to process.

Creating an enabling environment with research practices rooted in care

Engaging Indigenous populations in a research process involves respecting and valuing Indigenous knowledge, fostering meaningful collaboration and acknowledging the historical context of colonisation (and how it affects the research process). Our approach to these dialogues was process-oriented, wherein the process itself was deemed just as important as the research outputs. In this iterative process, centred

around relationship-building and active listening, we put into practice several additional mechanisms to respect the autonomy and safeguard Indigenous community members.

Table 2: Practices to create an enabling research environment

Practices	How we approached this & observations
Taking guidance from diverse Indigenous advisors	As a first step to this workstream, we reached out to set up an Indigenous Advisory Group to ensure that the process and research aligned with Indigenous ethical standards. We engaged in a collectivised iterative design process that allowed for ongoing feedback and adjustments based on their inputs and feedback. Members of this group were compensated with a stipend for their time and contributions.
Feedback mechanisms	Providing feedback mechanisms as well as regular check-ins to ensure accountability and transparency during the process was important. This was done through group calls, personal check-ins, email threads and WhatsApp communication.
Different formats for dialogues	The need to have different formats of engagement was present from the beginning. As a result of preliminary conversations with networks and collaborators, the decision was taken to hold separate inter-community dialogues with the option for these to be in-person. The intention was to prioritise those who could not participate in the (originally planned) single virtual dialogue due to accessibility, and provides a tangible space for the exchange of cultural practices, stories, and knowledge around the intersection of climate and mental health. This connects to a later point on mutual benefit. Moreover, given the importance of regional exchange that surfaced during the dialogues, providing specific gathering moments to exchange experiences within particular regions is vital to facilitate engagement and relevance. Many other collaborators were interested in hosting their own inter-community dialogues with their communities, but due to time and budget restraints, we could only carry out two in Peru and Cameroon/Nigeria.
Sub-granting model to work with partners	A sub-granting model was set up in which the budget for the Indigenous dialogues was allocated to compensate the Indigenous Advisors, as well as the partners organising the Inter-community dialogues.
Relational focus	We aimed to prioritise moving at the speed of trust and favouring important processes such as checking in with collaborators, and adjusting to our partners' timelines and capacity. Being flexible with research timelines often meant we did not meet project deadlines, and we ended up pushing the virtual dialogue three months later than the initial dates set out by the global research team. This was also a result of the additional inter-community dialogues, which took place before the virtual dialogue in November and were our focus during that time period.

Recognition of labour and contribution	Research participants were deemed active contributors and collaborators in the research process. In addition to monetary compensation, they will be listed as intellectual contributors in external publications and outputs deriving from this work (including this report!).
Data sovereignty	We acknowledged that Indigenous communities have the right to govern their data. Especially in the case of the inter-community dialogues, this involved recognising that the data from those dialogues belongs to the community, and decisions about its collection, use, and storage should be made by the community. Our team and the core CCM team engaged in a process of justifying alterations to the Imperial College Research Ethics Committee around the ethics protocols on data ownership, in order to uphold intellectual property rights of Indigenous communities' knowledge and solidify Indigenous data ownership and control.
Informed consent, both individual and collective	Similarly to the point above, it was important to recognise that decisions about research participation extend beyond individual consent to encompass the collective wellbeing of the community. Collective consent marks approval from local overseeing bodies to enable research to take place and outlines the collective rights and expectations involved in the research. It also includes the collective power to give or withhold consent, make decisions, and ensure collective self-determination. We were guided by inter-community partners on protocols to obtain collective consent from the traditional authorities, and on the process to make the individual consent-giving process accessible to all collaborators, i.e. through fingerprint signatures on one single sheet. Ongoing informed consent will continue to be practised for the use and dissemination of findings derived in this project.
Flexibility around ways of working and communication	Working on a global project across all time zones implies flexibility on working hours and forms of communication. A lot of our work happened early or late at night, and we made sure to ask people what channels they preferred - some chose to engage through WhatsApp, others preferred weekly calls. The assumption that email is the favoured channel for communication was not the case for those outside of institutional roles and/or constant access to the internet/their inbox. Flexibility around ways of working also implied being comfortable with providing support where needed, more or less direct engagement with partners, and active problem-solving when things didn't go as planned.
Attention to accessibility at all stages	Being attentive to access needs at all stages meant thinking through dialogue formats and considering not only technological accessibility but also varying digital literacy levels of collaborators. For the virtual dialogue we opted to have less technological functions (no Jam Boards, Miro boards or polls), and give more time to spaces for story sharing. In addition, it was important to send out invitations in advance to be able

