

SUMMARY AGENDA

Climate and Mental Health Research & Action Agenda for

Small Farmer & Fisher People



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FARMER AGENDA LEADS:



Executive summary

Connecting Climate Minds (CCM) is a Wellcome-funded initiative which aims 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, thematic 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 summarises the research and action agenda for climate change and mental health for small farmers and fisher peoples; the full agenda¹ has been published separately and is available [here](#).

Globally, small farmers and fisher peoples face heightened and exacerbated climate change impacts on their mental health due to a range of factors, such as the impact of climate hazards on their livelihood, work conditions and their inherent connections to the land and sea. From rising suicide rates of farm workers in areas of drought in India to amplified anxiety related to threats to crop production,² the toll on these populations remains high, necessitating further research in this area.³ Emerging research highlights that compounding hardships that come from tending to the land, the uncertainty caused by extreme weather conditions and shifting seasons, and slow-onset climate-related changes may significantly increase the risk of mental health impacts on small farmers and fisher peoples⁴. As such, research at the intersection of climate change and mental health in relation to small farmers and fisher peoples is growing across the world, contributing to an expanding body of evidence focused on meeting the needs of these populations. Yet despite the expansion of research in this area, data and exploration into these sub-groups is relatively small compared to the scale of the challenge. Further, the translation of research into actionable information for these communities and the application of these learnings into community-based solutions remains nascent.

As part of the CCM research and action agenda on climate change and mental health for small farmers and fisher peoples, we identified a number of priority research themes, spanning themes such as the intersection of mental health and regenerative farming to the mental health impacts of crop loss due to flooding or drought to the effects of emerging intervention areas, such as farmer hotlines, insurance schemes and community gardens. We also put forth a set of recommended actions for diverse stakeholders to engage with these populations in research and action.

We hope these findings demonstrate the value of meaningfully involving people with lived experiences in research and help garner greater awareness of the heightened need for mental health responses for small farmers and fisher peoples amidst climate change.



Introduction

Climate change and mental health for small farmers and fisher peoples

Existing research

Globally, small farmers and fisher peoples face heightened and exacerbated climate change impacts on their mental health due to a range of factors, such as linkages with livelihood, work conditions and inherent connections to the land and sea. From rising suicide rates of farm workers in areas of drought in India to amplified anxiety related to threats to crop production across the world, the psychological toll of climate changes on these populations appears high, necessitating further research in this area.³ Emerging research highlights that compounding hardships that come from tending to the land, the uncertainty caused by extreme weather conditions and shifting seasons, and slow-onset changes, such as coastal changes and rising temperatures, may significantly increase the risk of mental health impacts on small farmers and fisher peoples.⁴ As such, research at the intersection of climate change and mental health in relation to farmers and fisher peoples is growing across the world, contributing to an expanding body of evidence focused on meeting the needs of these populations. Nonetheless, much of the data and exploration into these sub-groups is nascent and not commensurate with the scope of challenges documented. Further information on existing research in this area can be found in the appendix.

Findings from the Connecting Climate Minds project

This following section sets out the key insights heard from small farmers and fisher peoples as part of the Connecting Climate Minds (CCM) project, presenting a synthesis of what we heard through dialogue, expert consultations and a literature review, as key emerging needs for these groups for mental health in the context of climate change.

What mental health outcomes appear to be impacted?

Small farmers and fisher peoples outlined significant climate-related mental health impacts and risks. Despair and hopelessness were shared as frequent experiences of farmers, and the impact of these emotions leads to mental health challenges, including anxiety and depression. Suicide was also mentioned as an occurrence resulting from climate impacts.

Who appears to be particularly affected by the mental health impacts of climate change?

Children (from farming and fishing families)

Elderly farmers

Migrant and rural farmers and fishers away from family and community

Parents (from farming and fishing families)

Those facing food insecurity

Women (from farming and fishing families)

What appear to be the pathways and mechanisms linking these climate hazards to mental health outcomes?

The table below summarises key findings from the dialogues regarding key pathways and mechanisms linking climate hazards to mental health outcomes for small farmers and fisher peoples.

