第258回FASID BBLセミナー 「気候変動とメンタルヘルス~エコ不安症とどう向き合うか~」 2024年1月24日(水)開催

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UNU MERIT ♠ > BBLセミナー情報 > 第258回FASID BBLセミナー「気候変動とメンタルヘルス〜エコ不安症とどう向き合うか〜」 2024年1月24日
(水) 開催



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FASID 第258回 Brown Bag Lunch セミナー 気候変動とメンタルヘルス

~エコ不安症とどう向き合うか~ 2024年1月24日 (水) 17:00~18:30 オンライン開催

★通常の開催時間と異なりますのでご注意ください。

★字幕・手話通訳の手配が可能です

気候変動の影響に直面した今、私たちの心の健康を保つために何をすべきか考えませんか?

Agenda

- 1. Climate change impacts on health
- 2. How does climate change affet mental health?
- 3. Climate Injustice Inequality and vulnerability
- 4. Cases
 - a. Geographical insights and traditioanl or community approaches
 - I. South East Asia
 - II. Africa
 - b. Future generation
- 5. Global advocacy and climate negotiation
- 6. What can be done, next steps Co-benefits of climate action for mental health outcomes



1. Climate change impacts on health



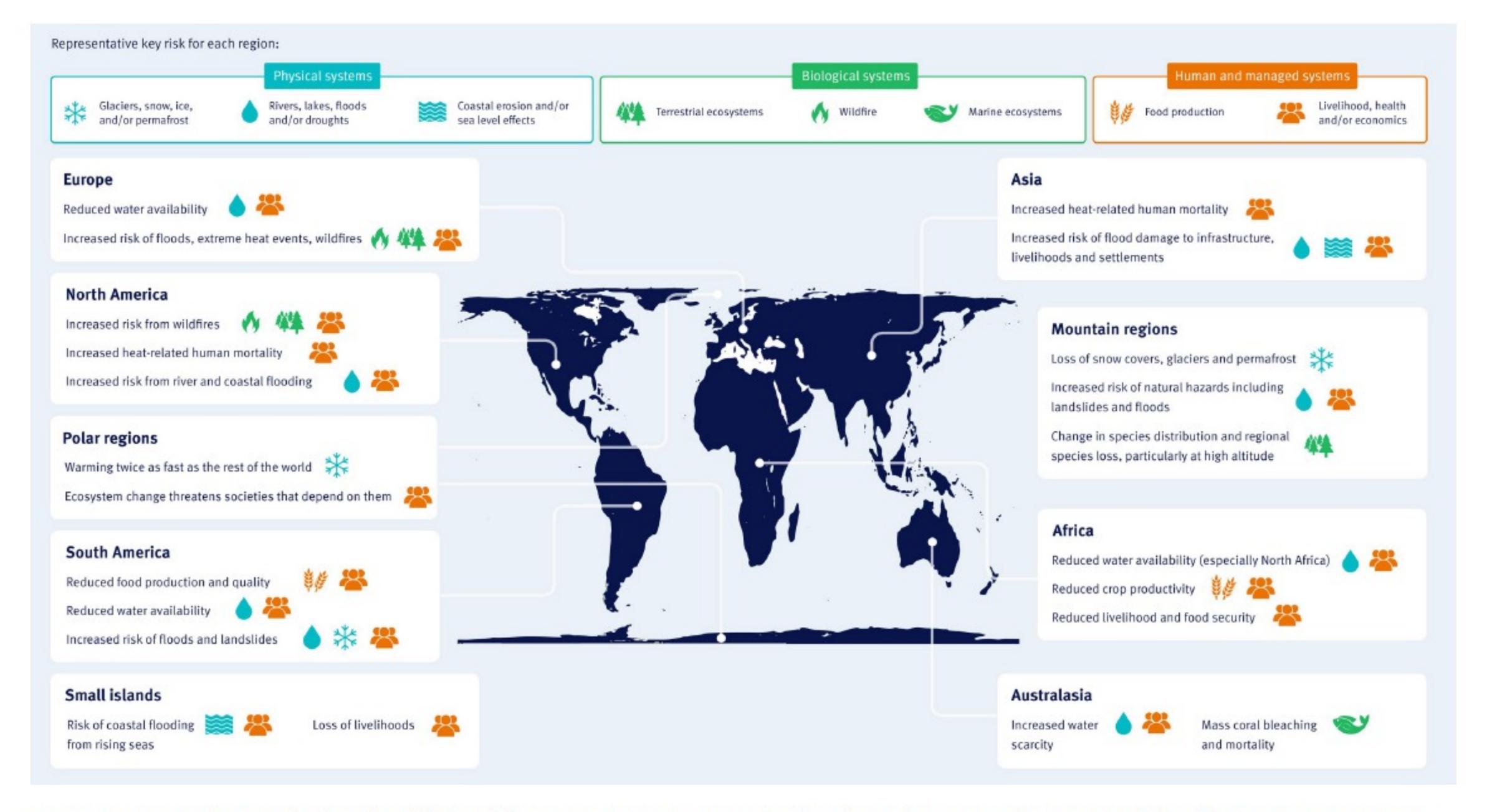
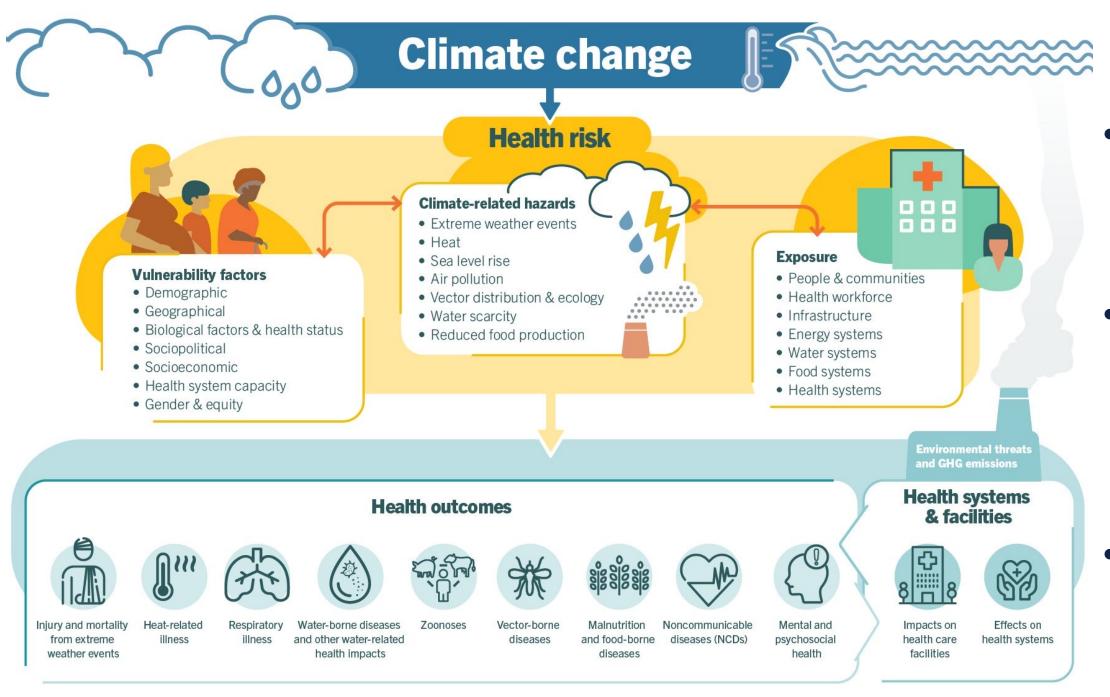


Figure 2: Key near term (2030-2040) risks to physical, biological, human and managed systems resulting from climate change across different regions of the world. Risks include reduced water availability in South America, reduced food security in Africa and changes in species distribution and regional species loss in mountainous areas across the world. Adapted from Figure SPM.8 of the IPCC Fifth Assessment Report Summary for Policymakers (2014)35.

Lawrance, et al., 2021

Climate change impacts health both directly and indirectly, and is strongly mediated by environmental, social and public health determinants.



- Climate change is directly contributing to humanitarian emergencies from heatwaves, wildfires, floods, tropical storms and hurricanes and they are increasing in scale, frequency and intensity.
- Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from undernutrition, malaria, diarrhoea and heat stress alone.
- The direct damage costs to health (excluding costs in health-determining sectors such as agriculture and water and sanitation) is estimated to be between **US\$ 2–4 billion per year by 2030**.
- Areas with weak health infrastructure mostly in developing countries will be the least able to cope without assistance to prepare and respond.
- Polluted air kills 5 million people each year



Reducing emissions of greenhouse gases through better transport, food and energy use choices can result in very large gains for health, particularly through reduced air pollution.

