

A CLOSER LOOK AT HUNGER AND UNDERNUTRITION IN BURKINA FASO

A Country Experiencing Substantial Change and Steep Challenges

After more than a quarter century of rule under an authoritarian president, Burkina Faso elected a new president in 2015. The election, considered free and fair, ushered in an era of optimism for the country (Harsch 2016). Yet Burkina Faso faces steep challenges. The country has experienced a wave of terrorist incidents in recent years; following a series of attacks, its prime minister and cabinet suddenly resigned in January 2019 (Blake 2019). As of 2017, GDP per capita was just \$642 in current US dollars, much lower than the average for Sub-Saharan Africa, at \$1,574. Burkina Faso's poverty rate was 43.7 percent as of 2014—down from 81.6 percent in 1998 yet still very high (World Bank 2019).¹ According to the 2017 Human Development Index, Burkina Faso ranks 183rd out of 189 countries, dragged down in part by its status as the country with the lowest mean years of schooling, at just 1.5 years (UNDP 2018).

Burkina Faso is undergoing economic and demographic changes. Twenty-eight percent of Burkinabé are employed in agriculture, 40 percent in services, and 32 percent in industry. This is a dramatic shift from 1991, when 89 percent of employment was in agriculture alone, with just 8 percent in services and 3 percent in industry (World Bank 2019).² The growing share of the work force employed in industry has been driven by an increase in informal, small-scale gold mining (AUC/OECD 2018). As a share of GDP, agriculture, fisheries, and forestry contribute 29 percent, industry accounts for 18 percent, and services make up 55 percent. In addition, the population is increasingly urban: the rural population fell from 86 percent in 1991 to 71 percent in 2017.

Burkina Faso is relatively land-rich, with a high average level of arable land per person compared with the averages for Sub-Saharan Africa and the world (World Bank 2019). Yet agriculture in Burkina Faso is plagued by low levels of productivity and minimal irrigation, leaving farmers vulnerable to crop failure in cases of drought (Murphy, Oot, and Sethuraman 2017).

FIGURE 1 MAP OF BURKINA FASO BY REGION



Note: Burkina Faso has 13 regions, within which there are 45 provinces.

For each country, GHI scores are calculated based on values of four component indicators:

- 1. UNDERNOURISHMENT:** the share of the population that is undernourished (that is, whose caloric intake is insufficient);
- 2. CHILD WASTING:** the share of children under the age of five who are wasted (that is, who have low weight for their height, reflecting acute undernutrition);
- 3. CHILD STUNTING:** the share of children under the age of five who are stunted (that is, who have low height for their age, reflecting chronic undernutrition); and
- 4. CHILD MORTALITY:** the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition and unhealthy environments).

¹ The poverty rates expressed here are poverty headcount ratios at \$1.90 per day (2011 purchasing power parity).

² The latest employment survey of Burkina Faso, the *Enquête Multisectorielle Continue (EMC) 2014*, shows a comparable rate of employment in agriculture as the data for 2017 from World Bank (2019), but acknowledges that this low rate may in part reflect the fact that the survey was conducted in the dry season (INSD 2015).

Hunger and Undernutrition Are Declining but Remain High

Burkina Faso's 2018 GHI score, at 27.7 points, is classified as *serious* and places the country at 89th out of 119 countries with 2018 GHI scores. The country's 2018 score represents an improvement: in 2000 its GHI score was 47.4, considered *alarming* verging on *extremely alarming*. Underlying this improvement are declining levels of each of the GHI indicators—the prevalence of undernourishment (insufficient access to calories), child stunting (low height for age), child wasting (low weight for height), and child mortality (Figure 2).³ Burkina Faso's progress against hunger has not been perfectly smooth, however. Its 2005 GHI score was higher than that of 2000, driven by a substantial increase in the rate of child wasting according to survey data from 2006, following a damaging locust invasion in 2004 and low rainfall in 2004–2005 (UNICEF, WHO, and World Bank 2018; UN OCHA 2006).

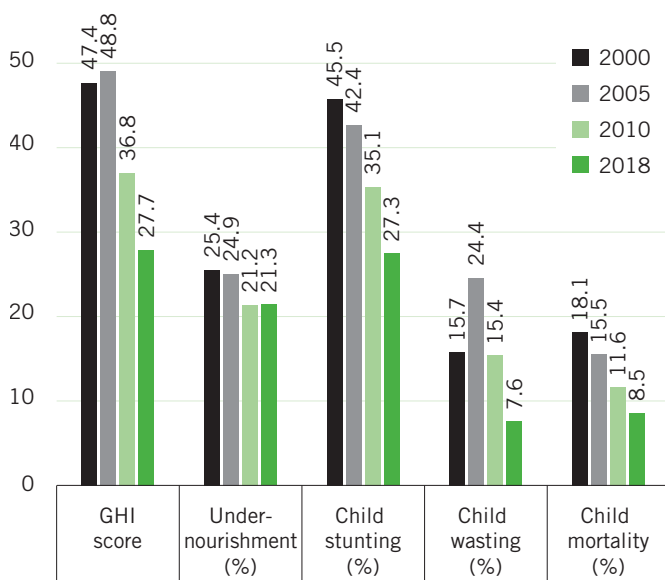
Burkina Faso can meet most demand for staple crops through domestic production, and it exports some cereals and livestock to