Context	Finding	Representative quotes from the dialogue
Consequences of extreme weather events (flooding, hurricanes, heatwaves) on livelihoods, food security and communities/ infrastructure	The compounding and amplified impact of increasing extreme weather and its consequences on farming and fishing communities impacts mental health.	<p>“ A fisherman in Florida was struck by a hurricane last year and was able to save boat but there was no port (destroyed) – the stress of losing business, losing friends and family was there. ”</p> <p>“ I visited a province in Afghanistan and asked about drought (four decades) where many people don't have clean water to drink. UN agencies are digging wells for communities. Families facing acute insecurity of food and water impacts their mental health. ”</p>
Loss of homes and crops/ livestock	Loss of property, livestock and crops (and resulting familiar challenges) was identified as a determinant of mental health challenges amidst climate change. The resulting mental and practical barriers to farming then increase food insecurity, which demonstrates the cyclical impacts between climate and mental health.	<p>“ The 2022 floods in Nigeria, a farmer lost crops. Felt impact this year. Some people couldn't farm this year because they were scared. Lots of hunger, mental instability. Government policies were not helpful. ”</p> <p>“ I come from a family where we farm livestock and climate matter (rain) often causes our livestock, especially the goat-kids, to die. So it brings a lot of anxiety and makes us anxious during this period. ”</p>
Financial impacts and economic pressures	The financial crises arising from climate change experienced by farmers is a major concern for mental health. For instance, flooding impacts finances, which then impacts mental health.	<p>“ Farmers are having a financial crisis because of late crop cultivation and damage to crops. Stress with family leaving. The family was harvesting cash crops and dependent on it but then a flood came and destroyed it. The family's income was less and impacted the whole family. ”</p>
Food and water insecurity	Drought and the impacts of climate change on water and food quality and access were discussed as pathways for mental health challenges.	<p>“ Drought has been around for decades with impacts especially to women. With drought-there is no water in SE Afghanistan. The community depends on wheat and rice for cultivation but due to drought they lost money, animals, and products. ”</p> <p>“ In Eastern Madagascar a farmer friend lost everything. Villages suffering hunger. One month gathering and eating only insects. ”</p>

Context	Finding	Representative quotes from the dialogue
Beliefs around climate change and lack of awareness	<p>There is a need for more awareness around climate change broadly and its impacts on mental health.</p> <p>Greater awareness can lead to increased availability of resources and an uptake in access to mental health support.</p>	<p>“ I have concern people don't know what is happening with climate change. They notice heat and floods but don't know what is causing the climate change. My concern is the little knowledge about climate change amongst farmers. By advocating on mental health and climate change farmers will be more advanced knowing what they should do. If you are one step ahead, then you can make changes now. My only concern is what knowledge farmers have about climate change. ”</p> <p>“ Farmers don't use existing resources. I think that people are entitled and need to be respectful and go through procedures and don't go and instead try to fix on their own. Need to try to educate people about climate change and mental health first because everything is free but the farmers aren't using it fully. ”</p> <p>“ Seasonal workers – most not aware of mental health. Climate change and mental health are global problems but we need local solutions. ”</p>
Compounding social injustices, including colonialism	<p>The ongoing impacts of colonisation, extractive capitalism and systemic racism across the world contribute to compounding burdens related to mental health and climate change faced by these communities.</p>	<p>“ Exposure of the challenges you face in a colonised territory - it's not the same as farming in a “wealthy situation”. Racism that piles up into the mental health of farmers of colour and farm workers - mostly are farmers of colour. ”</p>
Farming conditions	<p>Workplace conditions related to climate were identified as a source of stress that leads to physical and mental harm.</p>	<p>“ Another issue for farm workers is harvesting in hard conditions... Research is needed on physical stress. ”</p>

Research agenda

Priority research themes

This research agenda presents an aligned vision to guide the climate and mental health field for small farmers and fisher peoples. Research priorities have been generated through consultation with experts across disciplines, sectors and geographies and iterated with experts regionally and globally; they are presented within three overarching research categories that were identified as areas of critical need for further work globally, based on an initial review of literature (see appendix for further details). The priority research themes represent areas where targeted research investment could create a full picture of climate-related impacts on mental health challenges, their mechanisms, and solutions across both mental health and climate actions.

RESEARCH CATEGORY

Impacts, risks and vulnerable groups

Priority research themes:

Understanding the nature, prevalence and severity of mental health needs in small farming and fishing communities experiencing escalating climate hazards.

Quantifying the economic cost of climate-related mental health impacts on small farmers and fisher peoples.

Identifying the most pressing climate-related mental health and physical health comorbidities amongst farmers and their interactions.

Identifying which factors most influence mental health outcomes related to crop or livestock loss and/or destruction of farms due to extreme weather and climate disasters.