	to send stipends beforehand for collaborators needing to cover participation costs, including internet bundles.
Language accessibility	Given one of us was bilingual in Spanish-English, we translated all relevant documents into Spanish to share with our Inter-community dialogue partners and translated their findings into English to be included in this final report. Our partners held the inter-community dialogue in Spanish and Kichwa. The virtual dialogue also counted on a Spanish-English interpreter to make participation accessible to Latin American collaborators. The lack of translation capacity for invitations and documents, and budgetary limitations for the virtual dialogue, also limited our capacity to invite more non-English speakers into the virtual dialogue.

Action agenda

As the climate change and mental health field for Indigenous Peoples builds and the evidence base grows, it is crucial to avoid perpetuating existing challenges, including: 1) disconnections across disciplines and between researchers and policymakers; 2) unequal focus on topics and geographies; and 3) and siloed decision making for climate and for mental health. This includes guidance on how to best support the growing community of practice, how to translate evidence to action, and the principles that should guide this approach. Enacting this agenda will require transdisciplinary effort and coordinated action across research, research funding, policy, and practice. This action agenda sets out priority actions to work towards a thriving climate and mental health field.

Priority next steps/recommendations to actors/investors

Below is a summary of key actions and priority next steps to implement the research agenda and to translate evidence generated through research into policy and practice.

Work towards the protection of traditional healing practices and traditional ecological knowledges as cultural heritage.

- Advocate for legal recognition and protection of traditional healing practices and traditional ecological knowledges as part of the cultural heritage of Indigenous communities, with multiple benefits for health of people and territories. Work towards incorporating these aspects into national and international legal frameworks.
- Establish partnerships between Indigenous communities and cultural institutions to support communities in establishing community-led archives or repositories for traditional healing practices and traditional ecological knowledge. These repositories should prioritise community control, accessibility and the ability to manage and share information within the community.
- Develop educational programs to raise awareness about the importance of traditional healing practices and traditional ecological knowledges and their co-benefits to mental health.

Invest in supporting knowledge exchanges between Indigenous Elders and youth.

- Actively support community-led spaces for Elders to pass down traditional healing knowledge to younger generations, fostering continuity and preserving cultural practices that can strengthen climate resilience and mental health and wellbeing.
- Work with Indigenous cultural practitioners, artists and storytellers to create living repositories of their cultural heritage (also digital).

Implement straightforward procedures to access grants and financial resources and set up long-term funding partnerships.

- Resources are needed to support any community-led action, and often they are tied to funders' agendas. It is necessary to provide easy-to-access grant schemes for Indigenous communities, without unnecessary bureaucracy or funders' decision-making over the use of those funds. Adopt a community-driven approach that allows Indigenous communities to prioritise their funding needs.
- Appoint dedicated Indigenous liaisons within funding agencies or organisations. These individuals can serve as points of contact for Indigenous communities, offering personalised guidance and assistance throughout the application and reporting phases.
- Establish long-term funding partnerships with Indigenous communities to build trust and continuity. Multi-year funding commitments can reduce the burden of frequent application processes and provide stability for community initiatives.

Focus research efforts to strengthen intercultural public mental health services.

