A DISCRETE HIGHLIGHT OF CLIMATE CHANGE IMPACT ON MENTAL HEALTH IN AFRICA: Making the Invisible Visible

Flood Knowledge Summit Organizing Team
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• A conceptual overview of climate change and mental health
• Perceptions of climate change and mental health in Africa: making the invisible visible.
• What is mental health?
• Floods, landslides, prolonged rains and drought cycles provoking grief, sadness, stress, hypertension, due to loss of lives, properties, social amenities, increased poverty, homelessness, etc and Mental health impacting in Africa. A flash comparison of coping with mental health in the Global West and Global South: Discrete issues
• Climate Change and mental health Interventions: The village Afro-centric models- Connecting with the Unconnected through Health Literacy tool kit for Mental Health and Climate Change
• Conclusion and Futuristic
An Algorithmic Summary of Climate Change and its Impact on mental health

Impact of Climate Change on Physical, Mental, and Community Health

- **Medical and Physical Health**
  - Changes in fitness and activity level
  - Heat-related illness
  - Allergies
  - Increased exposure to waterborne and vector-borne illness

- **Mental Health**
  - Stress, anxiety, depression, grief, sense of loss
  - Strains on social relationships
  - Substance abuse
  - Post-traumatic stress disorder

- **Community Health**
  - Increased interpersonal aggression
  - Increased violence and crime
  - Increased social instability
  - Decreased community cohesion
Climate Grief spares no African country

Climate change is a significant threat to the health of the Africans

Every African is vulnerable to the mental health impacts associated with

**Physical Health Impacts**
- impaired fetal development
- changes in fitness
- physical trauma, broken bones & physical injuries
- asthma risk
- heat-related illness
- disease
- increased exposure to pests & toxins
- allergies
- increased toxicity of poison ivy

**Mental Health Impacts**
- hopelessness
- threat to autonomy & personal identity
- complicated grief
- strain on social relationships
- depression
- general anxiety disorder
- post-traumatic stress disorder

**Human Systems and Infrastructure Impacts**
- urban and rural infrastructure
- transportation networks
- food security and crop production
- economic sectors and services
- human livelihoods
- energy infrastructure
- human security

**Health Impacts**
- physical impacts
- worsened physical health
- increased sickness
- decreased mobility
- increased mortality

**Community Health Impacts**
- reduced mental health
- social disintegration
- decreased community cohesion
- increased domestic violence

**Natural Impacts**
- wildfires
- flooding
- drought
- heat stress
- changing temperatures
- rising sea levels
- storms
- stress on freshwater resources
- changing growing seasons
FLOODS ACROSS AFRICA IS INCREASING MORE THAN BEFORE CONTAMINATING DRINKING WATER SOURCES LACK OF POTABLE WATER RELATED STRESS, GRIEF AND THOUGHT OF NOT HAVING CLEAN WATER GENERATES MENTAL HEALTH DISORDERS.
Exposure to Disasters Results in Mental Health Consequences

**Observation:** Many people exposed to climate-related or weather-related disasters experience stress and serious mental health consequences. Depending on the type of the disaster, these consequences include post-traumatic stress disorder (PTSD), depression, and general anxiety, which often occur at the same time. The majority of affected people recover over time, although a significant proportion of exposed individuals develop chronic psychological dysfunction.

Specific Groups of People Are at Higher Risk

**Observation:** Specific groups of people are at higher risk for distress and other adverse mental health consequences from exposure to climate-related or weather-related disasters. These groups include children, the elderly, women (especially pregnant and post-partum women), people with preexisting mental illness, the economically disadvantaged, the homeless, and first responders. Communities that rely on the natural environment for sustenance and livelihood, as well as populations living in areas most susceptible to specific climate change events, are at increased risk for adverse mental health outcomes.
Climate Change Threats Result in Mental Health Consequences and Social Impacts

Observation: Many people will experience adverse mental health outcomes and social impacts from the threat of climate change, the perceived direct experience of climate change, and changes to one’s local environment. Media and popular culture representations of climate change influence stress responses and mental health and well-being.

Extreme Heat Increases Risks for People with Mental Illness

Observation: People with mental illness are at higher risk for poor physical and mental health due to extreme heat Increases in extreme heat will increase the risk of disease and death for people with mental illness, including elderly populations and those taking prescription medications that impair the body’s ability to regulate temperature.
What are these key determinants and Vulnerability of human health to climate disorders?

Determinants of Vulnerability

**EXPOSURE**
Exposure is contact between a person and one or more biological, psychosocial, chemical, or physical stressors, including stressors affected by climate change.