The causes of climate change are rooted in human behaviour and hence human psychology

With action to tackle climate change requiring a reshaping of societal and individual choices and lifestyles that minimise the emission of greenhouse gases.

It is **important to understand the range of psychological responses** – thoughts and feelings – that individuals and communities have in relation to

climate change in order to appropriately engage communities in climate adaptation and mitigation efforts while supporting mental health and emotional wellbeing.





How does climate change affet mental health?



CLIMATE CHANGE IMPACTS



Gradual changes in average climatic conditions (e.g. temperature, sea level)



Acute extreme weather events (e.g. floods, fires)



Chronic extreme climate events (e.g. droughts)



MENTAL HEALTH



New cases of mental illness



Increased symptoms of diagnosable mental illness



Increased susceptibility to physical ill-health or death for those with diagnosable mental illness



Worsened population mental health



Mental and emotional distress



Figure 6: Examples of the continuum of impacts that climate change has on mental health outcomes. Climate change impacts (top row of circles) including rising temperatures and sea level, and extreme weather events such as floods or droughts, lead to mental health impacts (bottom row of circles) including new cases of mental illness, mental and emotional distress, and increased susceptibility to physical illness or death for those who meet the criteria for mental illness. This occurs directly and indirectly via a variety of pathways represented here as a continuum, from direct experiences (left hand side of shaded box) for example of extreme high temperatures or home loss in a wildfire, to indirect experiences of climate impacts (right hand side of shaded box) for example by reading about such events in the media.

Multifaceted impacts of climate change on mental health

"a state of mind characterized by emotional well-being, good behavioral adjustment, relative freedom from anxiety and disabling symptoms, and a capacity to establish constructive relationships and cope with the ordinary demands and stresses of life" (American Psychological Association ,2020)



Direct and indirect impacts of CC:

- Post- and Pre-Traumatic
 Stress Disorder
- Depression
- Disruption of psychosocial well-being
- Fear, anger, anxiety, helplessness, hopelessness
- Alcohol, Susbstance abuse
- New terms: Eco-Anxiety / Climate anxiety / Climate grief / Eco-grief / Solastalgia, etc.



New terms describing impacts of climate change on mental health

- Climate change anxiety is associated with the symptoms
 of generalised anxiety disorder and is experienced by people, often
 young, overwhelmed with anxiety and the feeling that they have no
 control over the planet's future.
- <u>Eco-grief</u> is triggered by witnessing environmental degradation, viewing media depictions or indirectly experiencing the climate crisis.
- 'Solastalgia' is used to describe feelings of people whose native lands or familiar environments are changing quickly and who have experienced a loss of sense of place.
- These mental health conditions could occur through
 - <u>acute events</u> such as storms, floods, and wildfires;
 - long-term changes such as droughts and heat stress as well as related food and water insecurities; and
 - <u>long-lasting changes</u> to landscapes and physical environments caused by altered ecosystems and landscapes.





Mental health conditions already represent a significant burden worldwide. Even without climate change, the situation for mental health globally is already challenging. In many countries large gaps exist between mental health needs and the services and systems available to address them. In fact, most people with mental disorders do not receive any care. This is particularly true in low- and middle-income countries, where fewer than 20% report receiving adequate services (3).



Only 13
the median number
of mental health workers
for every 100 000 persons (5)



of years lived with disability are caused by mental (14.6%), neurological (7.6%) and substance use (2.7%) disorders (2)



1 billion

The number of people worldwide living with a mental disorder (2)



\$ 1 trillion
The annual cost of common
mental disorders (4)



Only 2% of Governments health budgets are spent on mental health (5)

These figures will be exacerbated by the climate crisis!



Climate Injustice - Inequality and vulnerability



Climate change

Climate change -related hazards

- Extreme heat
- Flood
- Storm
- Sea-level rise
- Drought
- Wildfire

Climate change -related global environmental threats

- Deforestation; Land use change; Loss of biodiversity; Extinctions; Ocean pollution; Overfishing
- Repeated exposure to climate-related disasters

Exposure pathways

Environmental

- Air pollution
- Insufficient water quantity, quality
- Food insecurity
- Ecological changes

Socioeconomic

- Loss of livelihood
- Property loss or damage
- Loss of autonomy and control
- Conflict, violence
- Inequalities
- Forced migration
- Loss of personal important places
- Witnessing changes and damage to landscape and ecosystems
- Awareness of climate change and extreme weather events and their impacts

Possible mental health and psychosocial outcomes

- Stress reaction
- Strained social relationships
- Mental health conditions (e.q. anxiety-, depression-, and stress-related conditions)
- Helplessness, fear and grief
- · Suicidal behaviour
- Alcohol and substance use
- Emerging concepts (ecological grief, eco-anxiety, solastalgia)

Climate injustice

The climate impacts fall heavily on those oppressed by historic and present social, economic, and political power dynamics. (APA, 2020)

MH is not the result of single events, but the result of complex causal chains that begins before birth and changes across the life-course development

Vulnerability factors and inequalities

Health

- Chronic diseases
- Physical disabilities
- Pre-existing mental health conditions

Socioeconomic

- Poverty
- Precarious housing
- Informal, insecure Ethnicity work

Demographic

- Age
- Sex
- Indigenous status

Geographic

- Conflict zones
- Remote communities
- Water-stressed zones
- Areas prone to extreme weather events

Sociopolitical

- Gender
- Political instability
- Displaced populations
- Discriminated groups

Predictions: Evidence for impacts on specific mental health outcomes

Suicide

Increased suicide rates with increasing temperatures have been reported globally, from low- to high- income settings.

- Approximately a 1% increase in the number of suicides for each 1°C temperature increase, once the temperature passes a threshold that is unique to each location (Gao, 2t al., 2019).
- The exact relationship depends on contextual factors such as humidity or demographic variables (Inoue, et al., 2008).
- Rising temperatures will lead to 22,000 extra suicides (95% confidence interval 9,000 40,000) across the United States and Mexico alone by 2050 (e.g., Burke, et. al., 2018).
- Air pollution (e.g., Isabelle, et al., 2019) and extreme weather events such as a wildfire or hurricane (e.g., Brown, et al., 2018) can both contribute towards higher rates of suicide.

Increased new cases of mental health problems

Climate change increases the risk that people will experience prolonged distress that meets criteria for mental illness

- Extreme weather events are associated with stressors and traumas (e.g. displacement, food insecurity, grief and loss) that may increase mental health burden and reduce wellbeing.
- Psychological trauma, including new cases, have been understandably observed following extreme weather events including floods, hurricanes and bushfires (e.g., Australian Government report, 2020) but also in response to slower acting climate events such as droughts (e.g., Vins, et al., 2015) and rising sea level (e.g., Asugeni, et al., 2015).
- Worsened mental health including new cases or worsened symptoms of PTSD, depression, anxiety and substance abuse have been observed in citizens of **all ages** as well as **healthcare professionals working in disaster relief** (e.g., Kar, et al., 2006).



Predictions: Evidence for impacts on specific mental health outcomes

Displacement / migration

- There could be as many as 200 million climate refugees by 2050 as a result of climate change and the associated flooding, rising sea level, droughts and growing shortage of food and arable land (e.g., Myers, et al., 2002).
- People will increasingly be temporarily evacuated or locally displaced by climate-related disasters, such as those who had to temporarily flee or permanently lost their homes in the Australian bushfires. **All these forms of displacement or migration come with mental health burdens** (e.g., Shultz, et al., 2019).

Worse outcomes for people with mental illness

People who experience mental illness are more vulnerable to the effects of climate change on physical / mental health.

- People with pre-existing mental illness, particularly psychosis, dementia and substance abuse, have a two to three times higher risk of death during heatwaves than people without (e.g., Cianconi, et al., 2020).
- Higher temperatures have been associated globally with increased risks of hospital admissions including in the emergency department for experiences diagnosed as bipolar disorder, schizophrenia, alcohol and substance misuse, dementia, and self-harm (e.g., Almendra, et al., 2019).
 - O Due to side-effects of medications for mental illness, because they impair the body's ability to regulate temperature, leading to higher risk of severe physical symptoms (e.g., Martin-Latry, et al., 2007) particularly among the elderly (e.g., Dodgens, et al., 2016).
 - There may be insufficient awareness of this risk among those on such medication or indeed among healthcare and first aid practitioners (e.g., Mann, et al., 1978).
- High temperatures can lead to poorer sleep, altered blood flow and other physiological processes that underlie cognition, which in turn can worsen the symptoms of mental illness and reduce mental wellbeing (Taylor, 2017).



