



WOMEN'S HEALTH CONFERENCE

September 24-26, 2025

Université Paris Cité
PARIS, FRANCE



Consequences and coping strategies of women facing extreme temperatures: interdisciplinary research in Matam (Senegal)

Valéry Ridde



*Strengthening Preparations and Resilience in Temperature
community adaptation for women's health in Bangladesh and Senegal*

*Renforcement des préparatifs et de la résilience dans le cadre de
l'adaptation communautaire aux changements climatiques pour la santé des
femmes au Bangladesh et au Sénégal*



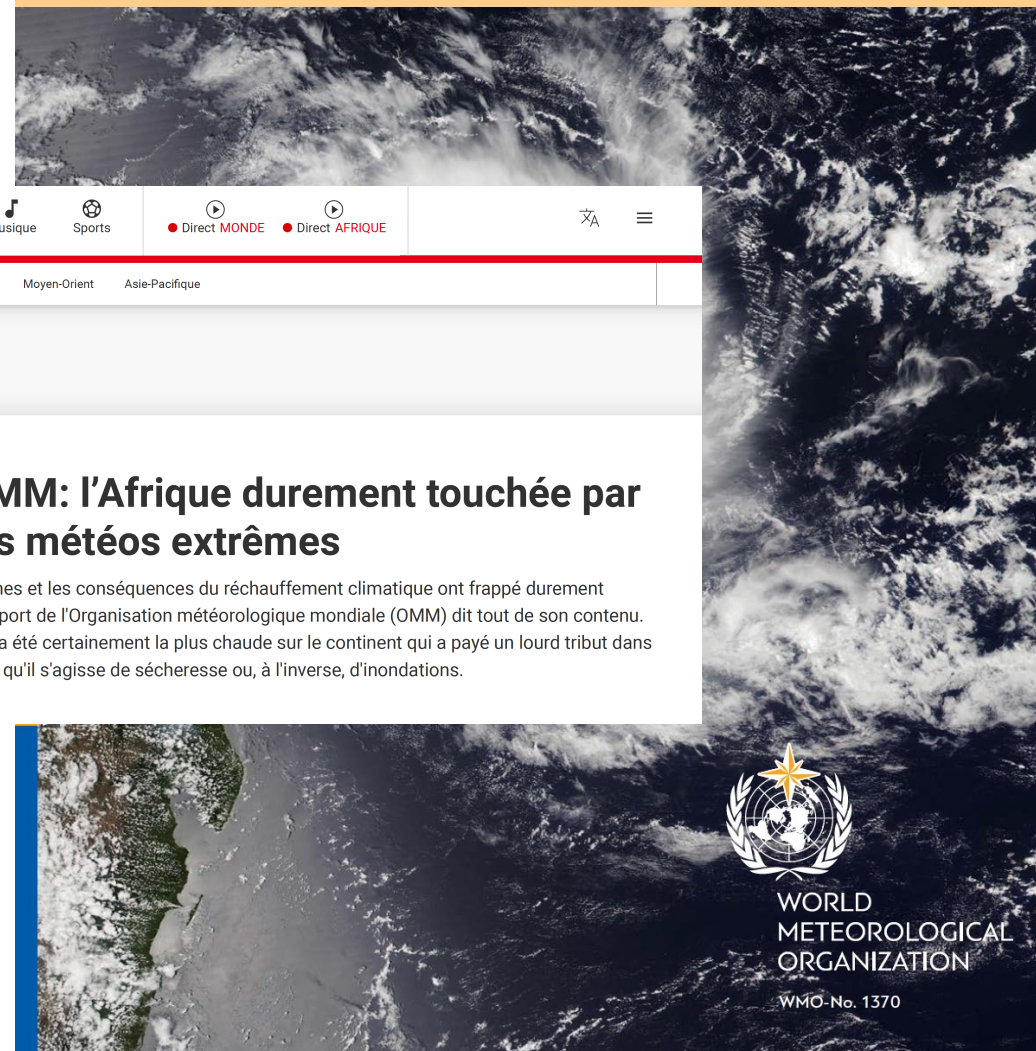
CLIMATE CHANGE AND HEALTH

**STRATEGIC FRAMEWORK
JULY 2025**



State of the Climate in Africa

2024



La une



Podcasts



Musique



Sports



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Rapport de l'OMM: l'Afrique durement touchée par les événements météo extrêmes

