

# Policy brief

## Improving food security and child health in Burkina Faso in a changing climate

### Summary

- Many of Burkina Faso's human development indicators have improved, driven by the country's new Universal Health Insurance Scheme (RAMU), investments in nutrition and access to universal health care for women, an expansion of the country's healthcare services more broadly, and a focus on vaccination and inoculation.
- However, climate change is increasing fragility and deepening vulnerabilities in health, development and human security, threatening to negate, or even reverse, this recent progress.
- Under a rise in global average temperature of 2.7°C by 2100, child mortality in Burkina Faso is projected to increase by 10.8% by 2070 and the number of underweight children is expected to rise by 6.1%.
- The government is working with regional organisations including the Economic Community of West African States (ECOWAS) and the African Union (AU) to advance the country's preparedness for the impacts of climate change.
- Effective and efficient policies that tackle the nexus of climate change and health will require greater cooperation across different government ministries and development policies more broadly.
- Strengthening reporting between local health clinics and national hospitals regarding cases of climate-sensitive communicable diseases can enable better monitoring and better design and implementation of early warning systems.
- Local and in-country expertise can be improved through broadening the Global Reporting Initiative Supervisory Board to include experts from Burkina Faso and other West African countries, and through bilateral partnerships and initiatives.
- More granular data and analysis are needed to ensure that government interventions are grounded in the local context, but collecting representative data is made challenging by ongoing violence and insurgency in parts of the country.

**Policy briefs** provide analysis on topical issues, presenting specific recommendations to inform ongoing policy debates. Drawing on the Grantham Research Institute's expertise, they summarise our research findings or the state of knowledge about a particular issue.

This policy brief has been written by Elizabeth J Z Robinson, Pamoussa Ouedraogo, Palamanga Ouoba, Shouro Dasgupta and Alexander Bergh.

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## Introduction

Burkina Faso, a low-income country in the Sahel region of Africa, has improved many of its human development indicators in recent decades, including reducing child mortality rates. This has been achieved in part through investing to improve nutrition (Turowska et al., 2023) and women's access to health care through the Universal Health Insurance Scheme (RAMU) (Samb and Ridde, 2018). Work is ongoing to expand access to electricity and clean water. However, Burkina Faso, in common with countries across the world, is increasingly having to deal with the growing challenges of climate change, including higher temperatures, a decline in total rainfall, and an increase in days with extreme levels of precipitation. This is leading to greater fragility and deepening vulnerabilities, undermining efforts to reduce poverty and increase prosperity.

This policy brief highlights priority areas for actionable advances in improving food security, nutrition and child health in Burkina Faso in the context of a changing climate. Co-written by academics based in Europe and representatives from the Burkina Faso government,<sup>1</sup> it draws on the authors' recent empirical analysis (see Dasgupta and Robinson, 2022) and local knowledge and policy insights. The aim is to contribute to the evidence base available to policymakers, which currently lacks the detail and granularity needed for informed decision-making over where best to invest scarce resources to improve nutrition and health outcomes.

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1. From the Ministère de la Solidarité, de l'Action humanitaire, de la Réconciliation nationale, du Genre et de la Famille.

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“The growing challenges of climate change are leading to greater fragility and deepening vulnerabilities in Burkina Faso, undermining efforts to reduce poverty and increase prosperity.”



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## Impacts of climate change on health and nutrition

Following interventions by the Burkinabe government over the last few decades, poverty has declined and health outcomes have improved. For example, the share of underweight children has mainly fallen (see Figure 1). However, average temperatures across Burkina Faso are increasing (see Figure 2) and climate change is projected to negate or even reverse some of the gains made.

In addition to highlighting progress, Figure 1 shows that the proportion of underweight children started to rise in some regions of the country between 2010 and 2017. Furthermore, the overall number of people suffering from undernourishment in the country, after falling in the decade to 2010, began to increase, and the share of the population that is undernourished has been increasing since around 2015 (see Figure 3). The number of moderately or severely food-insecure people in the country increased from 7.8 million in 2015 to 12.6 million in 2021. Malnourishment exacerbates existing serious health conditions including some contagious and infectious diseases such as HIV and AIDS and malaria, and is especially dangerous for children.

Under the ‘middle-of-the-road’ scenario of the Shared Socioeconomic Pathways (SSP2-RCP4.5) which would see global average temperatures rise by 2.7°C by 2100, child mortality in Burkina Faso is projected to increase by 10.8% by 2070 and the number of underweight children by 6.1% (Dasgupta and Robinson, 2023).