- Develop culturally-informed assessment tools that consider diverse expressions of mental health and wellbeing. Acknowledge and be guided by Indigenous understandings of wellbeing, which differ from Western diagnostic frameworks.
- Strengthen ethnographic approaches in mental health research. Additionally, foster more connections between the fields of medical anthropology, psychiatric anthropology and intercultural psychiatry, and put these in conversation with local climate scientists in each context.
- Hire researchers who are members of, or fluent in the languages spoken within, Indigenous communities.
- Generate more research collaborations between the fields of land health and mental health.
- Generate more research collaborations across language barriers (i.e., Spanish-speaking, French-speaking, English-speaking Indigenous mental health and climate researchers) to avoid siloes across colonial language groups.

Advocate for and implement policies that support culturally-responsive mental health services.

- Ensure that policies reflect the unique needs and rights of Indigenous individuals and communities.
- Implement trauma-informed care approaches that recognize and address the historical and intergenerational traumas experienced by Indigenous individuals and communities.
- Incorporate protective factors that contribute to mental health and wellbeing (e.g., access to cultural resources that enable cultural continuity) into mental health promotion efforts.
- Inadequate representation of Indigenous peoples in healthcare governance, policymaking and service delivery can hinder the development of culturally sensitive health systems. Work with and hire Indigenous health workers, psychologists and traditional healers.

Integrate Indigenous knowledge in climate campaigning.

- Connection to, and kinship with, the non-human world and web of life can open many paths into different ways of relating to the living world and of responding to its drastic imbalances. Focus on the link between planetary health and human wellbeing.
- Collaborate with Indigenous communities to co-create and implement climate campaigns. Incorporate traditional ecological knowledge in campaign strategies and solutions.
- Prioritise building long-term relationships based on mutual respect and trust. Be committed to ongoing collaboration beyond the duration of specific campaigns.

Advocate for and actively support Indigenous land sovereignty and the protection of sacred sites.

- Collaborate with Indigenous communities to identify and safeguard culturally significant areas. Conduct educational campaigns, workshops and events to highlight the importance of Indigenous land sovereignty and the protection of sacred sites. Foster a broader understanding of the historical context and ongoing struggles. Encourage divestment from projects that infringe on Indigenous land sovereignty.
- Give resources to help Indigenous communities buy back their ancestral lands.
- Develop policies and practices that explicitly protect sacred sites and ensure these are implemented by local and international actors (e.g., mining sector, farming trade unions).

Challenges and limitations of the research process

We experienced a number of challenges during the research process and have included suggestions to address them in future research (see Table 3 below).

Table 3: Research challenges and strategies to address these in future research

Challenges	Comments and suggestions
Obtaining a comprehensive understanding of Indigenous experiences at a global level	Indigenous populations are extremely heterogeneous, spanning every region of the world, including urban and rural communities across diverse territories. Ensuring there is some representation across all regions is an important effort, though will inevitably fall short in providing any sort of comprehensive understanding of 'Indigenous' issues, worldviews or solutions. This corresponds to the previous point of making different formats and spaces available for exchange, supporting both intra- and inter-community exchange.
Short-term nature of project and urgency	Short-term project deadlines are often at odds with the internal processes of engaging collaborators, including the capacity, resources and time needed for the relational aspects of trust-building, respect for people's time and ongoing consultation. This can also lead to the reproduction of extractive research practices.
Continuity and sustainability of collaborations	Time-based global research projects of this kind rarely hold commitment to collaborators. Collaborators expressed the need and desire to have continued spaces of convergence, as well as

