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Mind the Gap
Country Case Study
ZAMBIA

October 2024

About the Mind the Gap Report

Achieving Sustainable Development Goal 2 (Zero Hunger) by 2030 is increasingly at risk due to the combined impacts of climate change, conflict, COVID-19, and rising living costs, which have reversed progress in reducing global hunger. Social protection systems, while essential for supporting vulnerable populations, often fail to account for nutritional needs—a key element in breaking the cycle of poverty, vulnerability, and malnutrition. This oversight represents a missed opportunity to advance the objectives of SDG 2, especially in a context where hunger has been rising since 2015.

Amid these challenges, the Mind the Gap report explores the role of social protection systems in addressing affordability gaps of nutritious diets. It is structured around the **Fill the Nutrient Gap (FNG)** analytical approach, which aims to understand the drivers affecting the availability, cost, and affordability of nutritious diets in specific contexts. The policy objective is to identify and implement interventions to improve diets, especially of nutritionally vulnerable people, including through the integration of nutrition into social protection systems. Through case studies from 12 diverse national contexts, the report presents actionable social protection pathways for reducing the affordability gap of nutritious diets and improving food security and nutrition outcomes.

Further information and evidence on the FNG can be accessed at: wfp.org/fillthenutrientgap

FNG
FILL THE NUTRIENT GAP
SYSTEMS ANALYSIS FOR NUTRITION

Contents

I. Overview of the malnutrition burden and poverty situation

Zambia faces a triple burden of malnutrition with high levels of child undernutrition, micronutrient deficiencies and, increasingly, issues related to overweight and obesity. Around 35 percent of children under 5 are stunted while 5 percent of children and 15 percent of all adults are overweight (1). There are substantial intra-country differences in stunting rates with prevalence highest in the Northern Province (46 percent) and lowest in the Western and Southern Provinces (29 percent). Stunting is also high among children living in the poorest households, with prevalence at 40 percent in the lowest wealth quintile (1). High rates of stunting have implications for human capital development, translating to economic losses measured as decreased productive potential and increased healthcare costs (2).

Diet quality is poor in Zambia. According to the 2018 Demographic Health Survey (DHS), only 13 percent of children (aged 6–23 months) consumed a minimum acceptable diet. Around 58 percent of children aged 6–59 months and 31 percent of women aged 15–49 years were anaemic, which is a public health concern and also indicates that micronutrient deficiencies are widespread (1). These deficiencies have far-ranging consequences: during childhood and pregnancy they can impair physical and cognitive development and increase the risk of maternal mortality, and they impact health, productivity and school performance later in life.

Zambia faces persistent levels of poverty. In 2015, three in five people were living below the international extreme poverty line (USD 2.15 a day), while the poverty rate using the national poverty line was 55 percent (3). Poverty rates in 2015 were as low as 20 percent in the capital, Lusaka, and around 80 percent in Luapula, Northern and Western regions; poverty in rural areas (77 percent) is three times as high as in urban areas (23 percent) (4). The poverty rate among households headed by women is higher, at 57 percent, and income inequality is widening, with a GINI Index of 57.1 in 2015, increased from 55.6 in 2010 (5). More recent poverty figures are not available; however, simulation exercises show that poverty is likely to have increased since 2015, particularly because of the slowdown in economic growth and impacts of the COVID-19 pandemic (6).

II. Country priorities on nutrition and social protection

NUTRITION POLICY FRAMEWORK

The National Food and Nutrition Commission in Zambia, established in 1967, advises the government on food security and nutrition and helps to coordinate different line ministries to make plans and programmes nutrition sensitive. The 2020 National Nutrition Policy coordinated by the Commission creates a guiding framework to eliminate food insecurity and malnutrition through a multisectoral approach (7). For example, it recommends that the Public Welfare Assistance Schemes, implemented by the Ministry of Community Development and Social Services, coordinate its activities with the National Food and Nutrition Commission. The Commission's 2020 Policy Brief on Social Protection recommends integrating nutrition objectives into national social protection policy (8).