Cases: Geographical insights - traditioanl or community approaches

South East Asia (ref: Soo Chen Kwan, 2022, UNU-IIGH)



(b) Observed impacts of climate change on human systems

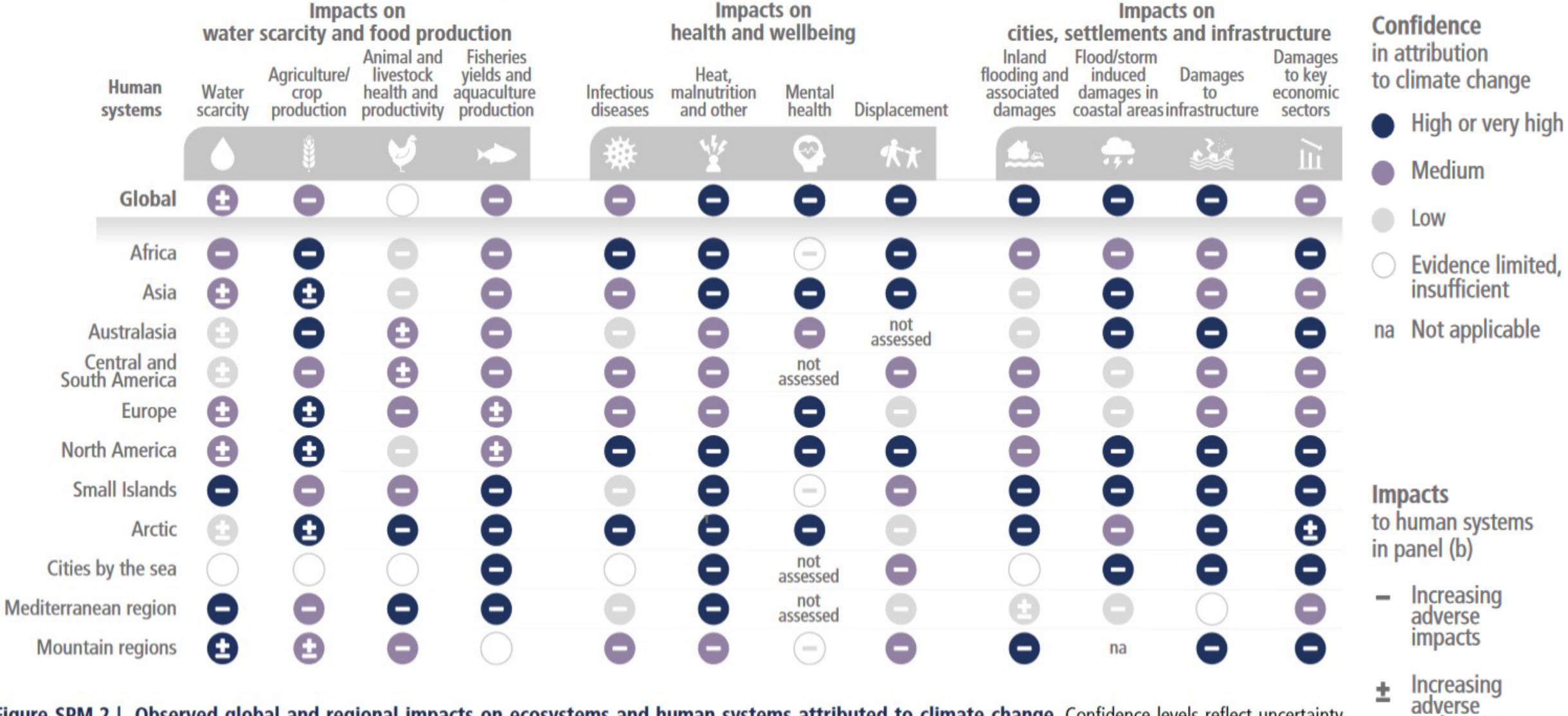


Figure SPM.2 | Observed global and regional impacts on ecosystems and human systems attributed to climate change. Confidence levels reflect uncertainty in attribution of the observed impact to climate change. Global assessments focus on large studies, multi-species, meta-analyses and large reviews. For that reason they can be assessed with higher confidence than regional studies, which may often rely on smaller studies that have more limited data. Regional assessments consider evidence on impacts across an entire region and do not focus on any country in particular.

IPCC, 2022: Climate Change 2022: Impacts, Adaptation, and Vulnerability.

and positive

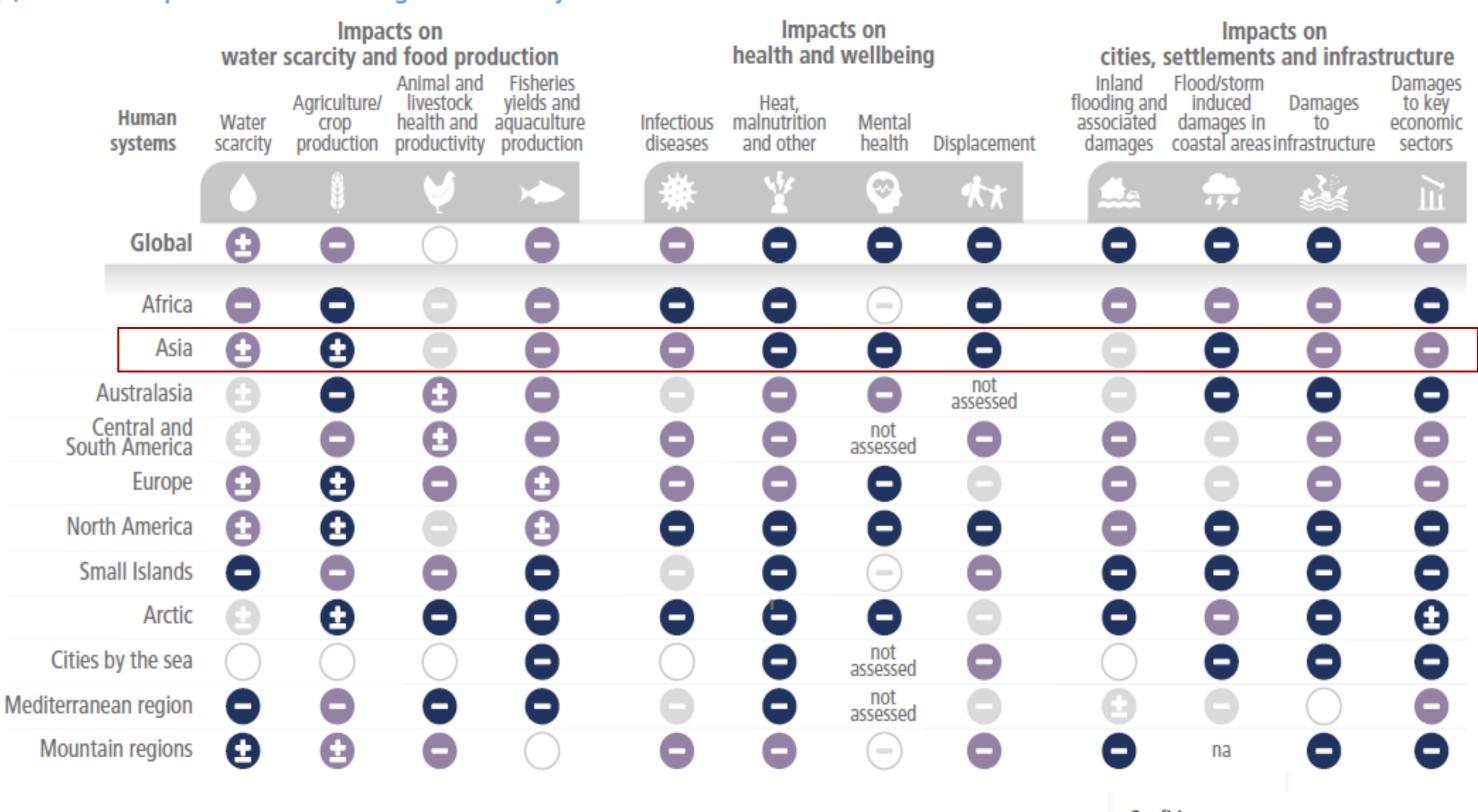
impacts

Climate change and impacts on human systems in Southeast Asia (SEA)

Climate projections

- minimum temperature extremes (warm nights) very likely warmed faster compared the the maximum temperature by 1.2 °C to 3.8 °C
- Increases in annual mean rainfall over most land areas but drier conditions during JJA.
 Monsoon precipitation is projected to increas
- Increase in meteorological droughts as a consequence of an increasing frequency of extreme El Niño.
- Increase intensity of tropical cyclones wit decreasing frequency and an increase in th amount of TC-associated precipitation is projected.