« Les événements météo extrêmes et les conséquences du réchauffement climatique ont frappé durement l'Afrique », le titre du nouveau rapport de l'Organisation météorologique mondiale (OMM) dit tout de son contenu. L'OMM y révèle que l'année 2024 a été certainement la plus chaude sur le continent qui a payé un lourd tribut dans les événements météo extrêmes, qu'il s'agisse de sécheresse ou, à l'inverse, d'inondations.

Publié le : 13/05/2025 - 01:41 ⌚ 1 min



**WORLD
METEOROLOGICAL
ORGANIZATION**

WMO-No. 1370

Climate change, evolution, and reproductive health: The impact of water insecurity and heat stress on pregnancy and lactation

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ABSTRACT

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Open Access Review Article

Impact of Climate Change on Reproductive Health and Pregnancy Outcomes: A Systematic Review

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Abstract

Climate change has emerged as a significant global health challenge, with growing evidence linking environmental factors to adverse reproductive health outcomes. The primary objective of this review is to assess the effects of climate change-driven environmental factors, such as air pollution and temperature extremes, on reproductive health outcomes, including fertility rates, miscarriage, preterm birth, and congenital anomalies. A comprehensive search of PubMed, Google Scholar, and Web of Science was conducted until July 2024. Studies included in the review were observational, experimental, and randomized controlled trials that reported quantitative data on reproductive outcomes in relation to climate-related

REVIEW



EVOLUTION,
MEDICINE, &
PUBLIC HEALTH

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RESEARCH ARTICLE

Effect of climate change on the health and nutritional status of children and their families in Africa: Scoping review

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Abstract

The health and nutritional status of children and their families is essential particularly during climate change. Most of the Sustainable Development Goals (SDGs) affect children in some way, namely, poverty (SDG 1), hunger (SDG 2), health (SDG 3), climate change (SDG 13). Evidence suggests that most countries are behind in achieving the SDGs, with only 17% of the SDGs currently achieved. The reason is because



Analysis

<https://doi.org/10.1038/s41591-024-03395-8>

A systematic review and meta-analysis of heat exposure impacts on maternal, fetal and neonatal health

Received: 9 July 2024

Accepted: 31 October 2024

Published online: 5 November 2024

Check for updates

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Climate change has severe and wide-ranging health impacts, especially for vulnerable groups. Despite growing evidence of heat-associated adverse maternal and neonatal health outcomes, there remains a lack of synthesis quantifying associations and identifying specific risk periods. We systematically reviewed the literature on heat impacts on maternal, fetal and neonatal health and quantified impacts through meta-analyses. We found 198 studies across 66 countries, predominantly high income (63.3%) and

Protecting maternal, newborn and child health from the impacts of climate change

A call for action



Editorials

Extreme heat: a global call to action

Ankur Rakesh,^a Rajesh Sreedharan,^a Joy Shumake-Guillemot,^b Daniela Jacob,^c Virginia Murray^d & Kristie Ebi^e

In July 2024, the United Nations (UN) Secretary-General issued the Call to Action on Extreme Heat, emphasizing the increasing threat posed by more frequent, intense and longer heatwaves.¹ He called on governments, policy-makers and the health sector to unite in addressing this crisis, mobilizing efforts to protect vulnerable populations and limit global temperature rise to 1.5 °C above preindustrial temperatures. As global temperatures continue to climb, heatwaves are among the most visible and deadly climate-health emergencies.² The top 10 hottest years on record all occurred in the past decade.³ The year 2024 saw record-breaking temperatures across Europe, North America and Asia, exposing populations to extreme conditions that overwhelmed health systems.^{4,5} The impacts of extreme heat dis-

health security and preparedness, including factors such as geographic location, occupational and housing conditions, and socioeconomic status to protect the most at-risk communities.⁶ Integrating heat action plans into national capacity development plans such as the national action plans for health security would be helpful to increase the effectiveness of planning. These plans are a country-owned, multi-year planning process that can accelerate the implementation of actions to address extreme heat.