Under a ‘near-catastrophic’ climate change scenario, with 3.6°C of warming by 2100, food insecurity is projected to increase by 9.2 percentage points by 2050 and by 18 percentage points by 2100. These impacts indicate the serious detrimental effects of an international failure to reach the global net zero emissions target (Climate Vulnerable Forum and V20, 2022).

The health impacts of climate change on outdoor workers, such as those in the agricultural sector who are increasingly exposed to dangerously high temperatures, can reduce labour supply and labour productivity which could adversely affect agricultural productivity and food security – and economic growth more broadly.

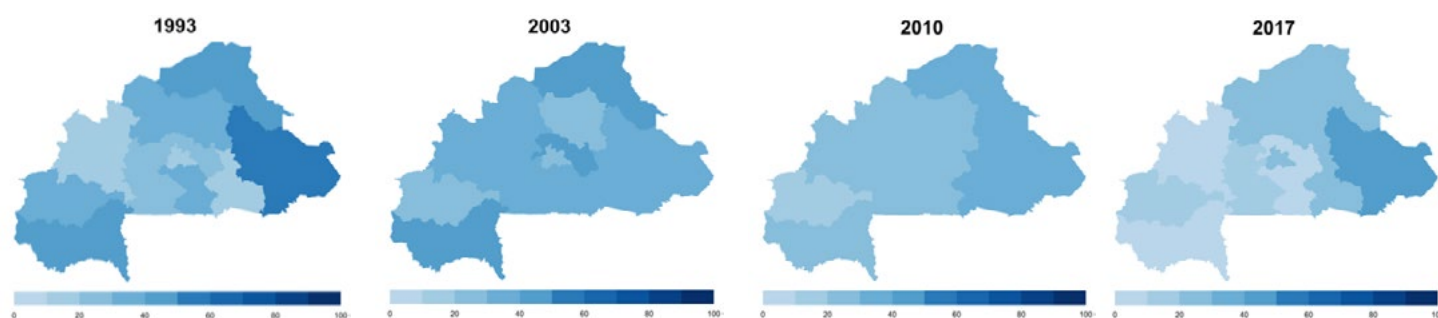
Desertification, unpredictable rainfall and the increasing spread of disease are further consequences of climate change in Burkina Faso that pose threats to food security and health, particularly to children given the crucial stage in their physical and social development.

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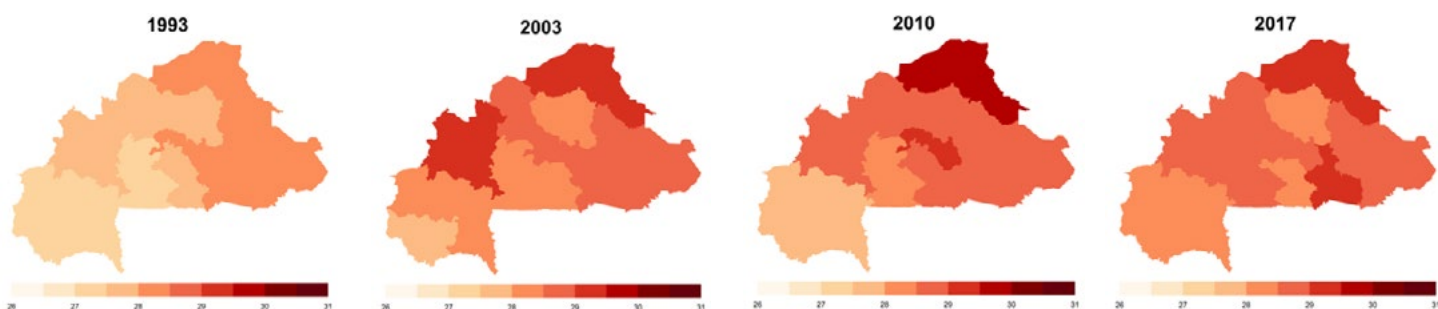


Figure 1. Percentage of underweight children in Burkina Faso by region, 1993–2017