neighboring countries.⁴ Rice and wheat flour, however, are increasingly in demand owing to changing diet preferences, particularly among urban populations, and imports of these commodities are growing every year. Yet given the high dependence on rain-fed agriculture, production levels vary from year to year, leaving the population vulnerable to food insecurity in years with low rainfall (FEWS NET 2017). Also, fruit and vegetable production is dwarfed by cereal production in Burkina Faso, much more than in West Africa or Africa as a whole (FAO 2019).⁵

Food production levels also vary by province and region. The Centre, Centre-Nord, Sahel, and Nord regions are unable to produce sufficient cereals to meet their demand, and thus their populations are dependent on food purchased in the market. The Centre-Nord, Sahel, and Nord regions, located in the dry, Sahelian zone in the north of the country, depend on livestock rearing but also produce limited staple crops. The Centre region is home to Ouagadougou, the nation's capital, and has limited agricultural production relative to its population (FEWS NET 2017). Some horticultural production takes place around major cities, mainly in the central and northern regions, but it is limited (Sanfo, Barbier, and Zangre 2017). Agriculture centered on cereal crops is dominant in the south of the country (FEWS NET 2017). Production levels, however, do not tell the whole story—for example, the Boucle de Mouhoun region has surplus food production, yet its rates of poverty and food insecurity (based on household caloric intake) are above average for the country (World Bank 2016). This finding points to the importance of supporting agricultural activities throughout the country, recognizing the importance of livestock in the north and crops in the center and south, particularly during droughts; supporting poor and net food buyers in all regions who are vulnerable to food price shocks; and developing and maintaining strong infrastructure, including roads and markets, to allow for interregional trade in food products.

Recent data on the micronutrient status of the Burkinabé population are scarce. For women of reproductive age, the rate of anemia in 2015 was 50 percent nationally (Development Initiatives 2018). As of 2014, 86 percent of Burkinabé children aged 6–59 months had some degree of anemia (ICF 2019). Surveys have shown large variation between regions for vitamin A deficiencies, ranging from

FIGURE 2 BURKINA FASO'S GLOBAL HUNGER INDEX SCORES AND INDICATOR VALUES, 2000, 2005, 2010, AND 2018



Source: Authors.

Note: Undernourishment values refer to the prevalence of undernourishment for the country's population as a whole; child stunting, child wasting, and child mortality refer to the rates for each indicator for children under the age of five. Data for GHI scores, child stunting, and child wasting are from 1998–2002 (2000), 2003–2007 (2005), 2008–2012 (2010), and 2013–2017 (2018). Data for undernourishment are from 1999–2001 (2000), 2004–2006 (2005), 2009–2011 (2010), and 2015–2017 (2018). Data for child mortality are from 2000, 2005, 2010, and 2016 (2018). See Appendix A in the 2018 GHI report for the formula for calculating GHI scores and Appendix B for the sources from which the data are compiled.

³ Globally, undernutrition is responsible for 45 percent of deaths among children under age five (Black et al. 2013).

⁴ This description refers to food availability and is distinct from food access. Not all segments of the population are able to access sufficient food, despite the country's production and export levels.

⁵ This calculation is based on the ratio of the area of fruits and vegetables harvested relative to the area of cereals harvested, and the ratio of the tonnes of production of fruits and vegetables relative to the tonnes of production of cereals, for Burkina Faso, West Africa, and Africa according to FAOSTAT.

17 percent of women in Ouagadougou to 64 percent of women in Centre-Nord (Zeba et al. 2012; Zagré et al. 2002). Also, in Centre-Nord, 85 percent of children aged 1–3 years had vitamin A deficiency, as determined by their low serum retinol levels (Zagré et al. 2002).

Burkina Faso's child stunting rate of 27.3 percent and its child wasting rate of 7.6 percent are considered to be medium/poor in terms of significance for public health (UNICEF, WHO, and World Bank 2018; WHO 2010). There is some variation between regions. The stunting rate in the Centre region, home to the capital, is just 14.5 percent, while the rates of other regions lie between 20 and 35 percent. Wasting rates range from 4.6 to 10.2 percent (Ministère de la Santé et al. 2016) (see Table 1).

