African Population and Health Research Center
Transforming lives in Africa through research.

PROJECT BRIEF

#Visibilize4ClimateAction

Visibilizing Climate Change Impacts on Nutrition and Mental Health Among Vulnerable Populations in East African Drylands to Catalyze Climate Action at Scale.

Background

Climate change is a critical threat to the health of millions of vulnerable populations inhabiting the East African drylands. It affects the social and environmental determinants of health including access to sufficient food, leading to undernutrition and mental health challenges, through direct pathways such as increased heat, more frequent droughts, and floods; and indirect pathways associated with land use changes and impacts on agricultural productivity.

A recent systematic review and meta-analysis revealed a significant relationship between climate change proxies (such as climate variability, floods, and drought) and nutrition. Specifically, drought conditions increased the odds of wasting and underweight by nearly 50%. Malnutrition is a particularly severe problem in the East African region, with about one-third (33%) of children under five experiencing stunting. Despite projections that malnutrition will be the greatest contributor to climate change-related morbidity and mortality by 2030 and 2050, evidence on the attributable impact remains limited.

A meta-analysis of 163 studies and data from 142 countries concluded that climate change disasters can cause mental health disorders. In a recent study, more than half of the population in six African countries acknowledged climate change and reported some impacts on their mental health. Negative impacts of climate change and variability on mental health among farmers have also been indicated. However, evidence on the mental health burden in East Africa is limited.

44.3% of adolescents | 10-17 years report **Mental Health Problem** | **26.7%** Anxiety - Prevalent

The Kenya National Adolescent Mental Health Survey (K–NAMHS) led by the African Population & Health Research Centre (APHRC) indicated that 44.3% of adolescents aged 10–17 years reported experiencing a mental health problem in the past 12 months, with anxiety being most prevalent (26.7%). Some small-scale studies in Kenya previously reported that mental health problems are common in both adults and adolescents. In a flagship report, Kenya's Ministry of Health recognized an association between drought and flooding with mental illness.

However, a clear linkage between mental health and climate change is not yet well documented.

In this context, it is important to visibilize these impacts of climate change and catalyze climate action at scale. The health impacts of climate change among vulnerable populations in the East African drylands remain largely unexplored, especially through formal attribution, documentation of lived experiences, and engagement with practice and policy actors.

Key Project Objectives

The project's main objective is to make visible, through research, public and policy engagement, the impact of climate change on the nutritional status and mental health of vulnerable populations in the East African drylands (arid, semi-arid, and dry sub-humid zones), to catalyze context-specific climate policy and practice change at scale.

Specific Objectives

1. To estimate the impact of climate change on the nutritional status of children under 5 (U5), and girls and women of reproductive age (RA) in Eastern African (Kenya, Uganda, Ethiopia, Tanzania) drylands through the analysis of historical data.
2. To determine current ecological and health (nutrition and mental health) outcomes and lived experiences of vulnerable populations in drylands in Kenya with the impacts of climate change and assess readiness for practice and policy change through mixed methods approaches.
3. To model future health and ecological impacts of climate change from different policy scenarios, cost of the impacts and potential cost-effectiveness of action in Eastern Africa.
4. To help communities in drylands in Kenya (Laikipia, Turkana & Samburu) understand the concepts of climate change and climate impacts, obtain views on various climate practices and policy options, and communicate research evidence through participatory public engagement.
5. To promote evidence-informed decision-making regarding climate policy and practice change at scale in Kenya and the Eastern Africa region, through knowledge sharing, advocacy, and policy engagement.

Expected Outcomes

1. Framework for attributing impacts of climate change on nutrition.
2. Estimates of undernutrition for vulnerable populations in Eastern Africa attributable to climate change.
3. Case studies of lived experiences of vulnerable populations in Kenya with impacts of climate change on nutrition and mental health.
4. Quantification of future health burdens from undernutrition and mental health that could be avoided in vulnerable populations in Eastern African countries by adopting different policy/ecological scenarios to adapt to climate change and the cost thereof.
5. Improved understanding of the concepts of climate change and its impacts and on factors that contribute to vulnerability to climate change impacts, and empowerment of communities in drylands in Eastern Africa to apply adaptation measures.
6. Adoption of context-specific and scalable climate change policies and practices in Eastern Africa's drylands.

Methodology

Research

1. Analyze historical climate, ecological, and nutritional data to quantify climate impacts on nutritional status.
2. Document communities' lived experiences with food and nutrition insecurity, mental health ,land and soil health and climate change using quantitative and qualitative and participatory methodologies.
3. Scenario Modeling: Model health impacts and costs of future climate adaptation scenarios using historical data and independent modeling efforts.

Public Engagement

Engage the public to explore climate change and its health implications through co-creation, co-learning, and dissemination of research findings to inform practical and policy-oriented decisions.

Policy Engagement, Communication and Advocacy.

Present evidence and engage continuously with policy actors at sub-national, national, and regional levels on climate change impacts on mental health and nutrition to promote wider awareness and co-develop actions.

About #Visibilize4ClimateAction

Funded by Wellcome, the #Visibilize4ClimateAction project will highlight the impacts of climate change on the nutritional status of children under 5 and women of reproductive age, and mental health among vulnerable populations in East African drylands (Kenya, Uganda, Ethiopia, Tanzania), to catalyze climate action at scale.

The project is led by the African Population & Health Research Centre (APHRC). APHRC is a premier research-to-policy institution, generating evidence, strengthening research and related capacity in the African research and development ecosystem, and engaging policy to inform action on health and development. The Center is Africa-based and African-led, with its headquarters in Nairobi, Kenya, and a West Africa Regional Office (WARO), in Dakar, Senegal. APHRC seeks to drive change by developing strong African research leadership and promoting evidence-informed decision-making (EIDM) across sub-Saharan Africa.

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