	resources to set up their own communities of practice. Building long-term, trusting relationships with Indigenous communities involves building rapport, understanding the local contexts, and being present over time, acknowledging that trust is central to meaningful collaboration.
Language accessibility	Language accessibility for the dialogues and outputs, including live interpretation and translations for the documents, were not prioritised within the initial budget allocation. Attention to this element as a priority is vital for further collaborations and research, with the aim of making all publications available and accessible to those who contributed their time and insights. Whenever possible, use Indigenous languages in research materials, and ensure that communication is culturally sensitive, clear, and accessible to the community.
Sharing insights with collaborators and communities	Almost all collaborators expressed their desire to see the results of their contributions. Similar to the point above, it is a challenge to share back insights with contributors without the allocated capacity and support for translations that is needed.
Benefit sharing	Although we aimed to create a space that was mutually beneficial, a research project of this nature had many limitations to this. Future research should ensure there are mechanisms for benefit sharing to ensure that the outcomes of the research contribute positively to the wellbeing of the Indigenous communities involved. This involves contributing back to the community, beyond the immediate research objectives, for example through capacity-building, skill development, or tangible benefits based on community priorities. Some of our collaborators asked for learning materials and trainings, another said: *"People are tired of people coming to talk to them without help."* This extends to a recognition that many favour action and sustained collaboration over research at this point.
Epistemological tensions between scientific/Western gaze and diverse Indigenous worldviews	This is inherent to a research project hosted in a northern institution, which engages contributors that hold different worldviews and conceptions outside of those in the dominant spaces for knowledge production. Epistemic justice goes far beyond representation and inclusion, and requires consistent and thorough revisions of power, framing and methods across the processes of knowledge production. A lot of literature on this exists, including on decolonial research methods such as community-based participatory action research.
Making space for different	Related to the point above, it's important to challenge traditional

ways of knowing	data collection and analysis methods by incorporating Indigenous research methodologies. This includes embracing various communication styles, whether oral traditions, storytelling, or visual methods.
Indigenous research capacity	Invest in building research capacity within Indigenous communities. This involves providing training and resources to enable community members to participate actively in the research process, fostering self-determination.
Outreach	Want to tread carefully, with the awareness that potential collaborators may be understandably wary or hesitant, and many Indigenous people in institutional roles are overburdened with demand for these kinds of initiatives.
Siloed workstream	Indigenous dialogues as a separate stream, not cross-cutting all the other dialogues can fall into the trap of tokenisation and making these 'case studies' next to 'general' global observations. It would be advisable to embed Indigenous expertise and leadership across all areas of research endeavours, and within each regional team.
Disconnections across sectors and the need for interdisciplinary exchange	Further, the challenges this work seeks to start to overcome across sectors - disconnected, uneven, siloed - are huge and deeply embedded. The need to have truly interdisciplinary, bridging approaches means also engaging practitioners, lived experience experts and community members working outside of academia and formal institutions: engaging traditional wisdom keepers and healers, holding space for other forms of engagement that value different ways of knowing and communication such as Whatsapp channels or more active social media, etc.

Conclusion

This research and action agenda does not purport to speak on behalf of Indigenous groups, nor does it purport to cover a comprehensive scope of their lived experiences and relationship between climate change and mental health. It is in no way an exhaustive agenda and should be seen as a starting point for further engagement and careful action. The research themes here are limited by the team's ability to reach different groups and lived experiences and by the vast heterogeneity of Indigenous cultures around the globe. It also subject to the positionality of our team, priorities of our funders, resources available to find, access and compensate contributors, and time allotted to develop the report.

While this project falls within a biomedical framework of mental health, the question at the heart of this effort also asks: what is being erased if we only speak in these terms? Perhaps Western frameworks that limit mental health to biomedical models are equally a reflection of the separation between people and territories, which is itself a symptom of an underlying problem at the root of the climate crisis. If we see these colonial separations at the root of climate change and also at the root of how we understand mental health, we're required to make more space for our collective bodies of knowledge to come to the forefront of how we understand and nurture wellbeing.

Directions for learning and action identified in this agenda require contextualisation at local, regional and global levels. The research and action steps outlined above provide a starting point for a range of stakeholders. Key process lessons documented, such as those related to building trust, working in relational ways and honouring Indigenous sovereignty, are applicable across myriad research and action contexts. We invite others to engage in sensitive, respectful and community-based research rooted in self and collective determination. Upholding and uplifting Indigenous knowledges related to mental health and climate change must continue to be centred in collective efforts to navigate and respond to the climate crisis.