Understanding how the ongoing and compounding experiences of the climate crisis affect small farmers and fisher peoples' anxiety and stress, and at what point these experiences become debilitating and impact personal, familial and social functioning such that they constitute a mental health challenge.

RESEARCH CATEGORY

Pathways and mechanisms

Priority research themes:

Assessing how the multi-level impacts of flooding affect small farmers and fisher peoples' mental health.

Understanding the relationship between loss of livelihood and mental health amongst small farmers and fisher peoples.

Exploring how farmers' beliefs and perceptions of climate change impact their mental health outcomes, their individual capacity to engage in mental health solutions to climate challenges and their participation in climate action.

Understanding the extent to which sustained financial hardship and/or inability to recover from loss and damages caused by climate change impacts the mental health of small farmers and fisher peoples.

Understanding the ways in which climate change is amplifying displacement for small farmers and fisher peoples, and how this affects mental health.

Understanding the mental health impacts of individual and collective uncertainty related to climate change experienced by small farmers and fisher peoples globally.

Understanding how farming conditions, particularly long exposure to extreme heat, impact the mental health of farm workers.

Understanding how food and water insecurity caused and/or amplified by climate change impacts the mental health of small farmers and fisher peoples.

Mental health interventions/solutions in the context of climate change, including climate adaptation or mitigation actions that have co-benefits to mental health

Priority research themes:

Assessing the mental health benefit of crop insurance schemes for small farmers, particularly in the context of climate change.

Understanding how rural health workers trained in mental health can better support the unique mental health challenges of farmers in the climate crisis.

Identifying the most helpful peer support skills to support farmers affected by climate change with limited or disrupted access to formal mental health services.

Understanding which mental health interventions complement adaptive and regenerative farming practices.

Exploring how to improve food sovereignty (the right to healthy and culturally appropriate food produced through ecologically sound and sustainable methods and the right to define one's own food and agriculture systems) in climate-related crises and understanding whether this would benefit the mental health of small farmers and fisher peoples.

Identifying methods to effectively measure the impact of hotlines on farmers' mental health and understanding the best interventions that can be delivered over the phone to support farmers affected by climate hazards.

Understanding which mental health interventions offer the best early detection and response to suicidality experienced by small farmers and fisher peoples.

Action agenda

The identified research priorities will only be of value if they are enacted. The climate and mental health field is relatively new and rapidly growing, and now is the time to ensure that it is designed to deliver a mentally healthier future in the context of the climate crisis.

Priority next steps / recommendations to investors and actors

On the next page 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.



NGOs and educators should:

- Integrate theory and practice on the mental health impacts of climate change on small farmers and fisher peoples into existing workstreams. Mental health can be integrated into existing efforts that support these groups, such as through education, public awareness and workplace health programs.
- Explore collaborative opportunities that create shared understanding of climate impacts on mental health with people that have lived experience to understand emerging challenges, opportunities for action and what small farmers and fisher peoples' needs are related to mental health.
- Co-create and advocate for specific policy recommendations that support small farmers and fisher peoples' mental health and wellbeing in rural and urban areas.
- Support peer connection amongst small farmers and fisher peoples in different places.
- Establish networks of small farmers and fisher peoples to share experiences and build resilience.

Funders should:

- Commit more resources, financial and technical, toward research and action on small farmers and fisher peoples' mental health.
- Explore collaboration opportunities between the agriculture and mental health sectors, serving as a bridge builder between groups working in silos.
- Provide financial and technical support for mental health services in rural areas.

Researchers in mental health, climate change and beyond should:

- Deepen the evidence base on what already is working to support small farmers and fisher peoples' mental health in the face of climate change.
- Explore multidisciplinary, collaborative research that involves participatory and relational approaches to knowledge generation.
- Partner directly with farming and fisher communities most affected by climate change impacts.
- Identify what supports small farmer and fisher peoples' resilience amidst climate change.

Campaigners and policymakers should:

- Elevate small farmers and fisher peoples' mental health in regional and global forums, highlighting the amplified impact on these groups.
- Ensure agricultural policies, climate policies and mental health policies account for and centre the impacts on small farmer and fisher peoples' mental health and wellbeing.
- Uplift stories from people in diverse contexts about their experiences navigating mental health and climate change impacts.
- Incentivise and invest in evidence-based co-beneficial action (when available), such as climate-smart farming practices that are potentially beneficial for mental health, such as sustaining farming practices known as agroecology.