To build institutional capacity to respond swiftly and effectively to heat crises as part of national preparedness to health emergencies, governments must formally recognize these crises as a public health hazard within their national health plans.⁵

With limited progress in implementing all, health systems must be fully resourced financially and technically, which requires substantial investments in health system strengthening and resilience-building measures in addition to nurturing a global pool of experts with experience in managing extreme heat risks. Health ministries should work closely with international organizations, such as the World Health Organization, the International Labour Organization, International Federation of Red Cross and Red Crescent Societies, United Nations Children's Fund and World Meteorological Organization, to secure the necessary funding and technical assistance to ensure health systems are prepared for the multi-pronged threats of extreme heat. Ensuring equity is central to these plans.

The UN's Call to Action on Extreme Heat is an urgent appeal for governments, policy-makers and the health sector to address the profound threat climate change presents to health and well-being. Governments must implement equitable, evidence-informed heat action plans, strengthen health systems and reduce greenhouse gas emissions. Our planet's future, and the lives of millions, depend on our collective ability to respond to the challenge of rising temperatures. ■

strength-cities for ment and nhancing

References and copyright

Available at: <https://www.who.int/publications/journals/bulletin>

Emergencies Programme, World Health Organization, Avenue Appia

of America.

2025;103:466–466A | doi: <http://dx.doi.org/10.2471/BLT25.293342>

Abstract

Climate change represents one of the largest global health threats of the 21st century with immediate and long-term consequences for the most vulnerable populations, especially in the poorest countries with the least capacity to adapt to climate change. Pregnant women and newborns are increasingly being recognized as vulnerable populations in the context of climate change. The effects can be direct or indirect through heat stress, extreme weather events and air pollution, potentially impacting both the immediate and long-term health of pregnant women and newborns through a broad range of mechanisms. In 2008, the World Health Organization passed a resolution during the 61st World Health Assembly, recognizing the need for research to identify strategies and health-system strengthening to mitigate the effects of climate change on health. Climate adaptation plans need to consider vulnerable populations such as pregnant women and neonates and a broad multisectoral approach to improve overall resilience of societies.

KEYWORDS

air pollution, climate change, extreme heat, heat wave, maternal health, neonatal health

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DOI: 10.1111/aogs.14124

COMMENTARY

Maternal and newborn health risks of climate change: A call for awareness and global action

Nathalie Roos¹ | Sari Kovats² | Shakoor Hajat² | Veronique Filippi³ | Matthew Chersich⁴ | Stanley Luchters^{5,6,7} | Fiona Scorgie⁴ | Britt Nakstad^{8,9} | Olof Stephansson^{1,10} | CHAMNHA Consortium^{*}

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^{*}CHAMNHA collaboration Members are listed in Appendix 1.

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Climate Change and Maternal, Newborn and Child Health: Time for Action

