



World Food Programme

SAVING LIVES  
CHANGING LIVES



# Fill the Nutrient Gap (FNG) Bhutan Executive Summary

## Context

Bhutan has made substantial progress in poverty reduction in recent years, with household poverty declining from 23 percent to 8 percent between 2007 and 2017. Nevertheless, malnutrition remains a major concern. The country is facing a triple burden with over a fifth of children under five stunted, a high prevalence of micronutrient deficiencies reflected in high rates of anemia and outbreaks of vitamin B deficiency, and a rapid increase in overweight and obesity.

The triple burden of malnutrition poses a major obstacle to human capital development in Bhutan, and progress in addressing malnutrition has been uneven, with worse nutrition outcomes among households in rural areas and in lower wealth quintiles. To prevent all forms of malnutrition, all individuals need to be able to access and afford healthy, nutrient-dense and diverse diets, including the most vulnerable individuals such as children under 2 and pregnant and lactating women.

The Royal Government of Bhutan has prioritized the fight against malnutrition as one of the most effective entry points for human development, poverty reduction and economic development. This is reflected in landmark policies such as The Food and Nutrition Security Policy of Kingdom of Bhutan (2014), the 12th Five Year Plan (2019-2023) which identifies food and

nutrition security as a National Key Result Area and, more recently, the National Nutrition Strategy and Action Plan (2020-2025).

## Methodology

Fill the Nutrient Gap (FNG) is a multi-sectoral stakeholder engagement and analytical process which seeks to characterize the obstacles that households face to accessing and consuming a nutritious diet and prioritize actions to overcome them. It consists of two main components: a country-specific review of secondary literature to characterize the food system and nutrition situation, and a linear optimization exercise using Cost of the Diet (CotD) software to estimate the cost of meeting nutrient needs across the life cycle in Bhutan.

Based on the CotD results and household expenditure data, the portion of the population that cannot afford to meet their nutrient needs was estimated. This was followed by the modelling of stakeholder-identified interventions across multiple sectors to assess their contribution to reducing non-affordability. The implications of the findings were discussed with stakeholders working across multiple systems including food, health and education, to reach a shared understanding of the main barriers. Using this information, stakeholders prioritized interventions for improving access to nutritious foods.

## FNG Bhutan process

The FNG process in Bhutan was undertaken by the World Food Programme (WFP) in collaboration with the Ministry of Health, to support the implementation of the National Nutrition Strategy and Action Plan while ensuring that WFP's strategic planning process continues to align with national nutrition priorities. With funding from the World Bank, the FNG exercise was initiated in early 2022 with technical assistance from the Systems Analysis for Nutrition team at WFP headquarters.

The stakeholder engagement and analytical processes took place throughout 2022. After baseline diet cost and affordability results were shared, stakeholders participated in a prioritization exercise to identify those interventions that should be simulated and compared. As the modelling simulation was carried out, national experts from the health, education and agriculture sectors provided inputs and validated the findings. A final multistakeholder workshop was convened in December 2022 in which attendees identified priorities for sectoral actions for nutrition based on the FNG results.

## Main findings

### 1. **Poor dietary quality and overconsumption of staples are key drivers of malnutrition in Bhutan.**

Bhutan has made significant progress in reducing poverty and improving food security and nutritional outcomes. However, high rates of stunting and micronutrient deficiencies remain a major obstacle to human capital development, while overweight and obesity are emerging as a public health concern.

### 2. **Meeting nutrient needs costs more than four times as much as meeting only energy needs. Nearly 3 in 10 households (27 percent) cannot afford to meet their nutrient needs.**

The FNG analysis found that, on average, a nutritious diet costs at least Ngultrum (Nu) 436 per day for a five-person household (Nu 13,285 monthly), which is 4.4 times more than a diet that meets only energy needs. FNG estimates suggest that nationally at least 27 percent of households cannot afford a diet that meets their nutrient needs. These findings indicate that while energy-dense staples such as rice are cheap and plentiful, nutritious foods such as vegetables, fruit and animal source foods are out of reach for many.

### 3. **Dietary patterns and suboptimal food choices make nutritious diets less affordable, particularly for individuals with elevated nutritional needs.**

Current dietary patterns, which include high consumption of starchy staples and processed foods high in sugar and sodium, push a nutritious diet

even further out of reach and increase the risk of overweight. Animal source foods provide an essential source of nutrients such as iron, which is needed in increased amounts during certain stages of the life cycle, particularly for adolescent girls and during pregnancy and lactation. For individuals following vegetarian diets, it becomes more expensive or even impossible to meet nutrient needs.

### 4. **Shocks, such as disruptions in supply chains, threaten to increase the proportion of households that cannot afford a nutritious diet and to reverse progress that has been made in the fight against malnutrition.**

The food system in Bhutan is characterized by small landholdings, low productivity and market inefficiencies, and remains vulnerable to external shocks. Supply chain disruptions caused by the COVID-19 pandemic and the subsequent global food crisis have exposed the vulnerability of the food system and threaten to reverse the progress that has been made in improving nutrition outcomes.

### 5. **Suboptimal infant and young child feeding practices and unhealthy snacking increase the cost of meeting nutrient needs and the risk of malnutrition in children under 2 years of age.**

Suboptimal breastfeeding, low diversity of complementary foods, and consumption of unhealthy snacks increase the cost of the nutritious diet and the risk of malnutrition in children under 2 years of age. However, the FNG found that provision of multiple-micronutrient powders and improved feeding practices with nutrient-dense foods can help to lower the risk of malnutrition.