(b) Observed impacts of climate change on human systems





Predicted conditions: displacements; water insecurity; food insecurity; cultural disruption and livelihood change (indigenous people); increase in heat related illnesses; infectious diseases; mental health issues – vulnerability in informal settlements and the poor

Impacts

Cultural challenges of addressing mental health in SEA

- Different cultural groups somaticize psychological illnesses
 - Filipinos do not differentiate between physical and mental disorders disaster survivors seek out indigenous and folk healers for disturbed behavior and somatic complaints that appear to have no medical causes
 - In Cambodia, the term *baksbat* (broken courage) is used to describe post trauma symptoms including feeling fearful, mute and deaf, and lacking trust in others (Chhim, 2012).
- The cultural value of shame, lack of knowledge, and presence of stigma attached to persons with mental illness prevents them from seeking formal care.
 - Survivors generally prefer seeking help from family and friends.
- Traditional beliefs with the existence of traditional healers (indigenous and folk healers)
 - Herbalists Kru Khmer in Cambodia; arbolarios and manghihilots (magnetic healing using prayers and massages) in Filipino, especially in rural areas
 - Also popular in East Timor, Viet Nam, and Indonesia (up to 80% before they consult a medical professional).



Hechanova et al. (2020). Cultural implications for the provision of disaster mental health and psychosocial support in Southeast Asia. Resistance, Resilience, and Recovery from Disasters: Perspectives from Southeast Asia.



Cultural sensitivity of MHPSS interventions in SEA MHPSS: Mental health and psychosocial support

- Reduce the barrier of stigma
 - Campaign (e.g. renaming schizophrenia)
 - Offering services in less stigmatizing locations to reduce shame digital services
- MHPSS Interventions to incorporate cultural dimension (values, beliefs, practices) for better outcomes.
- Community, and society interventions that promote social support and interdependent coping efforts may be more important in SEA.
- Collaborative networks to avoid fragmentation
 - counsellors, psychotherapists, psychologists & psychiatrists
 - local healers (provide training to both sides for integration)
 - survivors' natural counselors families, incorporating the family in treatment by providing psychoeducation to reduce stigma
 - disaster responders, community health workers, leaders, religious workers
 - non-governmental organizations (NGOs) and universities





Ito et al. 2012. Lessons learned in developing community mental health care in East and South East Asia. World Psychiatry 2012;11:186-190.

Cases: Geographical insights - traditioanl or community approaches

East Africa (ref: Kariuki Weru, 2022, UNU-EHS)



(b) Observed impacts of climate change on human systems Confidence Impacts on Impacts on Impacts on health and wellbeing water scarcity and food production cities, settlements and infrastructure in attribution Animal and Flood/storm Fisheries Damages Inland to climate change yields and induced to key Agriculture/ Heat, Damages livestock flooding and Human aquaculture Mental Water health and malnutrition damages in Infectious associated economic crop production coastal areas infrastructure High or very high and other Displacement production health scarcity productivity diseases sectors systems 水水 Medium 0 Global 0 0 Low 0 Africa Evidence limited, 0 0 insufficient 0 0 Asia 0 Not applicable Θ not 0 Australasia Central and Θ assessed South America 0 0 8 Europe 0 8 0 North America 0 0 **Impacts** Small Islands 0 0 to human systems 8 8 0 0 Arctic in panel (b) Cities by the sea assessed Increasing not Mediterranean region adverse assessed impacts 0 Mountain regions na

Figure SPM.2 | Observed global and regional impacts on ecosystems and human systems attributed to climate change. Confidence levels reflect uncertainty in attribution of the observed impact to climate change. Global assessments focus on large studies, multi-species, meta-analyses and large reviews. For that reason they can be assessed with higher confidence than regional studies, which may often rely on smaller studies that have more limited data. Regional assessments consider evidence on impacts across an entire region and do not focus on any country in particular.

IPCC, 2022: Climate Change 2022: Impacts, Adaptation, and Vulnerability.

Increasing

and positive

adverse

impacts

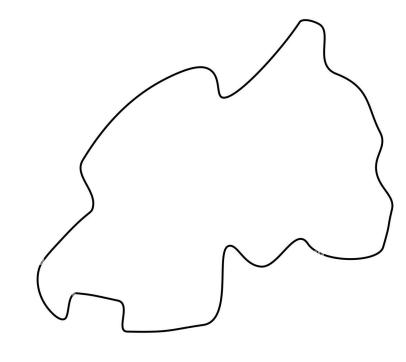
Clinical services in East Africa at a glance



Kenya:

≤ 1,500 psychiatric beds

≈100 psychiatrists



Rwanda:

2 psychiatric hospitals

0.06 MH* staff per 100,000



DRC:

≤ 1,000 psychiatric beds



Tanzania:

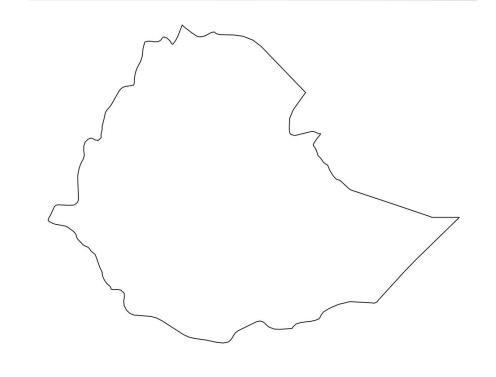
≤ 1,000 psychiatric beds



Uganda:

1 referral psychiatric hospital

≤50 psychiatrists



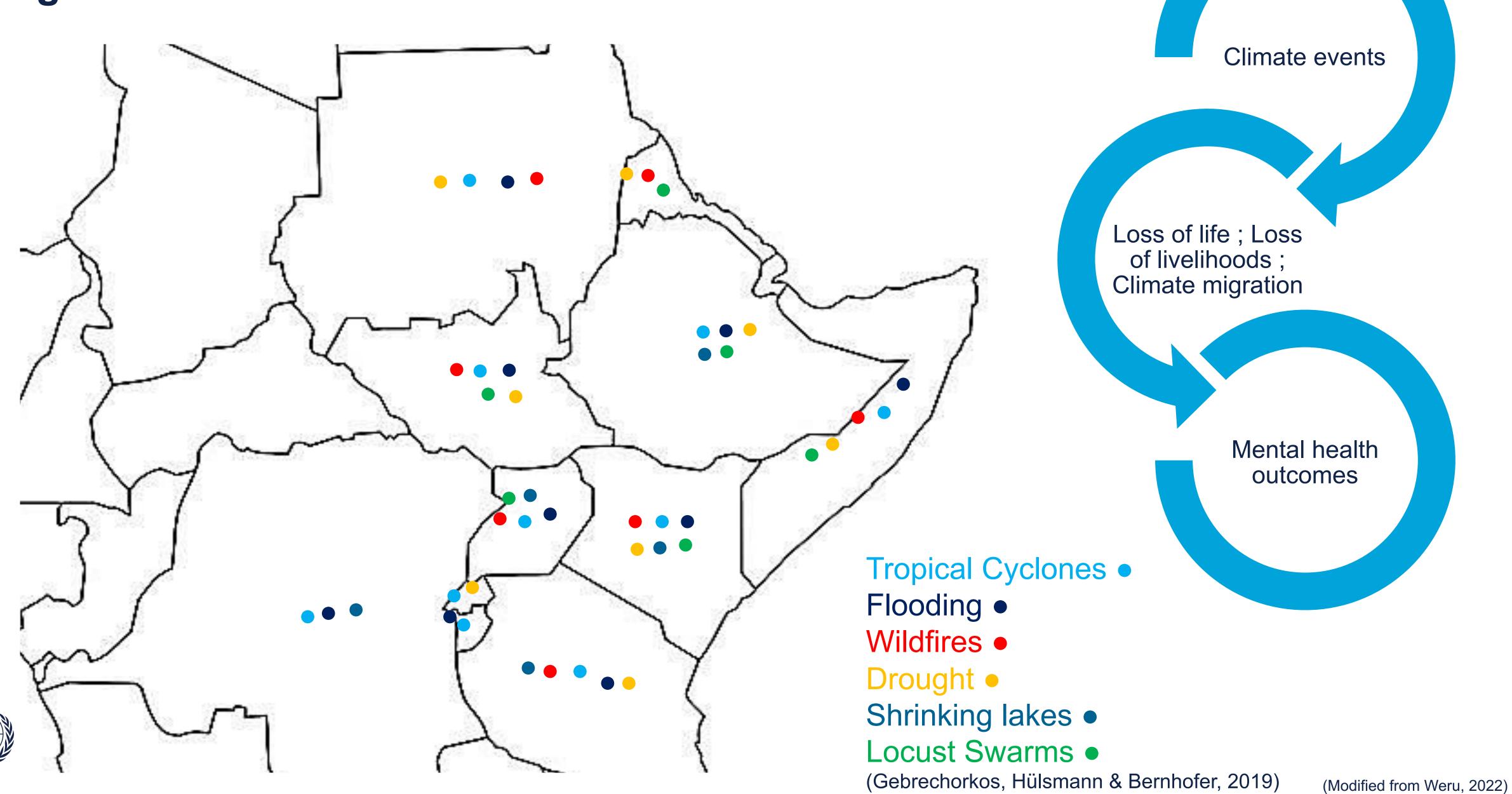
Ethiopia:

1 psychiatric hospital

≤ 500 psychiatric beds



Regional Climatic Events in East Africa



Progress nonetheless..