The diets of infants and children are cause for concern. Just 55 percent of infants from 0 to 5 months are exclusively breastfed, and only 21 percent of children from 6 to 23 months are fed a minimum acceptable diet—a standard that combines minimum dietary diversity and minimum meal frequency and has different recommendations for breastfed and non-breastfed children, who need to receive milk or milk products as a substitute for breast milk (Ministère de la Santé et al. 2016).

Another issue that may influence child growth and nutrition is the water, sanitation, and hygiene (WASH) environment as well as exposure to animal feces in the home. There is increasing evidence that exposure to pathogens from animal feces is associated with child growth faltering by means of a condition referred to as environmental enteric dysfunction (EED). A recent study from the Nord region of Burkina Faso found that household poultry ownership is widespread, children's exposure to poultry feces in the home is common, and WASH practices and facilities are largely suboptimal, suggesting that these factors may contribute to poor child growth. More research is needed to understand what types of programs can effectively increase knowledge regarding the effects of poor livestock hygiene on human health and nutrition and what resources are needed for improvements at the household level (Gelli et al. 2017).

What Has Worked in Addressing Food Insecurity and Undernutrition

Researchers have conducted a range of studies in Burkina Faso to assess the effectiveness of various efforts to reduce hunger and undernutrition. Agriculture has in some cases been shown to improve food security and nutrition in Burkina Faso. Between 1992 and 2006, Burkina Faso substantially reformed the institutions and policies affecting its cotton sector. These reforms are estimated to have enabled 5 to 8 percent of Burkina Faso's previously food-insecure population to achieve food security in terms of cereal consumption

TABLE 1 **CHILD NUTRITION INDICATORS BY REGION, BURKINA FASO**

Region	Child stunting (%)	Child wasting (%)
Boucle du Mouhoun	23.6	8.8
Cascades	31.1	6.3
Centre	14.5	9.0
Centre-Est	30.7	5.9
Centre-Nord	25.5	6.3
Centre-Ouest	25.1	8.8
Centre-Sud	20.0	4.6
Est	34.6	8.6
Hauts-Bassins	25.0	6.0
Nord	29.5	8.2
Plateau Central	28.5	6.4
Sahel	33.1	7.9
Sud-Ouest	29.9	10.2
Total	27.3	7.6

Source: Ministère de la Santé et al. (2016).

Note: Values are for children under five years of age. Up-to-date undernourishment and child mortality values at the subnational level are not currently available for Burkina Faso.

(Kaminski, Headey, and Bernard, 2009). An integrated agriculture and nutrition/health behavior change communication program in Gourma province, Est region, increased hemoglobin levels, reduced anemia rates, and marginally reduced wasting rates for young children (Olney et al. 2015). The program also improved mothers' diets and reduced maternal underweight (Olney et al. 2016).

In the dry, Sahelian areas of Burkina Faso, a set of farmer-driven practices known as re-greening has helped rehabilitate once-barren land and improved crop and tree production. The techniques include digging pits to hold water and nutrients and building contour stone bunds to control rainwater runoff. These practices are estimated to have increased agricultural yields and food production levels. After these practices were implemented, the length of food-deficit periods among participating households fell from six months to two or three months (Reij, Tappan, and Smale, 2009).

A variety of interventions designed to improve diet and nutrition for children have been shown to have positive effects in Burkina Faso. A breastfeeding promotion program that included home-based counseling sessions for new mothers increased the exclusive breastfeeding rate at 12 weeks to 79 percent in the intervention group relative to 35 percent for the control group (Tylleskär et al. 2011).

A pilot study of the treatment of severely malnourished children aged 6–59 months found that children whose diets were supplemented with powder from the local, nutrient-rich moringa leaf recovered faster than children in a control group (Zongo et al. 2013).

A study in the Hauts-Bassins region compared three approaches for treating moderate acute malnutrition among children 6–24 months old: provision of an enriched corn and soybean blend, provision of a locally produced ready-to-use supplementary food, and counseling for caregivers regarding children’s nutrition and healthcare needs. Recovery rates were highest for the children who received the two food-based interventions; in the third group, which had more problems with lack of attendance and dropouts, families that actually attended the counseling sessions achieved rates of success similar to the first two groups. The authors suggest that if attendance could be incentivized, counseling could be an effective approach to treating malnutrition (Nikièma et al. 2014).

An evaluation of two school-feeding programs implemented in the Sahel region of Burkina Faso—one providing in-school meals and the other providing take-home rations—found that the in-school meals had a small positive effect on the weight-for-age of school-age children while the take-home rations had a more substantial positive impact on the weight-for-age of preschool-aged children in the household. Because the younger siblings are at an earlier stage of development, they could benefit more from an improved diet than their older siblings, suggesting that take-home rations may be advantageous (Kazianga, de Walque, and Alderman 2014).