### 6. **Adolescent girls and pregnant and lactating women are especially vulnerable to malnutrition, but targeted interventions can make an essential contribution to closing the nutrient gap.**

Adolescent girls and pregnant and lactating women are especially vulnerable to malnutrition because they require high levels of nutrients such as iron, which come from foods that are expensive in Bhutan (e.g., animal source foods). Targeted interventions, including supplementation with iron and folic acid tablets, are essential and should be continued. The FNG also found that if taken daily, a multiple-micronutrient tablet can make an even greater contribution to closing the nutrient gap for these individuals.

### 7. **Schools play an essential role in ensuring access to good nutrition through provision of diverse and fortified meals and targeted supplementation.**

The National School Feeding and Nutrition Programme continues to provide an excellent channel to deliver nutritious meals to young people in Bhutan.

Fortified rice makes an excellent base for school meals and should be continued. However, it needs to be complemented by nutritious local foods which are often expensive. Micronutrient supplementation in schools can further bring down the cost of meeting the nutrient needs of children and adolescents.

**8. Strengthening food systems can improve food producer and processor incomes while increasing availability of, and access to, nutritious foods for consumers.**

Strengthening the food system by promoting nutrition-sensitive agriculture and diversifying production beyond staples to include more vegetables, fruit and animal source foods, can improve producer incomes while increasing the availability of nutritious foods at the markets. Commercial rice fortification should be scaled up; even at a slight price premium, it can be a cost-effective way for households to access nutritious diets.

**9. Actions across multiple sectors will be essential to bring healthy, nutritious diets within reach of the most vulnerable.**

A combination of nutrition actions across multiple sectors is essential to bring healthy, nutritious diets within reach of the most vulnerable. Diversifying the food system, fortification of rice and other staples, targeted supplementation, promotion of optimal infant and young child feeding practices, and healthy school meals should all form part of a package of actions for nutrition.

**10. Timely monitoring of cost and affordability of nutritious diets, coupled with a robust nutrition information system, is essential to support coordinated actions to eliminate malnutrition in Bhutan.**

The ongoing impacts of COVID-19, the global food crisis, and climatic and other shocks, continue to affect the kingdom's food system and national and household economies. Timely monitoring of the cost and affordability of nutritious diets and a robust nutrition information system are essential to support coordinated actions to mitigate the impact of shocks and eliminate malnutrition in Bhutan.

## Stakeholder recommendations

### Health System

- Introduce multiple micronutrient supplements for nutritionally vulnerable groups including adolescent girls, nuns and pregnant and lactating women.
- Strengthen infant and young child feeding practices, including promotion of exclusive breastfeeding for children under six months and complementary feeding for children six to 23 months using diverse nutritious foods along with micronutrient powder to improve dietary quality.

- Identify targeted interventions using alternative modalities to meet remaining nutrient needs for vulnerable women and children during the first 1,000 days of life.
- Enhance social behaviour change (SBC) strategies, including SBC communication and legislative regulations, to 1) improve dietary quality through adequate consumption of nutrient dense foods and reduced intake of ultra-processed foods high in sugar and sodium, particularly among adolescents and young children; and 2) generate awareness about the risk of nutritional deficiencies from practices limiting consumption of animal-source foods, especially among adolescent girls.
- Develop national food-based dietary guidelines that address nutritional needs across the lifecycle, including for vulnerable individuals.
- Strengthen nutritional surveillance and monitoring systems and technical capacity, including routine monitoring of consumption indicators, anthropometry and biochemical markers among nutritionally vulnerable groups. Update indicators for the cost and affordability of nutritious diets using timely food prices and recent expenditure data to support the National Nutrition Strategy and Action Plan and the Thirteenth Five Year Plan.

### Education System

- Utilize schools to establish healthy habits early in life through nutrition education and provision of diverse and healthy school meals.
- Leverage schools as a platform to reduce the consumption of sweetened snacks and beverages and salt through both restrictions on the use of sugary and ultra-processed foods within schools and through SBC to discourage their consumption outside of schools.
- Invest in rice fortification infrastructure and capacity to supply all schools, including private schools, day schools currently without meal programmes, and monasteries and nunneries, with fortified rice.
- Review adequacy of the stipend provided to schools for local food procurement and revise the basket of centrally procured non-perishable commodities to improve the nutritional quality of school meals. Reallocate resources toward procuring nutritious local foods by reducing the excess portion of staples, tea and sugar in the non-perishable basket.
- Improve local school infrastructure, such as storage and kitchen facilities, to ensure food safety of fresh perishable foods.
- Strengthen the Farm to School programme through improved farmer-school linkages and expanding the use of the SMP Plus tool to design local menus linked to local production, and utilize the School Agriculture Programme as a vehicle for hands-on nutrition education.

- Review the efficacy of iron-folic acid supplementation in schools and explore the utilization of multiple micronutrient supplements to improve impact and compliance.
- Strengthen systematic monitoring of nutrition outcomes in the Education Management Information System to assess school and nutrition programme performance.
- Promote diversification of agriculture in home gardens and commercial farms to enhance availability of and access to locally produced nutrient dense foods, including more nutritious staples, nutrient dense fruits and vegetables and reintroduction of nutrient dense traditional crops.
- Develop value chains, improve infrastructure, and enhance market linkages for nutritious crops to increase farmer and producer incomes while also improving market availability.

### Food System

- Leverage the success of the rice fortification programme by 1) reviewing rice fortification standards to maximize the impact of fortification together with complementary targeted interventions; and 2) strengthening the capacity of blending facilities to scale-up fortified rice to unreached schools and commercial markets for the general population.
- Promote the market-led production of nutritious crops and livestock to improve dietary diversity.
- Strengthen the Agriculture Information Management System to monitor price and availability of nutritious foods weekly, including in rural and urban markets.



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