SOCIAL PROTECTION POLICIES AND PROGRAMMES

Social protection is integrated into Zambia's Eighth National Development Plan (2022–2026) and the Vision 2030 (9). The plan advocates for the integration of social protection programmes under Development Outcome 4 (Reduced Poverty). The 2014 National Social Protection Policy aims to reduce poverty and vulnerability through a systematic approach to a unified social protection system (10). The policy places enhanced food and nutrition security as one of social assistance's three main objectives and outlines the need to integrate social protection with social services in nutrition. While the policy refers to food and nutrition objectives, it falls short of describing the pathways through which social protection programmes can help achieve these.

Despite planned increases in coverage, the social protection budget declined by 5 percent from 2018 to 2019 in Zambia (11). In 2019, government spending on social protection was only projected to account for 0.7 percent of the GDP, significantly lower than the regional average (11). In line with global trends, social protection spending may have increased in response to COVID-19.

The Home-Grown School Meals (HGSM) programme is one of the main social assistance programmes that contribute to food and nutrition outcomes. Other programmes include the Cash Transfer (SCT) programme, the Farmer Input Subsidy programme, and the Price Floor and Subsidized Maize programme (12). The HGSM programme, managed by the Ministry of Education with technical assistance provided by WFP (12), is guided by the National Strategy of HGSM (2020–2024) (13). The goal is to improve nourishment, human capital development and learning and promote socioeconomic empowerment of local communities.

The HGSM is implemented in over 5,000 early childhood education and primary schools in 70 out of 116 districts, covering an estimated 1.9 million school children (14). The programme aims to scale up to all districts. Primary school children are provided with a locally sourced meal, usually consisting of maize, beans and legumes, to contribute to their nutrient needs while strengthening local food systems. Nutritious meals are complemented by nutrition education, and in coordination with the Ministry of Health, services such as deworming are also implemented.

Schools are selected based on indicators such as low education achievement, high prevalence of HIV in the community, food insecurity and poor nutrition indicators.

Most ingredients are procured directly by district governments from smallholder farmers. There are agricultural innovations such as hydroponics that are being piloted and tests performed to improve sustainable availability of fresh nutritious foods. Reviews show that while the programme is coordinated with complementary initiatives, such as deworming, there is poor coordination with the Ministry of Agriculture, and therefore there is an opportunity to strengthen linkages with smallholder farmers through support services (12).

III. WFP's approach

The Fill the Nutrient Gap (FNG) analysis in Zambia was designed to support the implementation of multisectoral programmes coordinated by the National Food and Nutrition Commission (15). The FNG aimed to identify entry points for interventions, including social protection programmes, to support their expansion or implementation with evidence-based advocacy messages. The FNG brought together stakeholders across multiple sectors to prioritize policies and programmes that can improve dietary intake and nutrition outcomes among target groups across the life cycle.

The FNG analysis took place from September 2020 to April 2021, with a wide range of national experts and stakeholders providing inputs throughout the analysis. A cost of the diet analysis was conducted in all provinces and was complemented by a comprehensive review of secondary data and literature on food systems and nutrition.

Cost of the diet analysis in FNG Zambia

The cost of the diet analysis was conducted using prices from Consumer Price Index data collected by the Zambian Statistics Agency for four points in time between August 2019 and January 2021, and expenditure data from the Zambia Living Conditions Monitoring Survey 2015 adjusted to 2020 price levels. The lowest costs of a diet that meets energy requirements and a diet that meets requirements for macro and micronutrients were estimated using the FNG methodology (18) for a modelled household consisting of five individuals: breastfed child (12–23 months), school-age child (6–7 years), adolescent girl (14–15 years), breastfeeding woman and adult man.

The cost of the diets was then compared to household food expenditure to determine the proportion of households unable to afford the costs (called 'non-affordability'). The gap between the lowest-cost nutritious diet and the food expenditure of a household is referred to as the affordability gap.

Social protection interventions were modelled in all provinces. Intervention modelling used nutritious diet cost data from August 2019 and February 2020.