LONDON SCHOOL of HYGIENE & TROPICAL MEDICINE



CONTEXT

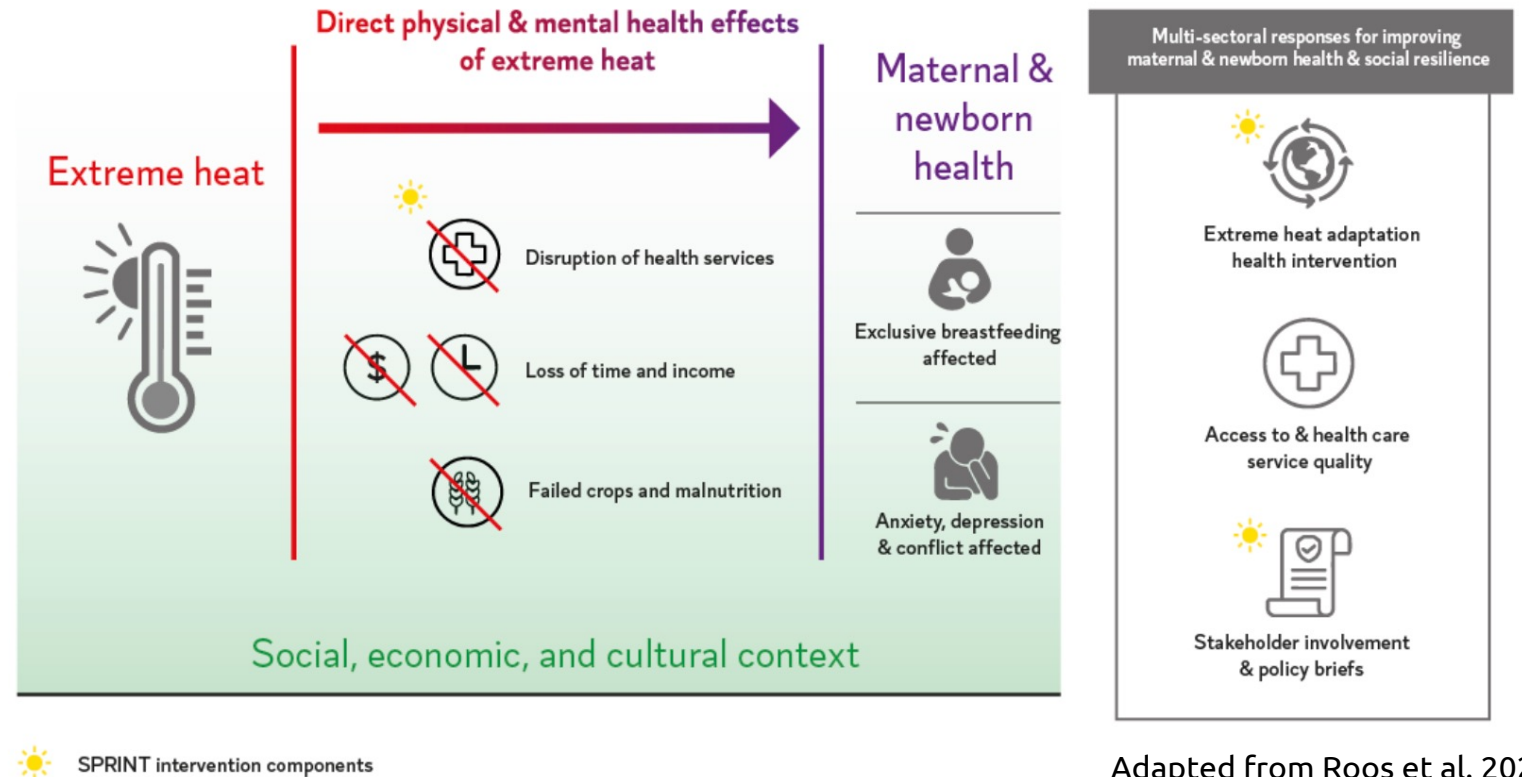


- chef-lieu de région / regional capital
- chef-lieu de département / department capital
- limite de région / regional boundary
- route principale main road
- cours d'eau / river
- lac / lake
- aire protégée / protected area
- région de Matam / Matam region

