

# Fortification as a Strategy to Address Zinc Deficiency in Burkina Faso



## Zinc is Essential for Human Health

### Who is Most at Risk for Zinc Deficiency?



People in low- and middle-income countries—where diets are predominantly cereal-based and contain limited amounts of animal-source foods—are particularly at risk for zinc deficiency.<sup>1</sup>



Infants, young children, and pregnant and lactating women are most vulnerable to zinc deficiency because of their elevated requirements for this essential micronutrient.<sup>1</sup>

Zinc is a critical micronutrient for immune function, child health and development, and reproductive health<sup>1</sup>. Seventeen percent of the world's population is estimated to be at risk of inadequate zinc intake, which could in part be addressed by zinc fortification of widely consumed foods.

New evidence from a systematic review of 59 studies that assessed biochemical and health outcomes after the provision of a zinc-fortified food or beverage found that fortification with zinc, alone or together with other micronutrients, is an efficacious and effective strategy for reducing the prevalence of zinc deficiency in low- and middle-income countries<sup>2</sup>. In addition, fortification with zinc and other micronutrients may increase child weight, reduce episodes of diarrhea and fever, and improve cognitive function.

### Food fortification and zinc deficiency: WHERE DOES BURKINA FASO STAND?

The Government of Burkina Faso recognizes large-scale food fortification as a key strategy to reduce micronutrient deficiencies<sup>3</sup>. Fortification of vegetable oil with vitamin A and wheat flour with iron<sup>3</sup> and folic acid has been mandatory since 2012<sup>4</sup>. In 2013, the government updated the legislation for salt fortification to align with the West African Monetary and Economic Union (Union Economique et Monétaire Ouest Africaine or UEMOA) standards (95.9% coverage).

Zinc deficiency remains a serious public health issue in Burkina Faso. Although national estimates of plasma or serum zinc concentrations—the best available indicator of zinc status at the population-level—are not available, the prevalence of child stunting and estimates of zinc availability in the food supply can serve as useful proxy indicators. The prevalence of child stunting in Burkina Faso has declined significantly over the past decade but remains high: from 37.1% in 2010 to 25.5% in 2020<sup>5</sup>.

**The estimated prevalence of inadequate zinc intake is 35%, which surpassed the 25% threshold used to define a public health issue<sup>5,6,7</sup>.** Serum zinc data from the 2020 National Micronutrient Survey will be



### Country context

- ▼ **Population:** 19.8 million people (2018)
- ▼ **Stunting prevalence:** 23.8% (2019)
- ▼ **Estimated % of population with inadequate zinc intake:** 35% (2018)
- ▼ **Proportion of infants born with a low birthweight:** 13% (2019)
- ▼ **Proportion of children aged 0-5 months who are exclusively breastfed:** 48% (2018)
- ▼ **Under-5 mortality rate:** 87.5 per 1,000 live births (2019)
- ▼ **Proportion of children 6-23 months with the minimum acceptable diet:** 3% (2018)

Source: UNICEF. The State of the World's Children: 2019 Statistical Tables [Internet]. 2019 [cited 2021 Nov 4]. Available from: <https://data.unicef.org/resources/dataset/sowc-2019-statistical-tables>.

Food and Agriculture Organization of the United Nations (FAO). Food Balance Sheets [Internet]. 2018 [cited 2021 Nov 4]. Available from: <http://faostat.fao.org>

available in 2022; these data will be critical in guiding the design, implementation, and evaluation of interventions to reduce zinc deficiency.

**The need is clear. Large-scale food fortification with zinc is effective, safe, cost-effective—and is a vital and feasible deficiency mitigation strategy for national policymakers and planners.**

### Key actions for the Government of Burkina Faso and supporting partners to address zinc deficiency in Burkina Faso through zinc fortification

- ▼ In consultation with the Economic Committee of West African States (ECOWAS) Commission, ensure fortification, including zinc, is a priority in the forthcoming 2020–2029 National Multisectoral Nutrition Policy and the 2020–2024 Multisectoral Strategic Nutrition Plan, including a focus on regulatory strengthening.
- ▼ Leverage the 2020 nutrition survey, where serum zinc concentrations were measured, as a baseline for measuring the impact of the addition of zinc to the fortification program. Conduct regular nutrition and/or health surveys that include assessment of plasma/serum zinc concentrations and/or inadequate zinc intake after the launch of fortified foods with zinc.
- ▼ Investigate the impact and cost-effectiveness of alternative fortification vehicles with broad coverage in the population, such as industrially milled rice and condiments.
- ▼ Once mandatory zinc fortification is in place, conduct robust monitoring & evaluation to assess coverage, compliance, and effectiveness of zinc fortification programs.



**At current compliance levels, fortifying wheat flour with zinc would cost \$2.52 per year per child aged 6-59 months who achieves adequate dietary zinc intake due to fortification. The total 10-year cost of including zinc in the wheat flour premix would only be \$154,500<sup>8</sup>.**

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## Guidelines and resources for nutrition policymakers & program planners

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WHO, 2018. Fortification of rice with vitamins and minerals in public health. Available at: <https://www.who.int/nutrition/publications/guidelines/rice-fortification/en/>

## About IZiNCG

IZiNCG is the International Zinc Nutrition Consultative Group whose primary objectives are to promote and assist efforts to reduce global zinc deficiency through interpretation of nutrition science, dissemination of information, and provision of technical assistance to national governments and international agencies. IZiNCG focuses on identification, prevention and treatment of zinc deficiency in the most vulnerable populations of low-income countries.

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*These materials were developed with support from the International Zinc Association*