The participants we engaged in this project expressed a strong interest in being meaningfully engaged in research and intervention development, expressing hope that by being involved they can contribute to positive change for themselves and their communities. Researchers working with these sub-populations can engage in co-creation practices that centre diverse lived experiences as part of any research or solution created. The act of engaging in research was seen as a positive experiential intervention on its own.

Conclusion

This research and action agenda contributes to a wider area of work and study on the mental health impacts of climate change on small farmers and fisher peoples; yet more extensive study and funding is needed to truly understand the complex interplay between people's lived realities and directions for action that benefit mental health and the planet. We found that the centring of the stories and lived realities of small farmers and fisher peoples elicited important insights into the unprecedented toll of climate change on mental health for these groups. It was evident that people from these groups want to be deeply engaged with and involved in research and action; those in positions of power and decision making have an opportunity to centre lived experiences and wisdom in all efforts to improve the mental health of small farmers and fisher peoples.

Moving forward, the focus areas for research and action outlined in this agenda can help mobilise greater attention and resources to understand and respond to the compounding burdens faced by groups who help sustain the global food system and that are most attuned to the changes taking place on land and at sea. The findings reveal the potential for a wellspring of insight and wisdom from these groups if they are engaged intentionally and thoughtfully as collaborative partners rather than research subjects.



Who produced this report

Authorship team

This report was written by Lian Zeitz at the Climate Mental Health Network with feedback and editing from the Climate Cares team at Imperial College London, including Emma Lawrance, Jessica Newberry Le Vay and Didi Thompson. Sarah Newman from the Climate Mental Health Network supported outreach, recruitment, and material review.

This is the independent work of the authors with the support and input of the Connecting Climate Minds team.

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Conflicts of interest

The authors have no conflicts of interest to declare.

Appendix

Connecting Climate Minds (CCM) overview

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.

Methods

Full methods can be found [here](#).

We produced this research and action agenda through a robust and inclusive methodology to capture, combine and refine a rich diversity of perspectives. The Climate Mental Health Network adapted the structure of this dialogue from the methodology developed by the Connecting Climate Minds core team in consultation with Regional Community Teams, a Global Advisory Board and Wellcome. Methods and materials were adapted for the small farmers and fisher peoples dialogue to ensure a balance of global standardisation across CCM with context appropriateness and flexibility.

Pre-dialogue scoping

The Climate Mental Health Network identified an outreach list of over 40 international organisations working with small farmers and fisher peoples across the world. We hosted over 15 informational calls and learning sessions with practitioners working in this area to socialize the project and gauge interest for participation. Some of the small farmers and farm worker groups whom we are engaged with included: Asian Farmers Association, Slow Food (Eastern Europe and Central Asia), Food and Agriculture Organization of the United Nations (FAO), Good Food Farming (EU), World Farmers Market Coalition, University of Guelph, Canada, Farmworker Justice (USA), Conscious Food Systems Alliance, and University of Minnesota Land Extension among 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 dialogue was a 90-minute session that provided small farmers and fisher peoples with the opportunity to share perspectives and insights on climate change and mental health. Breakout rooms and reflective sessions were used to learn about small farmers, farm workers and fisher peoples' experiences. The sessions also explored participants' vision and perspectives on research priorities for climate change and mental health, and priorities for action and interventions (an understanding of both successful and not successful ones, what people need but don't have access to, and an understanding of the barriers to accessing or creating interventions).

The dialogue was co-facilitated with the Conscious Food Systems Alliance (CoFSA) who helped with recruitment and breakout group facilitation.

Analysis methodology

All research data was thematically analysed to identify key themes that arose out of the qualitative data provided by participants. The flow of analysis followed a familiarisation with the dialogue transcripts and language used during the dialogue. It then involved a coding process that helped to elicit key themes and patterns. The themes identified were then reviewed by the internal team, resulting in a defining of key themes. The findings were then written up in the analysis outlined in this report.

Participants

Dialogue participants were a diverse group across geographical spread, gender, sector, and discipline. In total, 28 participants attended the dialogue. The tables below provide a breakdown of participant characteristics.