Community dialogues bring together community leaders and beneficiaries of psychosocial support with the aim to find sustaina solutions to deal with mental health issues. Photo: © IOM Burundi 2022 / Laëtitia Romain

https://www.weforum.org/agenda/2021/08/4-facts-mental-health-africa/ https://www.afro.who.int/news/access-mental-health-and-psychosocialsupport-services-remains-unequal-children-and





<u>=</u>Q



KENYA MENTAL HEALTH POLICY 2015 - 2030

Towards Attaining the Highest Standard of Mental Health

SCALING DEPRESSION TREATMENT

FOR WOMEN IN SUB-SAHARAN AFRICA

66M

Number of women in sub-Saharan Africa who suffer from depression*

85%

Women are affected at twice the rate of men.

StrongMinds sees

communities.

depression rates as high as 1 in 4 in some

have no access to effective treatment.

For every one woman who recovers from depression

four members of her household feel the benefits



MEALS EATEN

ATTENDANCE











8-12 SESSIONS

*StrongMinds Estimate

80%

of women treated remain depression-free six months after therapy ends.

Cases:

Future generations – Youth and children

Youth's perceptions, Perspectives from psychological development and intervention



The lack of progress in global climate action contributing to distress, especially among young people and children

As climate change-induced risks and events have been in news headlines almost daily, many young people and children learn about governments' inertia on global climate action.

- A recent landmark study conducted in 10 different countries (Australia, Brazil, Finland, France, India, Nigeria, Philippines, Portugal, UK, USA) with 10,000 young people (16-25 years old) revealed that more than 80% of respondents worried about climate change and more than half were extremely and very worried with emotions with expressed as 'sad', 'afraid', 'anxious', and 'angry'. (Hickman, et al., 2021)
 - The respondents regard governments as failing to address or act on the climate crisis in a coherent, urgent way, expressing that they feel betrayal and abandonment both individually and on behalf of future generation.
- Another study reported that young people are factoring climate-anxiety into their decisions on whether or not to have children, with 97% saying they were concerned about the well-being of children in the future. (Schneider-Myerson, et al., 2020)



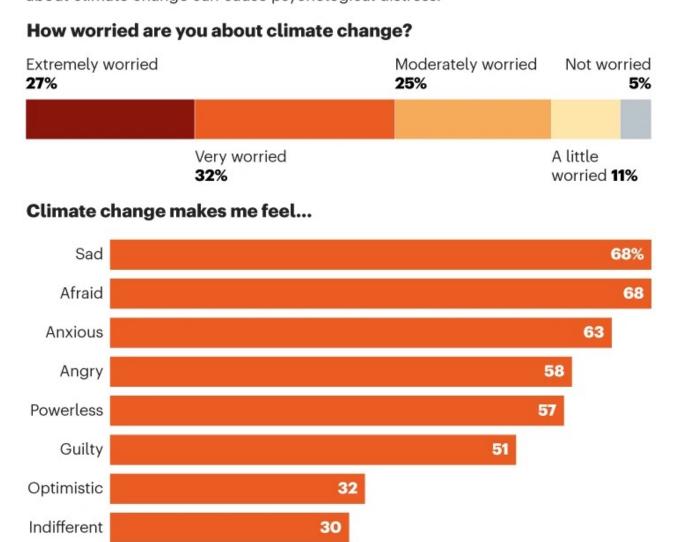
Young people's climate anxiety revealed in landmark survey

Children worldwide worry about the future and feel let down by governments, a huge study on attitudes towards climate change has found.

By Tosin Thompson

LIMATE ANXIETY

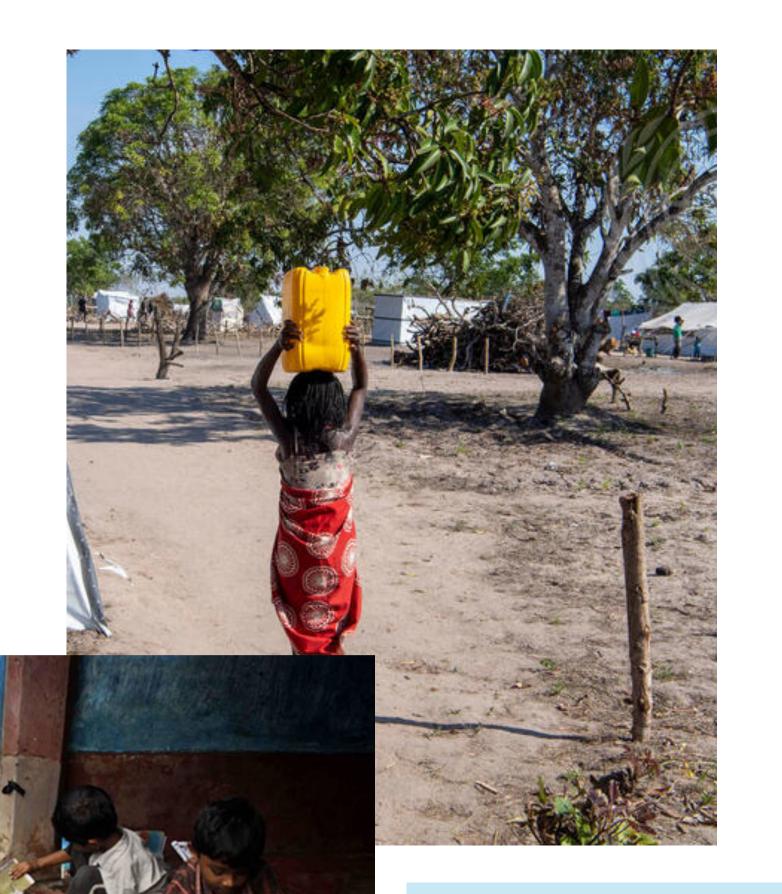
survey of 10,000 young people shows that negative feelings out climate change can cause psychological distress.







Cases: Long-term and cross-generational impacts of climate change induced events on mental health