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The authors have no conflicts of interest to declare.

Glossary

For a glossary describing relevant concepts and key words for the Connecting Climate Minds research and action agendas, please download from here.

Appendices

Appendix 1: data collection and storage

Dialogues

We conducted two inter-community dialogues were conducted in person and one global dialogue virtually on Zoom.

The data gathered during the dialogues represented transcripts of the conversations, as well as any visuals and links shared by collaborators. Due to the extended and in-person nature of the inter-community dialogue in Peru, we used the narrative report submitted by our partner Waman Wasi as the basis for the analysis.

For the virtual global dialogues and breakout groups were recorded and transcribed by third party providers (Way with Words and Absolute Translations), and Zoom chat comments were saved. In dialogue 1, Word documents were used to capture notes from breakout discussions. In dialogue 2, Jamboard was used to capture notes and for participants to directly contribute comments.

Data storage and sharing

Data was stored and managed by Imperial College London using a secure server. The Climate Mental Health Network was a Joint Data Controller for the data provided to this project for Indigenous Dialogues and responsible for securely storing and sharing data with Imperial College London and with regional analyst teams. Data will be stored by Imperial College London for 10 years after study completion.

Individual consent was carried out using the online platform Qualtrics. All data was collected by Imperial College London and anonymous data, where relevant, shared with the Climate Mental Health Network for analysis.

Appendix 2: agenda for inter-community dialogues

A. Kichwa inter-community gathering, Peru

DAY 1 (September 29th)

Time	Activity	Participants
9.00 12.00am	Arrival time of the delegations from the provinces of San Martin, Lamas, Bellavista. Also, the communities of the province of El Dorado.	Entire Waman Wasi team.
12.30pm	Lunch	
2.30 3.00pm	**First dialogue:** Climate change and our collective, spiritual and emotional health. **Tentative questions for the dialogue:** - What are some of the changes occurring to the territory's lands, waters and rest of living beings in your community? How are these understood? - How does your community discuss emotional and spiritual health related to climate change, if at all?	Waman Wasi team + community members.
3.00 5.30pm	**Community health and medicinal plants** Medicinal Plant fair Testimonies on healing and knowledge of medicinal plants. **Tentative questions for the dialogue:** - How have drastic changes in your territory impacted traditional ecological knowledge and land-based practices? What effect has this had on the emotional wellbeing of community members? - What are some territorial practices and ancestral knowledge that benefit emotional and collective health in the community? - Are there medicinal approaches or healing practices that are effective in helping community members cope with the emotional toll of climate change?	Healers, midwives, midwives, *sobadoras*, bonesetters, etc. Elders and community members.
6.30 7.30pm	Group work	Community members
7.30pm	Dinner	
8.00 9.30pm	Video screening	
9.30 10.30pm	Storytelling circle	
10.30pm	Rest	

DAY 2 (September 30th)

Time	Activity	
6.00am	Visit to chagras	

7.30am	Breakfast	
8.30am 11.00am	**Dialogue time:** Climate change and food sovereignty **Tentative questions for the dialogue:** - Are there any adaptations to practices and traditions that your community has started doing to respond to the cultural disruptions caused by environmental changes? - Are there any community-led initiatives or strategies in place to address the collective impacts of climate change on food sovereignty and access to clean water?	Community members + Waman Wasi team
	Agrobiodiversity Seed Fair	Warmikuna Tarpudoras
	Testimonies of agrobiodiversity breeding in a context of climate change	Community members
11.00am 12.30pm	**Community education and challenges: Biocultural proposals in the face of climate change.** **Tentative questions for the dialogue:** -How can intergenerational knowledge exchange support in building emotional and cultural resilience in the context of a changing climate?	Gestores Comunitarios
12.30pm	Lunch	
2.30 4.30pm	**Cultural practices for biocultural regeneration** **Tentative questions for the dialogue:** - How is climate change affecting cultural identity, and what relationship does this have with spiritual and emotional health? - In what ways do climate-related changes, such as altered seasons or extreme weather events, affect traditional ceremonies, rituals, and spiritual practices?	Community members
4.30 5.00pm	**Closing**	