**SENSITIVITY**
Sensitivity is the degree to which people or communities are affected, either adversely or beneficially, by climate variability or change.

**ADAPTIVE CAPACITY**
Adaptive capacity is the ability of communities, institutions, or people to adjust to potential hazards, to take advantage of opportunities, or to respond to consequences.

VULNERABILITY of Human Health to Climate Change

HEALTH IMPACTS
Injury, acute and chronic illness (including mental health and stress-related illness), developmental issues, and death
TEMPERATURE-RELATED DEATH AND ILLNESS Even Small Differences from Seasonal Average Temperatures Result in Illness and Death: Not well quantified across Africa

TEMPERATURE-RELATED DEATH AND ILLNESS (TEMPERATE VERSUS TROPICS) Changing Tolerance to Extreme Heat Some Populations at Greater Risk Increased mental health in this population

Increased deforestation and floods have pushed rodents Snakes, rats to migrate to human abodes. The dangers are not just physical but mental at homes
VECTOR-BORNE DISEASES increases due to flooding: This causes stress, sadness, grief and life adjustments.

Earlier Tick Activity and Northward Range Expansion

**Key Finding 2:** Ticks capable of carrying the bacteria that cause Lyme disease and other pathogens will show earlier seasonal activity and a generally northward expansion in response to increasing temperatures associated with climate change. Longer seasonal activity and expanding geographic range of these ticks will increase the risk of human exposure to ticks.

**Changing Dynamics**

**Key Finding 3:** Rising temperatures, changing precipitation patterns, and a higher frequency of some extreme weather events associated with climate change will influence the distribution, abundance, and prevalence of infection in the mosquitoes that transmit West Nile virus and other pathogens by altering habitat availability and mosquito and viral reproduction rates. Alterations in the distribution, abundance, and infection rate of mosquitoes will influence human exposure to bites from infected mosquitoes, which is expected to alter risk for human disease.

**Mosquito-Borne Disease**
CLIMATE IMPACTS ON WATER-RELATED ILLNESSES

Runoff from Extreme Precipitation Increases Exposure Risk

**Key Finding 2:** Runoff from more frequent and intense extreme precipitation events will increasingly compromise recreational waters, shellfish harvesting waters, and sources of drinking water through increased introduction of pathogens and prevalence of toxic algal blooms. As a result, the risk of human exposure to agents of water-related illness will increase.

Water Infrastructure Failure

**Key Finding 3:** Increases in some extreme weather events and storm surges will increase the risk that infrastructure for drinking water, wastewater, and stormwater will fail due to either damage or exceedance of system capacity, especially in areas with aging infrastructure. As a result, the risk of exposure to water-related pathogens, chemicals, and algal toxins will increase in recreational and shellfish harvesting waters, and in drinking water where treatment barriers break down.

FOOD SAFETY, NUTRITION, AND DISTRIBUTION

Increased Risk of Foodborne Illness

Rising Carbon Dioxide Lowers Nutritional Value of Food
Seasonal and Geographic Changes in Waterborne Illness Risk

**Key Finding 1:** Increases in water temperatures associated with climate change will alter the seasonal windows of growth and the geographic range of suitable habitat for freshwater toxin-producing harmful algae certain naturally occurring *Vibrio* bacteria and marine toxin-producing harmful algae. These changes will increase the risk of exposure to waterborne pathogens and algal toxins that can cause a variety of illnesses.

**Runoff from Extreme Precipitation Increases Exposure Risk**

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Vulnerability to Coastal Flooding

*Key Issues:* Coastal populations with greater vulnerability to health impacts from coastal flooding include persons with disabilities or other access and functional needs, certain populations of color, older adults, pregnant women and children, low-income populations, and some occupational groups. Climate change will increase exposure risk to coastal flooding due to increases in extreme precipitation and in hurricane intensity and rainfall rates, as well as sea level rise and the resulting increases in storm surge.

Changing Distributions of Vectors and Vector-Borne Diseases

*Key issues:* Climate change is expected to alter the geographic and seasonal distributions of existing vectors and vector-borne diseases.
Floods, Land slides, Lightening have generated Helplessness, powerlessness, despair, guilt with climate change victims being every one but especially the youths, women and elderly

I shall highlight orally my Experiences and Lessons from Africa (Cameroon, Douala, Bafoussam, Bamenda, Nigeria, North and South east, kenya, Angola, Congo, Mauritania, Mozambique

Floods have caused Grazer land conflicts in Cameroon and Nigeria

Floods and bush fires have generated Internally Displaced Persons in Cameroon, Nigeria, Niger, South Sudan leading to unquantified mental health issues and especially in disabled persons.