Geographical spread:

	Dialogue 1	
Country	Number	Percentage
Afghanistan	1	4%
Bangladesh	7	25%
Canada	3	11%
India	2	7%
Italy	1	4%
Kenya	1	4%
Nepal	1	4%
Nigeria	1	4%
Philippines	1	4%
United States of America	5	18%

Region:

	Dialogue 1	
Region	Number	Percentage
Central and Southern Asia	13	46%
Eastern and South-Eastern Asia	1	4%
Europe and Northern America	8	29%
Sub-Saharan Africa	6	21%

Gender:

	Dialogue 1	
Gender	Number	Percentage
Men	10	37%
Women	16	59%
I do not know / prefer not to say	1	4%

Survey participants:

Pre-dialogue survey: 28

Process-based approach to research on climate change and mental health with farmers and fisher peoples

The dialogue with small farmers and fisher peoples aimed to create an inclusive process that created space for the diverse lived experience and wisdom of participants to emerge. The facilitating team used a semi-structured facilitation guide that allowed for emergent topics to arise naturally. The process of recruitment was done relationally with significant time committed to sharing about the research process, providing additional information when required, and creating space for feedback on the ways the dialogue would be delivered.

Participants were provided honorarium for their time engaging in this dialogue that supported transportation, wifi and time costs for engagement.

Ethics, data collection and storage

Ethics

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). Informed consent was obtained via an online form through the platform Qualtrics.

Data storage and sharing

Dialogues were conducted virtually on Zoom following informed consent from all participants. Research data was collected by CMHN and then transferred to Imperial College London to be securely stored in line with Imperial College policies using a secure server, and the GDPR Data Protection Act 2018. All relevant data was de-identified that was shared. Any identifiable information stored outside of Imperial College London was deleted once transferred. Data will be stored by Imperial College London for 10 years after study completion.

Summary of existing research on climate change and mental health for small farmers and fisher peoples

As the climate crisis escalates so too will the related mental health consequences faced by small farmers and fisher peoples. However, current evidence only scratches the surface of the range of experiences encountered by these groups on the frontlines of climate change. Existing research has documented strong associations between rising ambient temperatures, extreme droughts, and various other climate catastrophes on the mental health of farmer populations; rising temperatures also pose increasing threats to wellbeing and sustainable development. In the article, *Striving for Balance and Resilience: Ontario Farmers' Perceptions of Mental Health*, Bondy and Cole (2020) highlight that farmers' views on the mental health impacts of climate change are under-researched.⁸ In a systemic review of small farmer mental health interventions worldwide, Hagen et al., (2019) note that, "while some geographic regions had a substantial body of literature, knowledge gaps remain including the prevalence of mental health outcomes, how they are impacted by risk and protective factors, and which intervention strategies are most impactful in farming communities."⁹ With some well-documented impacts and a need for more understanding of intervention strategies relevant to these communities, this project aimed at highlighting the lived experiences of farmers at the intersection of climate change and mental health to identify critical priorities for future research and action.

Similarly, fishing communities across the world are seeing increases in anxiety, depression, and stress due a range of factors associated with climate change, such sustained job insecurity.¹⁰

A particular area of further exploration that existing studies point to is the need for more research on vulnerable sub-populations within these groups and greater understanding of the links between physical and mental health impacts of climate change on small farmers and fisher people.¹¹

Glossary

Climate change, mental health and their intersection are complex and wide-ranging fields. For the purpose of this agenda, we define the scope of these terms as follows.

By **mental health challenges**, we mean thoughts, feelings and behaviours that affect a person's ability to function in one or more areas of life and often involve significant levels of psychological distress. This includes, but is not limited to, anxiety, depression, post-traumatic stress, psychosis, suicidal thoughts and substance misuse.

By **experiences of the effects of climate change**, we mean: 1) experiencing direct impacts of climate hazards, such as more frequent and intense heatwaves, wildfires/bushfires, drought, floods or storms (for example, typhoons, hurricanes, cyclones), and 2) experiencing disruption to the social and environmental determinants of good mental health, such as being forced to move home, not being able to access food or water, losing livelihood or homelands, or disruption to cultural practices as a result of climate change.

By **experiences of the effects of climate change**, we mean: individuals and groups that are small-scale operators who manage small areas of land or sea. The Food and Agricultural Organization of the United Nations notes that, "smallholders are characterized by family-focused motives such as favouring the stability of the farm household system, using mainly family labor for production and using part of the produce for family consumption."¹²

Mental health challenges in the context of climate change include:

- How climate change may lead to worsening pre-existing mental health challenges.
- How climate change may contribute to the prevalence or impact of existing mental health challenges.
- How climate change may impact treatment access or effectiveness for those with mental health challenges.
- How climate change may lead to new mental health challenges.

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

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