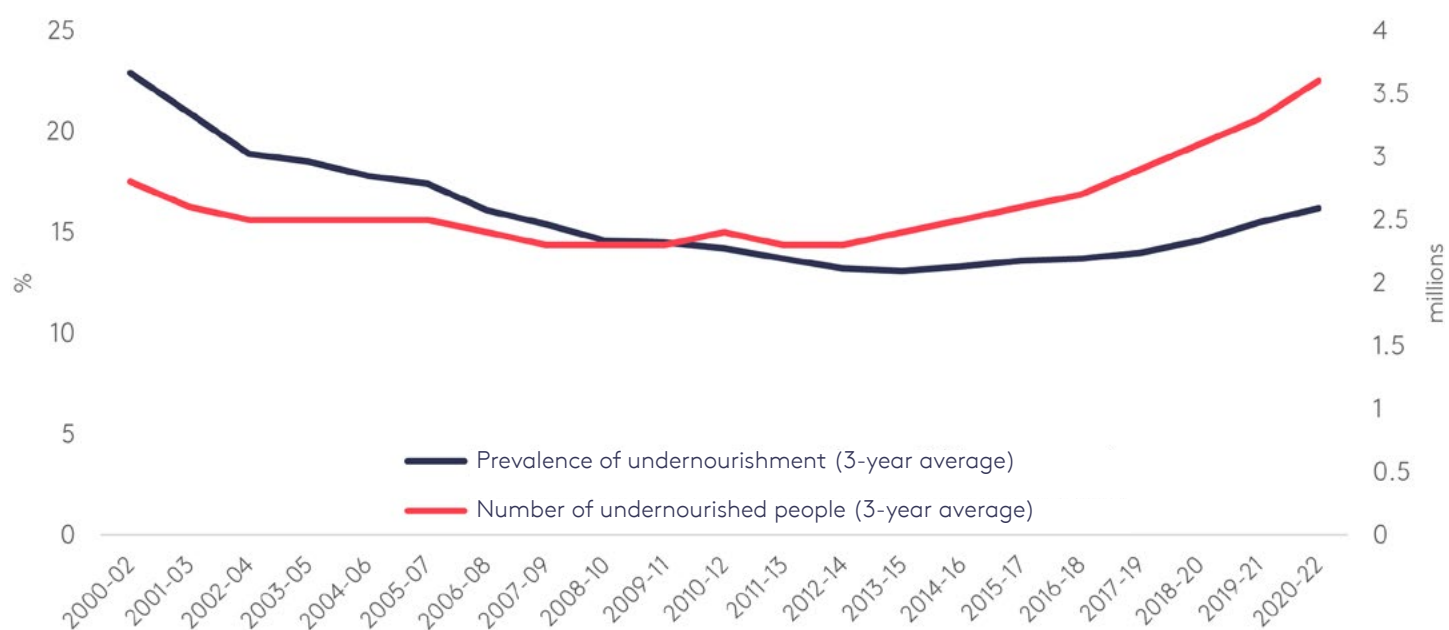
Source: Dasgupta and Robinson (2023), using data from Burkina Faso's Demographic and Health Survey (1993–2017)

Figure 2. Annual mean temperatures (°C) in Burkina Faso by region, 1993–2017



Source: Dasgupta and Robinson (2023), using data from ERA5-Land

Figure 3. Undernourishment in Burkina Faso, 2000–2022



Note: The data points are based on a three-year average.

Source: FAOSTAT

## Actions taken to date

To combat the plurality of climate-related threats to health, Burkina Faso's government has implemented several policies (see Annex). Key strategic areas of focus include increasing the number of hospitals and doctors, expanding healthcare for women and children, and vaccination and inoculation. Most of the efforts are led by the Ministry of Health and its main policy programme, the Universal Health Insurance Scheme (RAMU).

Given that low access to electricity makes the health and broader impacts of climate change all the more difficult to address, the government is prioritising expanding access to electricity, which currently covers only 21% of the population (IEA, 2020), outwards from the capital, Ouagadougou. Whether this expansion occurs through investment in low-carbon electricity or polluting fossil fuels will have broader implications for health outcomes. Increasing access to clean water has been another government priority.

“The government's areas of focus include increasing the number of hospitals and doctors, expanding healthcare for women and children, and vaccination and inoculation.”



PHOTO: JAVIER MÁRMOL/GIZEL VIA FLICKR



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## Implications for policymakers

The extent to which Burkina Faso is able to successfully counteract the negative health impacts of climate change depends on both the emissions pathway the planet is on, due to collective global decisions on decarbonisation, and local policy decisions to advance development goals and invest in climate adaptation and resilience.