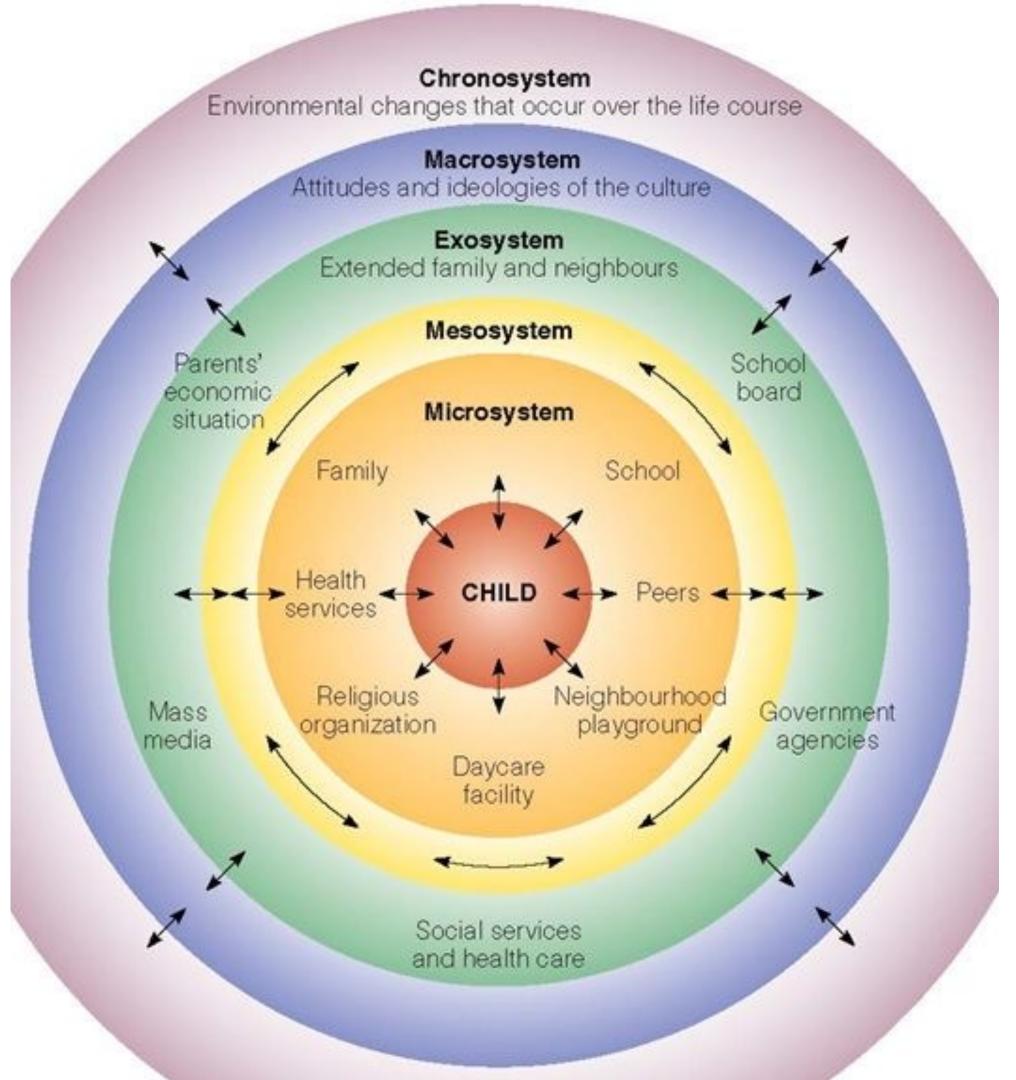


- MH is not the result of single events, but the result of complex causal chains that begin before birth and changes across development
- Most children with psychological problems including those living in high-income countries, receive almost no treatment.
- Although climate change is now recognised as a catastrophic harm to children's health, with more than 88% of the current burden of disease attributable to climate change occurring in children, very little attention has been given to the mental health consequences of climate risks for children.
- Around 85 % of the world's children (approx. 2.2 billion) live in low- and middle-income countries that are most vulnerable to CC, despite being least responsible for causing it, and least empowered to participate in its solution.

Yet the UN has long recognised that "young people are not only victims of climate change, but they are also valuable contributors to climate action".

We need to build an integrated climate service where all generations – from old to young – can discuss the mental health risks of climate change and address how to cope and build resilience among ourselves.

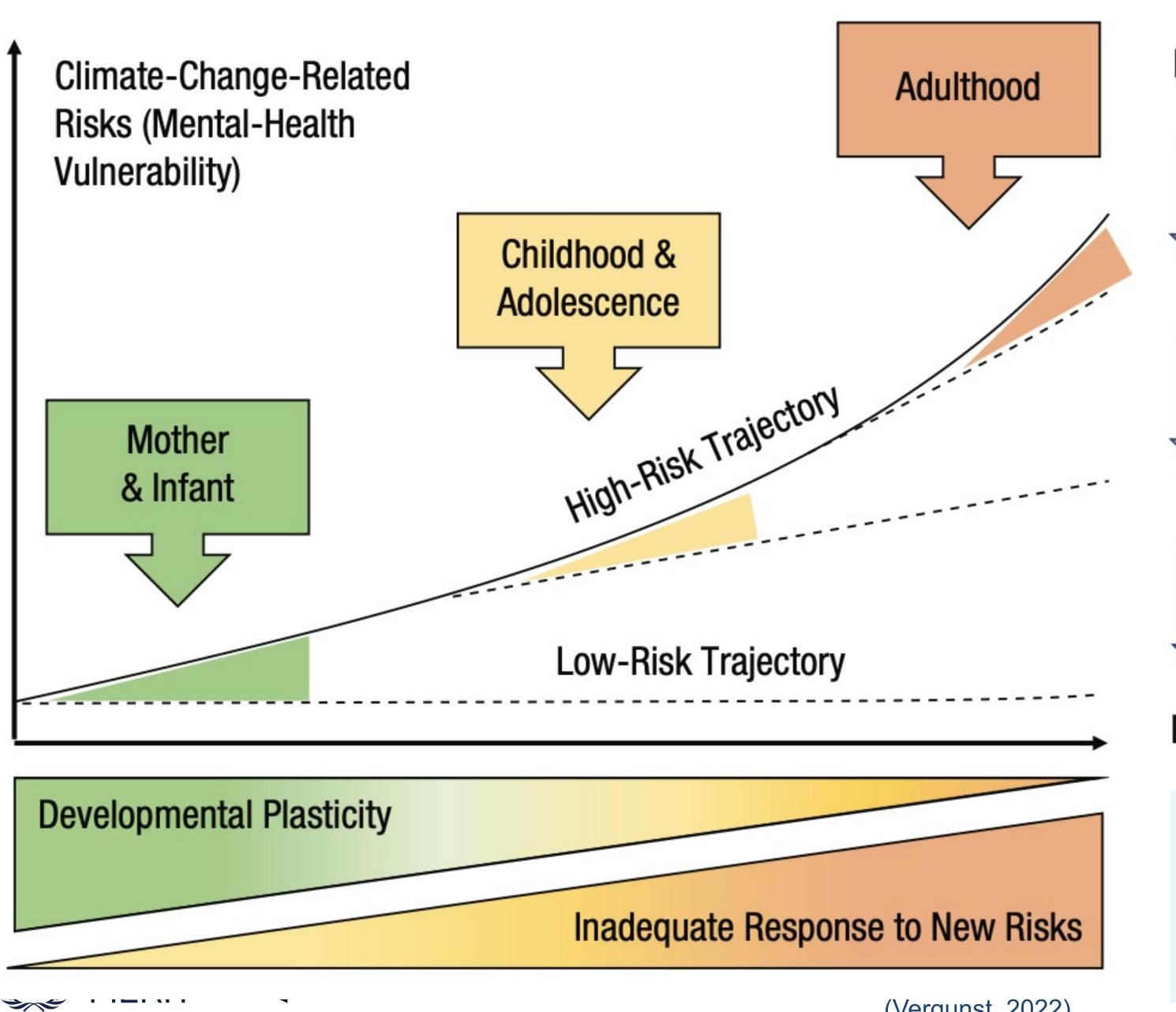
Developmental approach and children's vulnerability



Healthy human **psychological development** is influenced by **physiological**, **genetic**, **cognitive**, **emotional**, **social and environmental factors** and the dynamic interplay between them, and can be disrupted by environmental risks (e.g., disasters, water insecurities) at multi levels

- Biological system (e.g., stress-induced changes in the response-neural system, irregularity in DNA methylation)
- Microsystem (e.g., increased family stress, reduced quality of parenting)
- Mesosystem (e.g., disruption of family / community social disfunctioning / school closure)
- Exosystem (e.g., intergroup conflict, reduced access to health system)
- Macrosystem (e.g., social breakdown, forced migration)
- Chronosystem (e.g., environmental change due to climate changes)





No Intervention

*early onset of mental disorders is 14.5 years old (e.g., Vergunst, 2022)



Late Adaptation and Prevention for Vulnerable Groups



Earlier Adaptation and Prevention Enhances Functional Outcomes



Early Adaptation and Prevention

Life Course

A long-term developmental perspective recognizes the importance of early detection and prevention of mental health vulnerability to children's psychological development. The earlier the better!

(Vergunst, 2022)

Global advocacy and climate negotiation



Climate education will play a key role in fostering psychological resilience among future generations

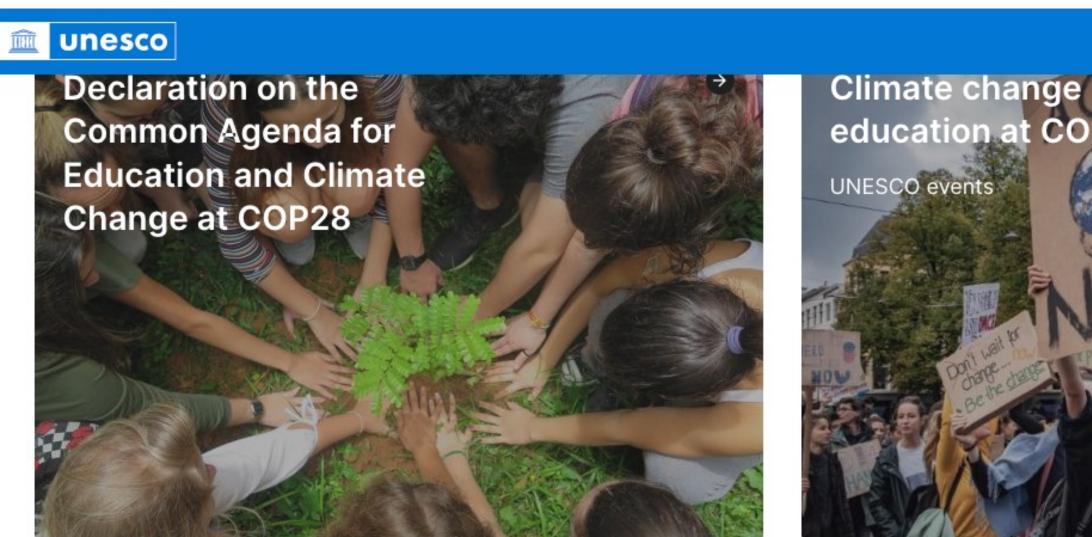
Three, first-ever initiatives for **youth**:

- 1) the Youth Climate Champion,
- 2) the International Youth Climate Delegate Program,
- 3) and the <u>Youth Stocktake</u> → Climate Education

The COP28 Presidency urge improved global climate education, with 38 countries signing the <u>UNESCO Greening Education</u>

Partnership Declaration to incorporate climate education into their Nationally Determined Contributions and National Adaptation Plans.