Source : Géosénégal, OSM, 2025



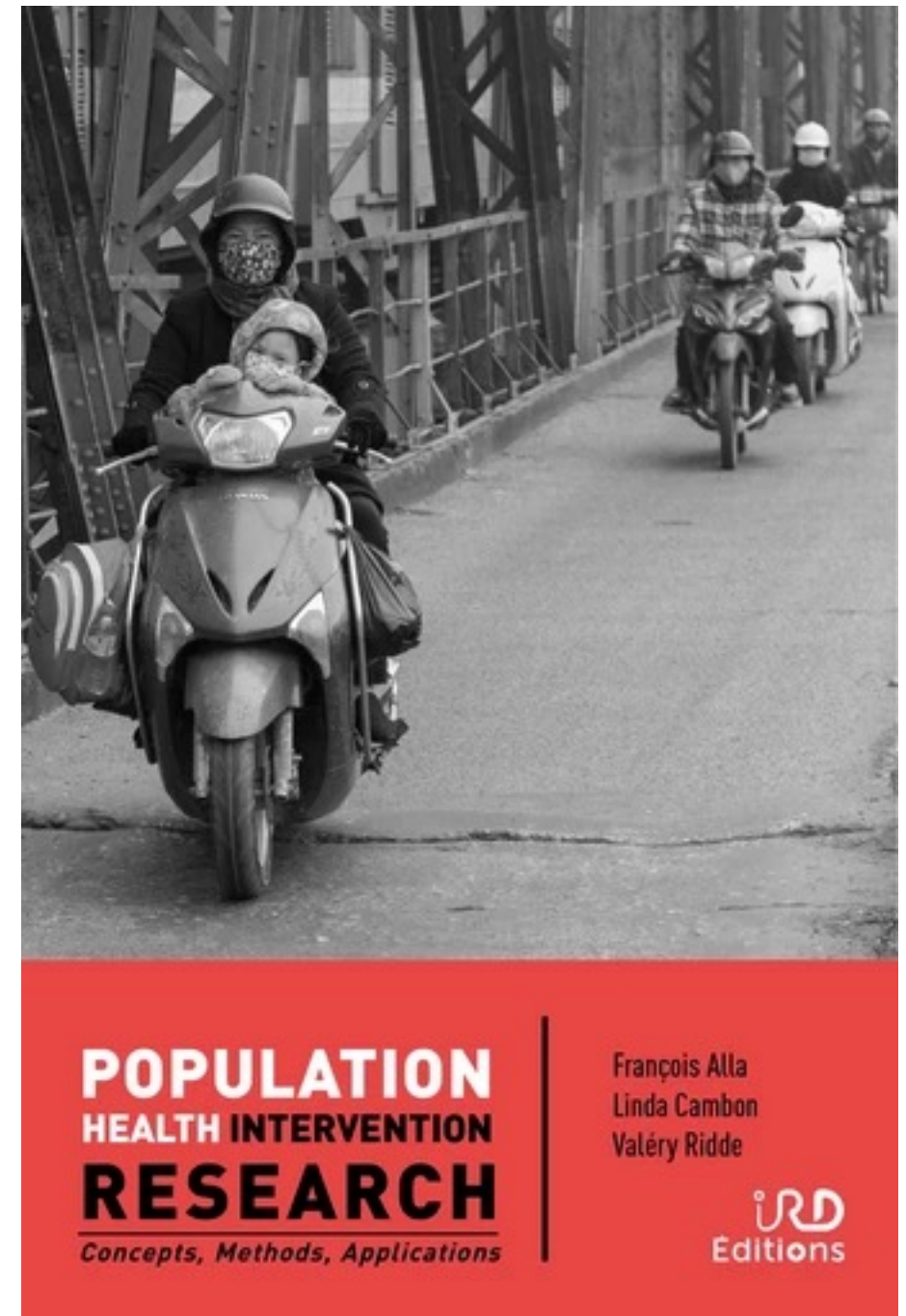
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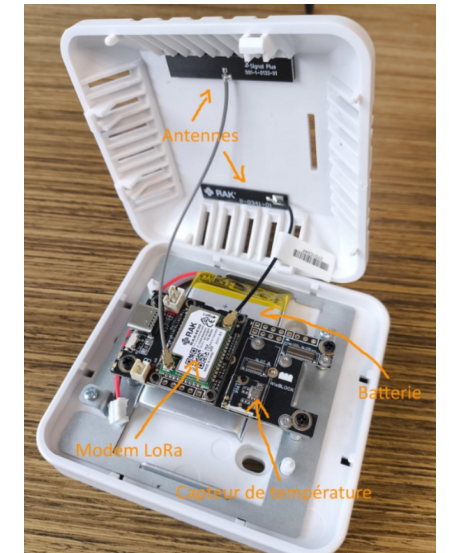
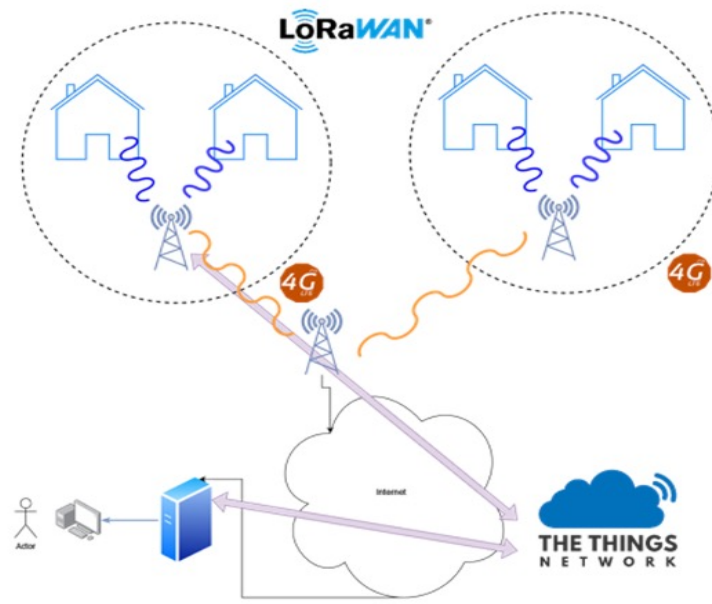