Bringing climate change into the domain of human security is an important step in efforts to improve nutritional security and health more broadly. Here we identify a number of ways in which Burkina Faso can achieve improved outcomes for population health, development and human security.<sup>2</sup>

### Early warning systems

In the short term, the development of early warning systems can provide timely alerts to help farm and non-farm households to be prepared for extreme weather events including heatwaves and extremes of precipitation. In parallel, the government needs to ensure that safety nets are in place.

Early warning systems can also contribute to building adaptive capacity and climate resilience within health systems by helping Burkina Faso's under-resourced health facilities prepare for emergencies, allocate resources efficiently and equitably, and respond effectively to climate-related health threats.

### Integrating climate services into health planning

By integrating climate services such as forecasting and early warning systems into health planning, Burkina Faso can enhance the resilience of its healthcare systems. But to be truly effective, climate services must be improved and the government needs a deeper understanding of how it can ensure vulnerable people can access safety nets, which could be targeted cash or food transfers, as the climate becomes increasingly challenging.

### Improved targeting of policy interventions

Impactful policy is likely to require a rigorous and granular evidence base that combines sophisticated analyses of secondary data on health outcomes and food insecurity with the local knowledge of Burkina Faso government officials, practitioners and other key stakeholders. Such an approach could enable a deep and timely understanding of the policies that work or do not work, under what conditions, and why, including the most effective ways to improve health and food security for the most vulnerable and hard-to-reach segments of the Burkina Faso population.

Randomised control trials can contribute to improved targeting of policy interventions by determining the efficiency and effectiveness of programmes designed to improve health outcomes, taking explicit account of how the most disadvantaged groups are affected. The ability to obtain representative data from across Burkina Faso is constrained by ongoing violence and insurgency, specifically in Northern regions of the country. Where primary data are not available or accessible, there is potential for machine learning to guide efforts to improve food security, nutrition and child health (Martini et al., 2022).

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“Bringing climate change into the domain of human security is an important step in efforts to improve nutritional security and health.”

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2. These suggestions are based on our detailed analysis of secondary data for Burkina Faso, presentations of our findings at COP26, COP27 and COP28, and a writing workshop attended by academic researchers in the UK and Italy and ministry representatives from Burkina Faso.

## Protecting workers in high-exposure sectors

Consistent review of sustainability standards in high-exposure sectors such as mining can contribute to stronger protocols, protecting workers from high temperatures. As pregnant workers tend to be particularly vulnerable to heat, ensuring measures are in place such as adequate breaks, flexible working hours, access to hydration and toilet facilities, and cooling, could have longer-term intergenerational benefits by protecting the health of the women and their unborn children. These forms of worker protection are also likely to reduce losses in agricultural productivity during extremes of heat.

## Cooperation and collaboration

Positive health outcomes can be further enhanced through capacity-building and 'fact-finding' missions, and through cooperation such as Burkinabe personnel visiting facilities in other countries in the region with staff from the Economic Community of West African States (ECOWAS), and West African Health Organization and African Union subsidiaries. Local expertise from both the public and private sectors on quantifying and tracking climate impacts can be enhanced in several ways. For example, the Global Reporting Initiative (GRI) Supervisory Board could be broadened to include experts from Burkina Faso and other West African countries. Bilateral partnerships and initiatives could be developed, similar to the partnership between GRI and SECO (Switzerland's State Secretariat for Economic Affairs), which is geared towards supporting sustainability and accountability in investments across Africa.

Additional positive actions could include ensuring broad market transparency and accountability in applications of the Universal Health Insurance Scheme (RAMU). This would enable reporting to domestic, regional and international organisations (such as the GRI) on the progress of implementing healthcare and mitigation strategies and provide quantitative measures of effectiveness.

“Positive health outcomes can be further enhanced through capacity-building and cooperation between regional organisations.”



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See the accompanying Annex to this report for an outline of existing policies linked to climate change and health in Burkina Faso:

[www.lse.ac.uk/granthaminstitute/publication/improving-food-security-and-child-health-in-burkina-faso-in-a-changing-climate](http://www.lse.ac.uk/granthaminstitute/publication/improving-food-security-and-child-health-in-burkina-faso-in-a-changing-climate)

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This brief is intended to inform decision-makers in the public, private and third sectors. It has been reviewed internally and externally before publication. The views expressed in this brief represent those of the authors and do not necessarily represent those of the host institutions or funders.

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