Extreme climate events, hotter and colder like in floods in Germany North Rhine, Queensland in Australia, there are varying degrees of eco griefs and resilience in the global south

Perception of Eco grief (gods angry and sacrifices) Religio-centric approach common in Global south than in Global North

Consideration from Cop26 summit

389 natural disasters, 15000 deaths, 98 million affected, 200 billion USD in 2020
323 climate change disasters, 10 663 deaths in 2021 and 40 psychological associations signed climate change and mental health
This figure below taken from a Publication from Nature: The description of Climate anxiety holds true for all communities globally

**CLIMATE ANXIETY**

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

**How worried are you about climate change?**

- Extremely worried **27%**
- Moderately worried **25%**
- Not worried **5%**

- Very worried **32%**
- A little worried **11%**

**Climate change makes me feel...**

- Sad **68%**
- Afraid **68%**
- Anxious **63%**
- Angry **58%**
- Powerless **57%**
- Guilty **51%**
- Optimistic **32%**
- Indifferent **30%**
The key critical three terms that summarizes impact of climate variability on mental health is captured below.
The Reality of Eco-grief. Prolonged heavy rains with thunderstorms destroys cattle in Cameroon and Kenya: The owners in grief and shock: Their mental health affected.
The Reality of Eco-grief. Prolonged heavy rains with thunder storms destroys Cattle in Northern Nigeria” economic losses elicits grief to the owners.

Early Warning Systems (EWS) of climate change in the westeg Australia but not in Africa.
The Reality of Eco Grief: Floods in Nigeria Worsens food shortage, increase transportation cost.
Land Slides in and Floods in Cameroon Worsens food shortage
Homes lost

Heavy rains lashed the city of Durban with mudslides and floods incessant rain have triggered floods in the eastern coastal province

South Africa’s April floods made twice as likely by climate crisis, scientists say
Cameroon – Fatalities Reported After Heavy Rain and Floods in Douala. Snakes and rats infestation of homes: Trauma and mental stress of dealing with multiple health and financial challenges

 Hundreds of homes were flooded and roads swamped, causing massive traffic disruption in the coastal city which is home to 2.7 million people.

 Local media reported at least 3 people are thought to have died after the rain caused a building to collapse in the PK13 neighbourhood in Douala.

 Douala recorded 186.0 mm of rain in 24 hours to 12 August. The high volume of rain overwhelmed the inadequate drainage system in the city. The city saw similar flooding after heavy rain in August last year.

 The situation is worsened by the masses of plastic waste blocking rivers and drainage channels. Charity WasteAid recently embarked on a long-term project to help clear the city of plastic waste.
Women and girls disproportionately bear the burden of climate-related events, such as these cyclones.

Erratic Rains, Dry Spells Destroy Crops in Cameroon, Forcing...
Birds From Chad and Nigeria Destroying Farmland, Cameroon Says

Weaver birds fly over millet farms in Waza, northern Cameroon, Feb. 3, 2021. (Moki Edwin Kindzeka/VOA) and below Floods from River Congo destroys bridge, Brazzaville, Congo.
Floods in Cameroon destroying farmland, reducing local food production such as mushrooms and vegetables in Cameroon as reported by elderly: Mental health of the elderly affected.
Prolonged rains in Cameroon increases decay of beans a staple crop; food related mental stress in Nigeria.
Extreme Weather Limits Access to Safe Foods

*Observation:* Increases in the frequency or intensity of some extreme weather events associated with climate change will increase disruptions of food distribution by damaging existing infrastructure or slowing food shipments. These impediments lead to increased risk for food damage, spoilage, or contamination, which will limit availability of and access to safe and nutritious food depending on the extent of disruption and the resilience of food distribution infrastructure.
Climate crisis affects the psyche of young people who could be agents of intervention agency

‘children's and young people's contributions to climate action, their role as ‘agents of change’ (Spyrou et al. 2021: 3)

We call these practices sites of public pedagogy and consider the committed youth as public educators (Wildemeersch et al. 2021: 73).

Youths are key to mapping out tools and vulnerability indices to identify climate health and mental effects.