Adapted from Roos et al. 2021

METHODS

- Importance of local context
- Understanding + (co)acting + evaluating
- Use of theories
- Methodological pragmatism
- Concern for the use of findings







**Maison en banco reconstruites
en ciment Matam, déc-23**



Maison en ciment, Matam, déc-23



**Maison centenaire en banco,
quartier de Matam ville, déc-23**



Maison en brique, Mboloyel, déc-23



ROLES AND DAILY ACTIVITIES SHAPING WOMEN'S EXPOSURE TO EXTREME HEAT

- Cooking outdoors or in poorly ventilated spaces, using wood or charcoal stoves → heat + smoke
- Going to the market, caring for animals, often in the heat
- Juggling domestic responsibilities and professional activities (trade, market, agriculture)
 - = multiple source of exposure → create physical and thermal overload → impact on women's health



INEQUALITIES IN EXPOSURE TO HEAT



VARIOUS COPING STRATEGIES FOR DEALING WITH EXTREME HEAT...

- **Cooling down your body: get wet, take lots of showers, sleep outside or on rooftops.**
- **Adapting your clothing: wear light fabrics and avoid dark colors.**
- **Buying ice daily to cool your water (high cost during hot weather).**
- **Reducing working hours**



STRATEGIES FOR COOLING INFANTS AND YOUNG CHILDREN

- Cover the baby with a wet cloth.
- Give the child a refreshing bath (often before bedtime).
- Respond to the child's signals: sweating, agitation, crying.
- Widely used practices, passed down by grandmothers and previous generations.



EXTREME TEMPERATURES AND THEIR CONSEQUENCES ON EBF

■ Attitudes and beliefs

- Mothers perceive breast milk as insufficient during hot weather (not hydrating enough, risk of becoming “bland” or “bitter”).
- → Early introduction of water, formula, or porridge.

■ Social norms:

- Family and friends (mothers, grandmothers, mothers-in-law) encourage rituals and supplements. Medical recommendations are often questioned or come too late.

■ Perceived control:

- Extreme heat, fatigue, rapid return to work, and precarious living conditions (zinc houses, lack of water) weaken mothers' confidence in their ability to maintain exclusive breastfeeding.

Emotional dimension:

- babies crying and becoming agitated in the heat
- giving them water becomes an act of compassion, reinforced by family pressure.

'Enervements' under Extreme Heat. Social Mechanisms linking Heat Exposure to Maternal Mental Distress in Matam, **Northern Senegal**

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^c UMR 215 Prodig, CNRS, Université Paris LPanthéon-Sorbonne, AgroParisTech, Institut de recherche pour le développement (IRD), Aubervilliers, France

Introduction

- Extreme heat (EH) increases stress, aggression, irritability, and suicide
 - Social mechanisms remain poorly understood, especially among mothers in the Global South
 - This study investigates how EH impacts the mental well-being of pregnant women and mothers of young children in northern Senegal (SPRINT-Sen project)
-
- EH affects maternal mental health through:
 - **direct pathways**: physiological, psychological, behavioral
 - **indirect pathways**: socioeconomic and relational
 - Local vernacular terms '*énervements*': **nervous strain, irritability, and conflict** in response to environmental and social stressors