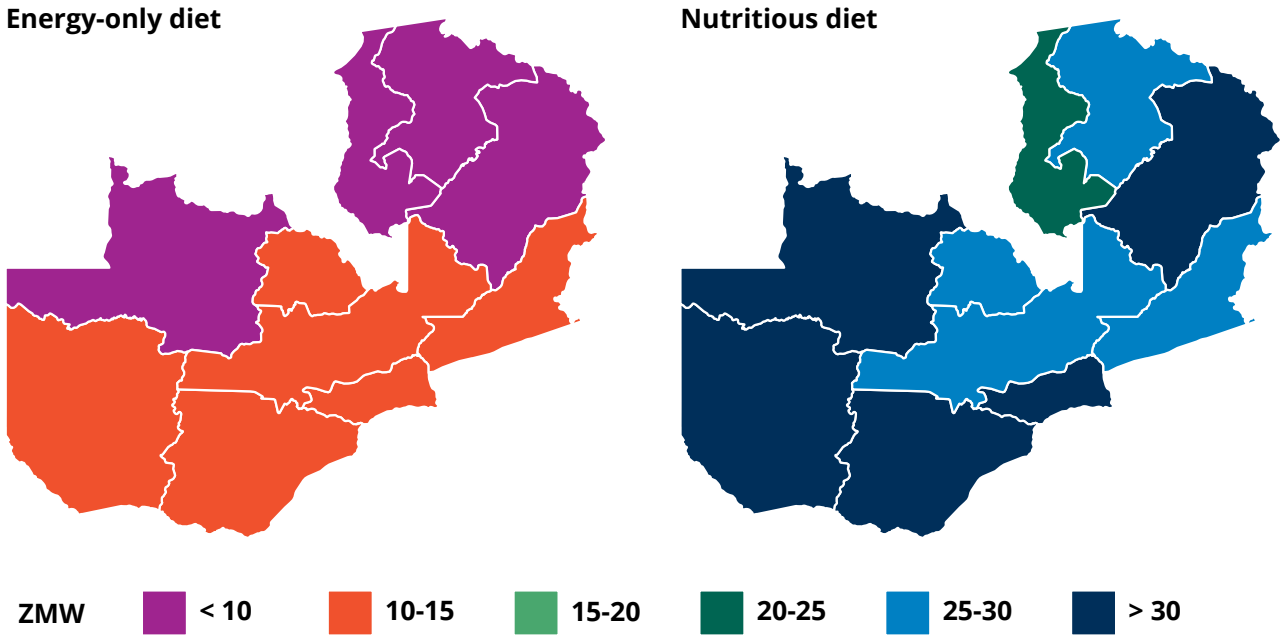
IV. Findings of the FNG

COST AND AFFORDABILITY OF THE NUTRITIOUS DIET

The FNG found that a diet meeting only the energy requirements (energy-only diet) for a household of five would cost 1 Zambian Kwacha (ZMW) (USD 0.55) per day (ZMW 2.20 per capita per day,) on average in 2020–2021. In contrast, meeting nutrient needs (nutritious diet) could cost three times more, at ZMW 33 (USD 1.66) per day (ZMW 7 per capita per day) due to the higher prices of nutrient dense foods such as vegetables and animal source foods. Nutritious diets were most expensive in the capital city of Lusaka, followed by Southern, Western and Eastern regions, as shown in Figure 1.