Four pillars of transformative education

The Greening Education Partnership is structured around four key pillars of transformative education

Greening schools

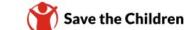
Greening curriculum

Greening teacher training and education systems' capacities

Greening communities

What role do you see education playing in fostering resilience among future generations in the face of climate-related challenges?

- Building knowledge of climate change but also learning from each other what
 we can do, such as pro-environmental behaviours or recognise how we feel
 and share these feelings at a safe space such as schools.
 - It needs to be considered as a 'new normal' curriculum as teachers, parents and caregivers may feel anxious as well. We need to empower these people who will be guiding the next generation with the right knowledge and explain what type of actions we can take.
- We should also teach children about climate facts in a way that does not scare them
 - o Including collaborative experiential learning with community-activities such as planting trees in the local environment, visiting neighbouring nature, interacting with scientists. This would support children to gain the right knowledge of the role of nature for our healthy planet, and a collective feeling.
 - It would lead to the development of a community-level support ecosystem.



WHAT WE DO V

GLIMAIE AGIIUN

by Amna Fahmi, Regional Communications and Digital Engagement Officer, Save the Children Middle East and Eastern Europe Region



YESTERDAY, THE LATEST INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) REPORT, HIGHLIGHTED THAT THE UNPRECEDENTED CHANGES OBSERVED IN THE CLIMATE ARE ALREADY SET IN MOTION, LEADING TO EXTREME WEATHER EVENTS AND CONTINUED SEA LEVEL RISE.[1]



What can be done, next steps?

- Co-benefits of climate action for mental health outcomes



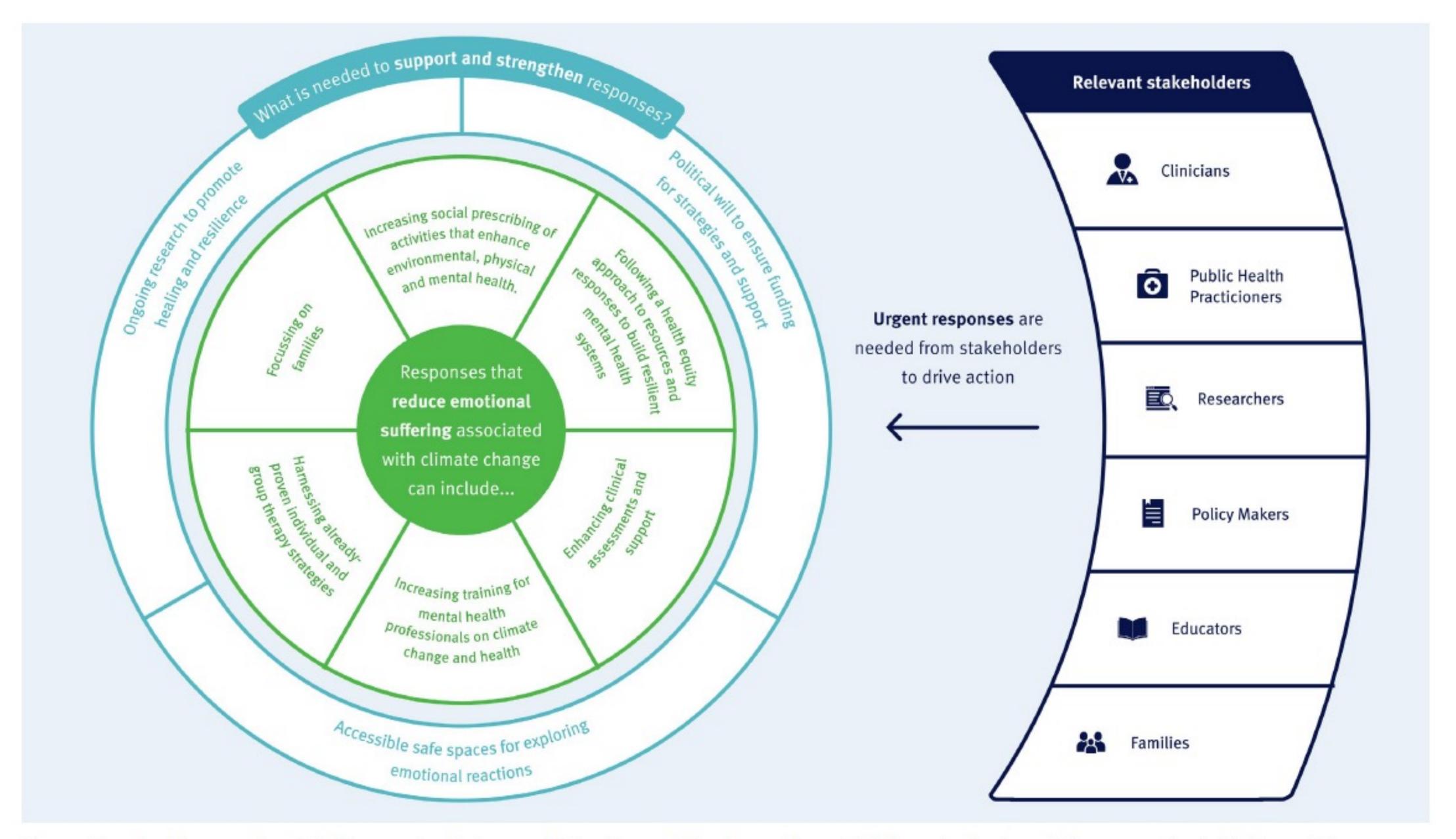


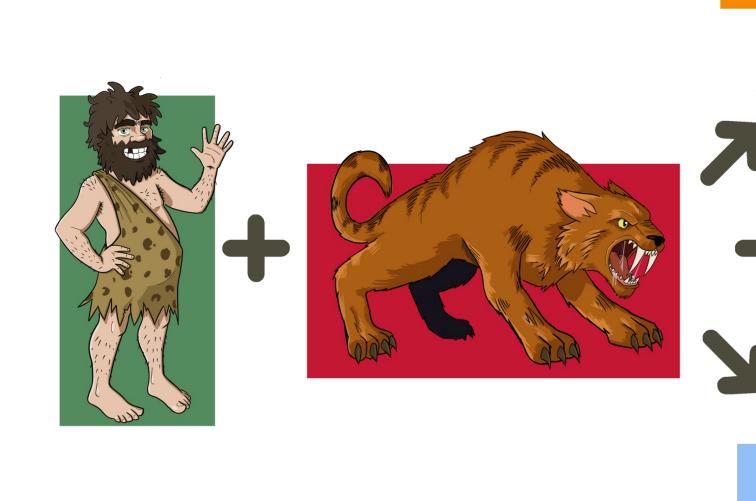


Figure 9: Examples of responses by stakeholders to reduce the impacts of indirect impacts of the climate crisis, particularly emotional and mental distress associated with climate crisis awareness (sometimes known as eco-anxiety or climate grief). These include social prescribing and increasing training for mental health professionals. Such responses would be strengthened by political support to ensure funding for the implementation of relevant strategies and ongoing research. Adapted from Cunsolo et al. (2020)¹⁶⁹.

Psychology and climate change - Climate anxiety / climate denial Human Evolution: Fight – Flight - Freeze response

- Climate denial / dismissiveness often stems from a fear of change and what the climate crisis will mean for our lives, livelihoods and lifestyles:
 - e.g., Because climate change can seem too enormous of a threat to tackle as an individual, hostility is directed at those advocating for climate action.
- Fight Flight Freeze response whenever we're faced with a threat.
 - While some people respond to the climate crisis by fighting it (e.g., by engaging in climate activism)
 - some experience a freeze response (fear and inability to act)
 - o some **flee** and **avoid** the problem altogether

Climate change public engagement efforts must start with the recognition that people have different psychological, cultural, and political reasons for acting / not acting





- → How can we manage these response and empower people into climate action?
- → Who are the social actors that can support the process?



The role of school and climate education

The role of community and individuals

The role of communication and (social) media

Using advanced technologies (e.g., Al, Digitalization)

Tailored Interventions for Sustainability Transitions





Have you heard your parents or people on videos talking about climate change? Ever wondered what it is and why we care about it so much? NASA scientists have been studying Earth's climate for more than 40 years. We used what we've learned in that time to answer some of your biggest

What is the difference between weather and climate?