Cash transfer programs—widely used in the developing world—have been shown to affect beneficiaries’ diets, although the effect of these programs on nutrition status, including children’s height and weight, is less clear (Bastagli et al. 2016). In Burkina Faso, the Moderate Acute Malnutrition Out (MAM’Out) program, a seasonal, unconditional cash transfer program instituted in Tapoa province in the Est region, improved diet quality for children in the intervention group but did not affect child-stunting or child-wasting levels. Study authors suggest that the program might have been more effective if paired with behavior change communication or other program elements targeting nutrition (Houngbe et al. 2017).

Existing Policies and Government Measures Affecting Food Security and Nutrition

- Burkina Faso is a signatory to the African Union’s Maputo Declaration of 2003 and Malabo Declaration of 2014, which set targets for agricultural growth and transformation, including commitments to end hunger in Africa by 2025 and to allocate at least 10 percent of public expenditure to agriculture (AU 2014). As of 2018, Burkina Faso was one of 20 countries out of 47 that was on track overall to meet the Malabo commitments, and it was one of just 10 countries that met the commitment regarding agricultural expenditures (AU 2018).
- The National Economic and Social Development Plan (PNDES, 2016–2020), aimed at reducing poverty, has three major components: (1) reform of institutions and modernization of administration; (2) development of human capital; and (3) promotion of sectors that are conducive to the economy and jobs. Improvement of women’s and children’s nutrition is an additional objective of the PNDES (FAO 2017).
- The National Food and Nutrition Security Policy (PNSAN, 2016–2020) is a framework for coordinating activities related to food and nutrition security. Its objectives are to sustainably increase food availability, strengthen the capacity for preventing and responding to shocks, improve the physical and financial accessibility of food, improve the nutritional status of populations, and strengthen governance in food and nutrition security (FAO 2017; Murphy, Oot, and Sethuraman 2017).
- The National Nutrition Policy (PNN), revised in 2016, focuses on cutting undernutrition, reducing micronutrient deficiencies, strengthening the fight against overnutrition and nutrition-related chronic noncommunicable diseases, enhancing food safety linked to nutrition, and improving governance in nutrition (FAO 2017). The Multisectoral Plan for Nutrition (2016–2020) operationalizes the PNN (EC 2017).
- The Country Resilience Priorities (PRP-AGIR) plan seeks to reduce poverty and vulnerability among those engaged in livelihoods such as farming and to enhance food security by 2035 by bolstering resilience. The policy prioritizes the enhancement of livelihoods and social protection of the most vulnerable households, reinforcing nutrition of vulnerable households, increasing food production and revenue for vulnerable households, and reinforcing governance related to food security (Murphy, Oot, and Sethuraman 2017).

- The Five-Year Development Programme 2016–2020 for maintenance and rehabilitation of rural roads seeks to maintain and rehabilitate about 7,000 km of rural roads in 13 regions (FAO 2017).
- The National Rural Sector Programme (PNSR, 2011–2015) states the government’s objectives for the agricultural sector (FAO 2014). The PNSR II, a revision of this strategy, seeks to “ensure food and nutrition security through the sustainable development of a productive and resilient agriculture, fisheries, and wildlife sector that is market-oriented and able to respond to the major challenges of rural development” (Ballard and Rutting 2018).

Policy Recommendations for Moving Forward

- Prioritize food security and nutrition in public spending. In 2015, relative to 30 countries in the Scaling Up Nutrition (SUN) movement, Burkina Faso’s public expenditure on nutrition interventions was below average, in terms of both per capita spending on nutrition interventions and spending on nutrition interventions as a share of overall government expenditure (Greener et al. 2016).
- Continue to improve the intersectoral coordination of food security and nutrition policies and institutions. Entities such as the National Council on Food Security (Conseil National de Sécurité Alimentaire, CNSA), which coordinates food security activity in Burkina Faso, have historically been led by the agricultural sector, but ensuring the robust influence of actors with expertise in health and nutrition will strengthen the effectiveness of these institutions (Alpha and Fouilleux 2018).
- Recognize the challenges facing the populations living in the Sahelian areas of the country, particularly in terms of agriculture and livestock production. Support efforts to reverse desertification and maximize long-term productivity of arid lands.
- Given the rapid expansion of mining in Burkina Faso and the negative effects on food production when agricultural land is converted to mining land, the government must manage the development of the mining sector, monitor its effects on food supply, and ensure that compensation agreements for farmland are honored (Ouoba 2018).
- In terms of infant and young child feeding practices, support programs that include nutrition education and behavior change communication strategies, emphasizing the importance of breastfeeding for infants and introduction of complementary foods for children beginning at 6 months of age (A&T 2016).
- Continue to invest in water, sanitation, and hygiene facilities and practices, including emphasis on proper handwashing practices.
- Invest in social protection programs such as cash transfer programs, potentially combined with child nutrition interventions (Houngbe et al. 2017).

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