B. Kom and Anam community gathering, Cameroon/Nigeria/Kenya

	Activities	**Time**
1	Welcome introducing CCM, dialogue guidelines/goals and logistics by Prof Kenneth Yongabi Anchang. - Safeguarding guidance / warning - Culturally sensitive welcoming/blessing	10 mins

3	Introduction of the Ibanikom Climate Mental Health Literacy Prof Kenneth Yongabi, The Coordinator highlights successes	10 mins
4	The Philosophy of the The Three Fingers ethos of the Ibanikom Climate mental health Literacy – setting the Tone.. Fr Joseph Ateh The Kom ancestral and traditions in relation to maintaining mental and climate health presented in the Kom dialect and interpreted in English by the Regent and Traditional Communicator- Gya Kom.. Bobe Mathew Yonghabi	15 mins
5	**Discussion round #1: Mental Health and Climate Change** Exploring the mental health impacts of climate change: a. What are some of the changes occurring to the territory's lands, waters and rest of living beings in your community? How are these understood? b. Can you share any story or teaching that highlights the spiritual significance of certain natural elements and how they are changing now? c. How does your community discuss emotional and spiritual health related to climate change, if at all?	30 mins
6	Story sharing - intercommunity dialogue partners share experiences with in-person gatherings on climate and mental health.	15 mins
7	**Discussion round #2:** Intersections with cultural, spiritual and emotional health: a. In what ways do climate-related changes, such as altered seasons or extreme weather events, affect traditional ceremonies, rituals, and spiritual practices? b. How have drastic changes in your territory impacted traditional ecological knowledge and practices? What effect has this had on the emotional wellbeing of community members? (Kom Community and Anam Community) c. How is climate change affecting cultural resources (ecological and spiritual practices, community and relations), and what relationship does this have with spiritual and emotional health? d. How do historical events that your community's ancestors lived through intersect with current impacts of a changing climate?	30 mins
8	**Discussion round #3:** Resilience and coping mechanisms e. Are there any adaptations to practices and traditions that your community has started doing to respond to the cultural disruptions caused by environmental changes?	30 mins

	f. Are there any community-led initiatives in your region to address and care for the collective impacts of climate change on food sovereignty and access to clean water? g. What are some territorial practices and ancestral knowledge that benefit emotional and collective health in the community? Are there medicinal approaches or healing practices that are effective in helping community members cope with the emotional toll of climate change? h. How can intergenerational knowledge exchange support in building emotional and cultural resilience in the context of a changing climate? i. What are some needs or aspirations you have from external actors (organisations, politicians, movements) that could influence your ways of being, becoming, and doing in the face of climate change? What support or actions do you envision from XXX (institutional actor) to foster a more equitable and interdependent relationship that respects your own knowledge and practices? j. Imagine you can feel strong and supported in your cultural and ecological practices. What would this look like?	
9	Open floor discussion	30 mins
10	Next steps and closing remarks	5 mins
11	**Closing**	