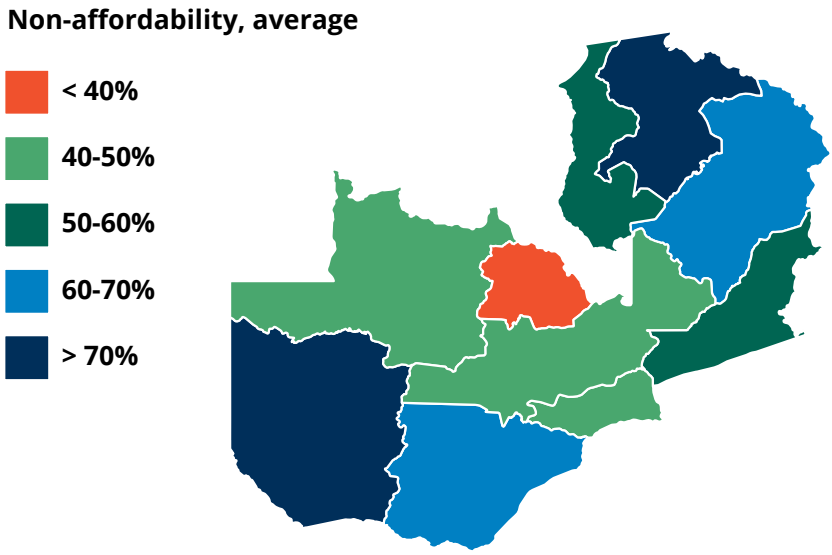
The FNG found that the cost of the nutritious diet increased by 26 percent, from ZMW 27 (USD 1.36) to ZMW 34 (USD 1.71) between August 2019 and January 2021, due to high rates of inflation during this period. The cost of the nutritious diet increased by more than 35 percent in remote provinces such as Northern and Western, compared to less than 10 percent in Copperbelt and Lusaka provinces.

Figure 1: Daily cost of energy-only and nutritious diets by region (FNG 2021)



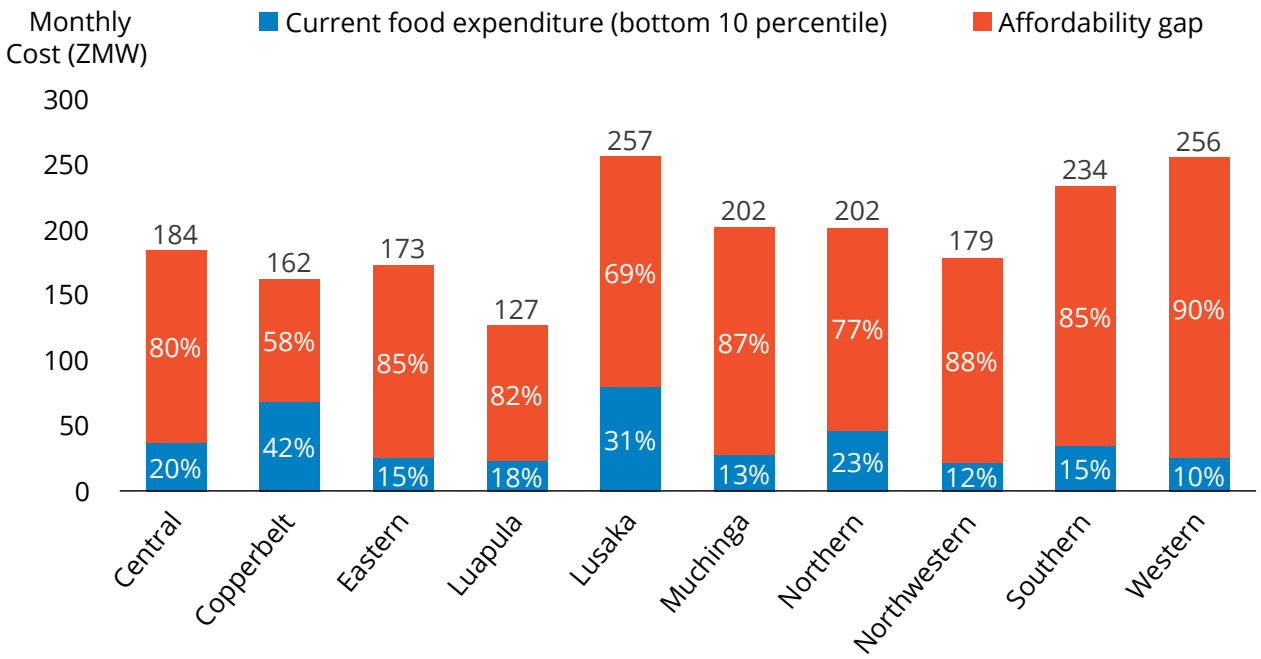
Nationally, one in ten households (13 percent) would not be able to afford the cost of an energy-only diet. The proportion of households who would be unable to afford the lowest-cost nutritious diet is five times more (53 percent). There was a large variation in non-affordability rates across the country – as low as 25 percent of households in the Copperbelt, to as high as 82 percent of households in the Western region (Figure 2). This difference in non-affordability is driven by both higher costs and relatively lower income/expenditure levels in the Western regions.