The main difference is time. Weather is only temporary. For example, a blizzard can turn into a flood after just a few warm spring days. Climate, on the other hand, is more than just a few warm or cool days. Climate describes the typical weather conditions in an entire region for a very long time — 30 years or more.

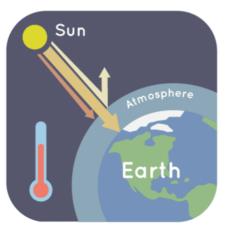
Weather

Why is Earth warming?

questions below!

Some of the gases in Earth's atmosphere trap heat from the Sun — like the glass roof and walls of a greenhouse. These greenhouse gases keep Earth warm enough to live on. But human activities, such as the destruction of forests and burning fossil fuels, create extra greenhouse gases. This traps even more of the Sun's heat, leading to a warmer Earth.

www.nasa.gov



What is climate change?

Climate change describes a change in the typical weather for a region — such as high and low temperatures and amount of rainfall — over a long period of time. Scientists have observed that, overall, Earth is warming. In fact, many of the warmest years on record have happened in the past 20 years. This rise in global temperature is sometimes called global warming.



How do we know getting warms
Scientists have be long time. They do ther instrument information about ocean, and ice. The Earth's climate is

What does carbon have to do with it?

Carbon is in all living things on Earth. As plants and animals die, they get buried in the ground. After enough years, these squished underground remains can turn into fossil fuels, such as coal and oil. When we burn those fuels, the carbon that was in the ground goes into the air as a gas called carbon dioxide, or CO₂. Plants and trees can absorb some of this extra carbon dioxide. By atmosphere as a greenhouse gas that warms up



National Aeronautics and Space Administration

プロジェクト

気候民主主義の日本における可能性と課題に関する研究

日本の気候市民会議

プロジェクトのTOPページに戻る

日本では2020年〜21年にかけて、札幌市および川崎市で全国に先駆けて気候市民会議が行われました。その成果も踏まえて、2022年に東京都や埼玉県の自治体で行政が公に主催する気候市民会議が開催され、2023年以降も各地で会議が開かれています。ここでは、日本における気候市民会議の実施状況を一覧にしました。

活動の様子

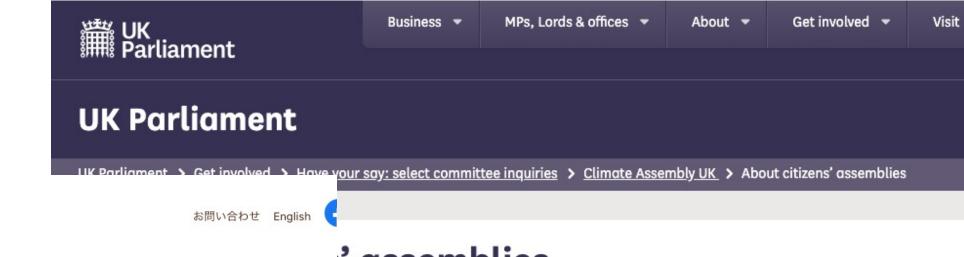
メディア報道

このリストは、科研費基盤研究(A)「<u>気候民主主義の日本における可能性と課題に関する研究</u>」(JP23H00526)の一環として、本ウェブページの制作者が把握できた情報を もとに作成しています。随時更新しますので、お気づきのことがありましたら、info[at]citizensassembly.jp([at]は半角の@に変えてください)までご一報ください。

2023年11月24日更新

開催期間 開催地 会議名称 参加者数 提言・報告書など 主なテーマ *クリックするとウェブサイト に移動します 杉並区気候区民会議 2024年 東京都 杉並区 区民が気候変動対策につい 70~80 3/20-杉並区 て広範な知識・情報の提供 を受けて活発に議論を重ね 8/3

る。議論の結果は、区長を



3 assemblies

beople who are brought together to learn about and discuss lusions about what they think should happen.



climate

Improving the energy efficiency of housing

- · Homes more affordable to heat
- Reduction in fuel poverty
- Improvements to physical and mental health

THE THE

Increased provision of green and blue spaces

- Trees and water help to reduce temperature extremes e.g. via shading in the summer
- Access to green spaces, biodiversity and a connection with nature help to reduce stress and anxiety

Increased provision of cycling and walking facilities

- More physical activity improves mental health
- Reductions in air and noise pollution improve mental health

Community action on climate change

- Provides greater sense of agency and control over climate change
- Helps build social connection
- · Helps alleviate eco-anxiety





Figure 8: Examples of the co-benefits of climate action for mental health. These include benefits of improving the energy efficiency of houses on reducing carbon emissions, making homes more affordable to heat, reducing fuel poverty and improving physical and mental health.



Libya flood reveals disaster prevention deficit in fragile states

Michael Hagenlocher, Sanae Okamoto, Nidhi Nagabhatla Published: October 13, 2023 | United Nations University



Building Climate Resilience: Lessons from the 2021 Floods in Western Europe



The Mental Health Challenge of **Climate Change**

By Sanae Okamoto and Nidhi Nagabhatla

Educators, researchers, and pedagogical experts are pioneering innovative methods for teaching climate change. These innovative approaches encourage experiential learning—connecting students with scientists and driving group projects assemblies to climate action could be

includes empowering youth and adults with the knowledge and skills needed to act. To craft better collaborative learning ecosystems, we must integrate climate education into the existing school curriculum. In 2025, the Programme for Interconsider evaluating the extent of 15-yearolds' comprehension of climate change and their abilities to tackle climate challenges at both local and global levels. However, teaching climate change in schools would raise another fundamental question. Would we be scaring them with To foster community-level connections, these facts about climate change? Such emotional effects can't be neglected. This necessitates smart strategies to equip young individuals with the psychological

focused on pro-environmental actions

national education planning. Climate sci ence and knowledge about its complexities is overwhelming and rapidly expand ing, and it's no surprise that teachers and caretakers are not yet prepared to talk about the issues with children.

affected by them in the future.

reliable climate communication is vital Such communication builds trust and cooperation among agencies, communities, scientists, and governments; resilience to confront the escalating risks. promoting open dialogues, addressing diverse viewpoints, and enabling meaningful exchanges. Populations that trust their government to address climate change tend to have lower levels of concern about climate change. Community-oriented solutions such as citizen a potential platform to enable the two-

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Climate Change's Impact on Mental Health Is Overlooked and Misunderstood — Here's What Can Be Done

2023 • 01 • 20 Sanae Okamoto and Nidhi Nagabhatla United Nations University

Heatwaves, droughts, wildfires, floods, and hurricanes increasing

more frequent and intense in the coming decades. These event psychological impact not only on those directly affected by suc

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POLICYBRIEF

Climate change and mental health series: Co-creating a resilient future

Policy Brief 1: Multiple and disaggregated impacts?

Sanae Okamoto, UNU-MERIT; Nidhi Nagabhatla, UNU-CRIS; Kariuki Weru, UNU-EHS; and Robert Oakes, UNU-EHS

Highlights

- Climate change poses a significant and increasing threat to mental health and well-being.
- Economic, social, and cultural factors have led to a severe lack of sufficient mental health support
- Examples of effective policy responses are limited and challenged by different cultural sensitivities, varying definitions and terminologies, as well as a lack of data and research.
- Interventions must address the specific needs of diverse populations, prioritise actions informed by research, and integrate mental healthcare within existing health systems.

This Policy Brief is the first in a series of three from the United Nations University - Climate Resilience Initiative (hosted by UNU institutes in Belgium, Germany and the Netherlands) proposing recommendations on the impact of climate change on mental health and well-being. This first policy brief outlines the current, global state of affairs; the second assesses the risks that intensify the impact on mental health and the third identifies policy opportunities and solutions.

Background

The growing impact of climate change on mental health and well-being remains a comparatively overlooked aspect of the climate crisis (Okamoto and Nagabhatla, 2022), despite over a decade of warnings from psychologists and healthcare professionals that climate change will have a

"Health is the personal experience of climate change. It is the human face of climate change."

Reem Ebrahim Al Hashimy, UAE minister of state for international cooperation



By Palácio do Planalto from Brasilia, Brasil - 01.01.2023 - Cumprimentos dos chefes de Estado e de Governo, CC BY 2.0, https://commons.wikimedia.org/w/index.php?curid=131446267

"Without health, we have nothing."

Mia Amor Mottley, Prime minister of Barbados



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Thank you!

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日本におけるメンタルヘルス対策

https://www.mhlw.go.jp/bunya/shougaihoken/health_link/index.html

気候変動市民会議

https://citizensassembly.jp/project/cd_kaken/jp-list