Methods

Study design	Ethnographic fieldwork embedded in the SPRINT-Sen intervention
Study Sites	2 urban neighborhood (Matam city and Ourrossogui) 1 village (20km from Matam)
Participants	60 in-depth interviews (with pregnant and breastfeeding women and their relatives, health workers) 8 FGD (pregnant and breastfeeding women and their relatives)
Data collection	2023 (december, cooler season), 2024 (october, 2nd peak of heat), 2025 (may, hot season)
Analysis	Abductive analysis Baecker et al. 2025 Nvivo software

Results

Two key social mechanisms link EH to maternal mental distress

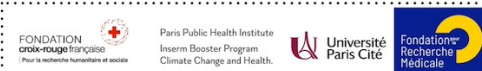
- **Ressources scarcity**: less access to **vital resources** (water, ice, food, and health care) and income
 - **Family overload**: childcare, domestic burden, sleep disruption
-
- Women bearing the **burden of domestic labor, childcare**
 - **Survival strategies** to face intensified stress, fatigue, and sleep deprivation during heat episodes.
 - '*Enervements*' result from the intersection of physical discomfort, material scarcity, and cumulative social overload
 - **Conflict trap** accross households, health facilities, & mother-child relationships

Conclusion

- **Social mechanisms** are key pathways
- **Responses should combine**:
 - **system-level**: cooling infrastructure, access to water and healthcare
 - **community-level**: psychosocial support tailored to women's needs & gender realities

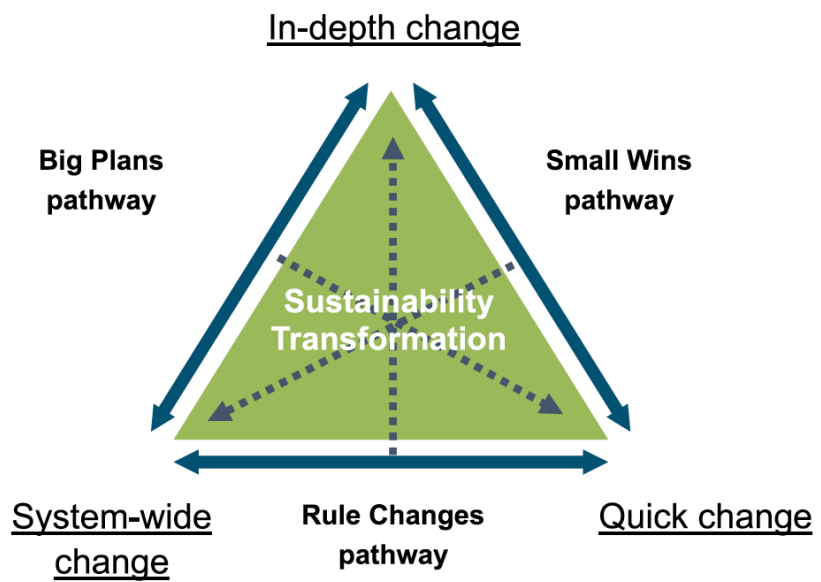


Funding Sources



Contact & publications
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Termeer et al. 2024, 71:101479



Challenges

- **Intervention: stigmatisation, culturalism, behavioural vs political and social determinants**
- **Research: causal attribution, interdisciplinarity, mental health**
- **Process: epistemic justice, KT**

Opportunities

- **Original evidence**
- **Interdisciplinarity**
- **Training the next generation**
- **International collaboration (including South-South)**

SPRINT-Sen objectives (2025-2028)

- To describe recent **heat trends and heat-sensitive morbidity** using retrospective meteorological data
- To **assess the consequences of extreme heat** and to identify the **adaptation strategies** developed by communities and health professionals.
- To implement a prospective **micro-surveillance system** to monitor extreme heat events at household and health centre levels
- To co-design, implement, and evaluate **community-based and health system-based preventive intervention**
- To **translate evidence** into policy recommendations for local and national decision-making.