Social Determinants of Health Interact with Climate Factors to Affect Health Risk

Vulnerability Varies Over Time and Is Place-Specific

Health Impacts Vary with Age and Life Stage
Intervention starts with young people for a sustain generational positive change. The synthesis below summarizes the issues.
The Pillars of an effective mental health abatement and eco resilience and survival is considered below.
The Ibanikom Mental Health Literacy Evolution and Intervention Project in Cameroon Launched in 2021

https://clarettianuniversity.edu.ng/aikit/

We undertake a ground survey to detail the barriers, perceptions and traditional beliefs surrounding climate disasters and the use mental health, measurement of eco grief and climate change amongst communities in Africa and use the results to developed afro-centric centred policy briefs for wider implementation (Cameroon, Nigeria and Kenya was used as a case study.

We compared perceptions of eco grief with similar situations in Europe, America, Africa, and Asia, as well as the kind of interventions (Systemic reviews, whatsapp, interviews, meta analyses. See our findings.... Planet health One health)

(We noted that in Africa a Decentralised Intervention strategy can guarantee Resilience, better Coping strategies, reduce suicides and depressions, community support structures were identified.)
The Ibanikom Health Literacy Evolution Model to curb mental health effects from climate change: A master class and world’s first ground strategy

It address: Mental health and Climate Literacy

What is mental Health and Climate Literacy

1. Access to information
2. Processing of the information
3. Using the information correctly
4. Positive health gains and outcomes

It addresses the following Determinants:
Social, Cultural, Economics, Governance (State or Traditional)
Community engagement redefined, bottom top approach redefined
Indigenous Knowledge to curb Climate change and mental health in the world - the case of Africa

Let me through this oration explain the tenets of The Ibanikom Health Literacy Evolution Model: Afro-centric Intervention model

Built on the Kom Philosophy of Living
Wain- Child
Afojinya---Food
Nyamgwing--Prosperity

Living physically, socially and mentally with nature with cultural injections on unsustainable practices

99% of men complain of stress, thinking with headaches, young married men with hypertension and gender based cold wars. The model provides guidelines to reversing this trend

(90% women have mental issues: providing food, drying of crops, dealing with Low crop yield as a result of drought and prolonged rains and flash floods Land slides on farms slopes

The model provides guidelines to reversing this trend
The Ibanikom mental Health and Climate Literacy Evolution Model in Kom, Cameroon

LAUNCHING: THE IBANIKOM HEALTH LITERACY EVOLUTION

IBANIKOM means the light of kom. The purpose of this project is to enable all the kom kindred on the globe, health literate

What is Health Literacy?

Defined as:

- access to health knowledge
- understanding the health info
- use of health info rightly
- gaining wellness through the process

Iwonghi Ntôh

The Ibanikom Health Evolution is the first of a kind on the globe where a tribe unites with its king, ancestors, traditional government institutions with the religious, and academia and all Kom people irrespective of status and gender to build health promotion based on an intersection of traditional governance, healthy villages and contextualized Health Literacy built on the “Iwu Kom Tual” (The Three Kom Hands) Wisdom of life, i.e., “Wain, Afojina, Nyangvin” (Child, Food, Prosperity).

Flagged by his Royal Majesty, Fon Clement Ndzi II, this history making event is built on the fact that effective Health Literacy for all people must be socio culturally construct-ed and must demonstrate Health Literacy products to drive effective implementa-tion.

The Ibanikom Health Literacy community model has been developed in the last six months.

The traditional and royal launch of the public health strategy PAVES THE WAY FOR WHO to understudy and implement globally.

The Ibanikom HL project will unveil Health Literacy products for preventing and management of non-communicable diseases (NCDs) and contagious diseases and total well being with health supplements developed from the ecology and tradition of Kom to the world.

The concept has now been galvanized into the creation of a Centre of Excellence for Promotion of African Indigenous Knowledge and Wisdom domicile Claretian University

Ibanikom Health Literacy products

Coordinator(s): Prof. Kenneth Yongabi Anchang
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Cameroon Map Showing Kom

Copyright Dr Walter Gom Nkiri

Migratory Map of Kom

Ibanikom Health Literacy Evolution
The Ibanikom mental Health and Climate Literacy Evolution traditional Policy Model in Kom, Cameroon enacted by the King and his kindreds
The Ibanikom mental Health and Climate Literacy Evolution Model in Kom, Cameroon

What are the ongoing gains?

Reduction of stress feelings, increasing social cohesion and unity and sense of purpose
Reunion with ancestors for succor and hope in living
reduction in trauma using a community shared model
reduction in Fear as traditional methods of environmental conservation, sustenance and curtailment of harmful farming practices, hunting, poaching, building, etc are reviewed and realigned
Reduction in Anxiety
Anger due to loss of properties reduced based on anticipation
Thank you

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https://claretianuniversity.edu.ng/aikit/