Appendix 3: agenda for Connecting Climate Minds online Indigenous dialogue

Activities	Time
Musical opening **Dr. Kyle Hill** **Short welcome + translation logistics** **María Faciolince, introducing CCM + team.** **Culturally sensitive welcoming/blessing** **Dr. Donald Warne**	10 mins
Entering space **María Faciolince** In the chat, so we all can get a sense of who's in the room with us, Share with us: What's one being (animal or plant, or spirit) you have a relationship with? Let's invoke them into this space with all of us today. *Read some out loud.*	5 mins
Intro to CCM **María Faciolince/Lian Zeitz**	10min
Lived experience sharing on spiritual, collective and mental health in the context of climate change from the perspective of Indigenous communities. **Datu Lanelio Sangcoan** **Dr. Donald Warne** **Dr. Allison Kelliher** **Dr. Kyle Hill**	15 mins
Share some guidelines/principles for the shared space **Lian Zeitz**	5 mins
Breakout #1: Mental Health and Climate Change Facilitators: **Dr. Kyle Hill, María Faciolince and Lian Zeitz** Note-takers: Erica Asinas, Daniel Voskoboynik <u>Breakout rooms activities/questions</u> Ask everyone the same questions. Offer space to draw/create something in response to questions as well. (Drive link or whatsapp number to send them to; screenshot)	30

Exploring the mental health impacts of climate change on Indigenous Peoples: a. What are some of the changes occurring to the territory's lands, waters and rest of living beings in your community? How are these understood? b. Can you share any **story** or teaching that highlights any cultural or spiritual significance of certain natural elements and how they are changing now? c. How does your community discuss emotional and spiritual health related to climate change, if at all? *To be supported by a dedicated rapporteur that will take notes*	
Larger group sharing and debrief: highlights about what was experienced and shared in breakout groups. **Facilitated by María Faciolince**	10 minutes
Story sharing - intercommunity dialogue partners share experiences with in-person gatherings on climate and mental health. **Girvan Tuanama (Waman Wasi, Peru) and** Kenneth Yongabi Anchang **(Ibanikom, Cameroon/Nigeria)**	15 minutes
Short bio break	3 minutes
Welcome back and explanation of next group discussion	30 mins
Breakout #2: Resources and pathways ahead Facilitators: **Dr. Kyle Hill, María Faciolince and Lian Zeitz** Note-takers: Erica Asinas, Daniel Voskoboynik <u>Break-out rooms activities/questions</u> Give people the option to focus on either of the themes below. Group 1: Intersections with cultural, spiritual and emotional health: a. In what ways do climate-related changes, such as altered seasons or extreme weather events, affect traditional ceremonies, rituals, and spiritual practices? <u>+ sacred sites</u> b. How have drastic changes in your territory impacted traditional ecological knowledge and practices? What effect has this had on the emotional wellbeing of community members? c. <u>+ Disconnection from Country/land</u> d. How is climate change affecting cultural resources (ecological and spiritual practices, community and relations), and what relationship does this have with spiritual and emotional health? e. How do historical events that your community's ancestors lived through intersect with current impacts of a changing climate?	

Group 2: Resilience and coping mechanisms: f. Are there any adaptations to practices and traditions that your community has started doing to respond to the cultural disruptions caused by environmental changes? g. Are there any community-led initiatives in your region to address and care for the collective impacts of climate change on food sovereignty and access to clean water? h. What are some territorial practices and ancestral knowledge that benefit emotional and collective health in the community? Are there medicinal approaches or healing practices that are effective in helping community members cope with the emotional toll of climate change? i. How can intergenerational knowledge exchange support in building emotional and cultural resilience in the context of a changing climate? j. What are some needs or aspirations you have from external actors (organisations, politicians, movements) that could influence your ways of being, becoming, and doing in the face of climate change? What support or actions do you envision from XXX (institutional actor) to foster a more equitable and interdependent relationship that respects your own knowledge and practices? k. Imagine you can feel strong and supported in your cultural and ecological practices. What would this look like? *To be supported by a dedicated rapporteur that will take notes on the jam board.*	
Group sharing and debrief of breakout #2: highlights about what was experienced and shared. **Facilitated by María or Advisory Group member**	15 mins
Sharing draft work of graphic recorder **Rebekah**	5 minutes
Closing remarks **Dr. Kyle Hill**	5-10 mins
Next steps and closing **María and some words by Lian**	5 mins **Time 150 min**

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