Figure 2: Non-affordability of a nutritious diet (FNG 2021)



The FNG analysis found that there is a large affordability gap between the amount that the poorest 10 percent of households currently spend on food and the cost of a nutritious diet. Depending on the province, the affordability gap ranges from 58 percent to 90 percent of the nutritious diet cost (Figure 3). The wide differences are reflective of local food systems, price levels, and economic conditions of households. The larger the affordability gap, the poorer the quality of the diet and the more food insecure the household is, and the greater the risks of malnutrition.

Figure 3: Affordability gap of the nutritious diet, average household bottom 10 percentile, by province (FNG 2021)

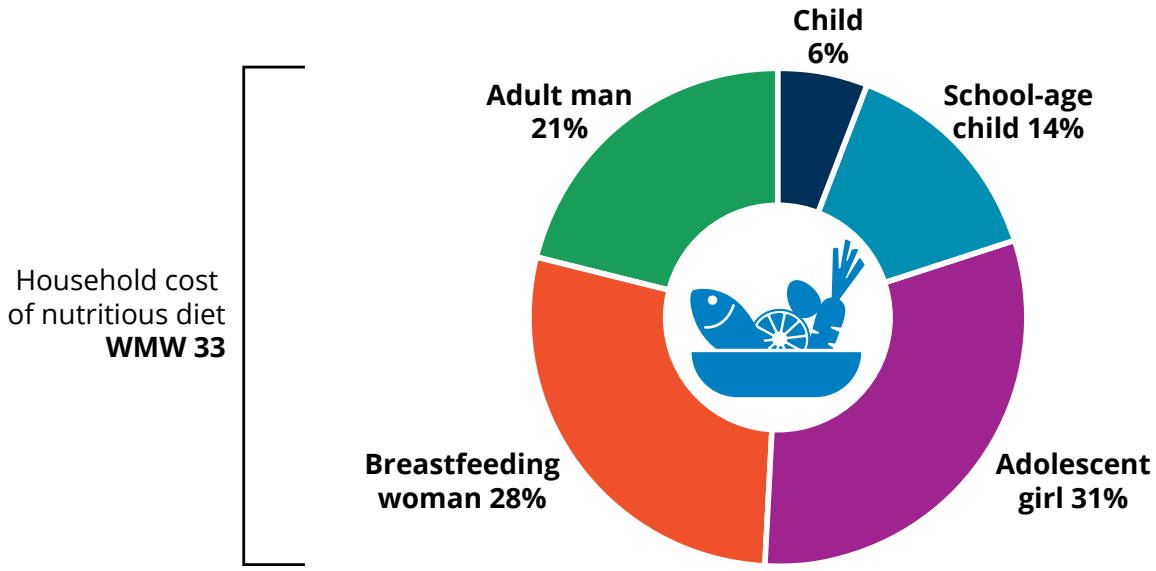


VULNERABLE GROUPS

Adolescent girls and pregnant and breastfeeding women have relatively higher requirements of specific nutrients such as iron, folic acid and vitamin B12. In the modelled household, this is reflected by the adolescent girl and breastfeeding woman together having the highest cost of nutritious diets within the household, representing 59 percent of the household's total cost (Figure 4). Actual intra-household food allocation may not consider these differential nutrient needs and the corresponding greater need for diversity in the diet, which comes at a higher cost, and therefore targeted interventions such as supplementation are often needed to help cover the nutrient requirements of nutritionally vulnerable individuals.

Children aged 12–23 months have a lower cost of nutritious diet compared to other members as they consume less food, and the modelled diet assumes optimal breastfeeding which covers a large proportion of their nutrient needs. This age group, however, is nutritionally vulnerable as their smaller stomachs mean that meals must be provided at higher frequency and need to include nutrient dense foods to cover nutrient requirements (16).

Figure 4: Distribution of the daily cost of a nutritious diet for the modelled household across individual household members (FNG 2021 using data from 2020–2021)



V. Using the FNG to inform social protection programmes

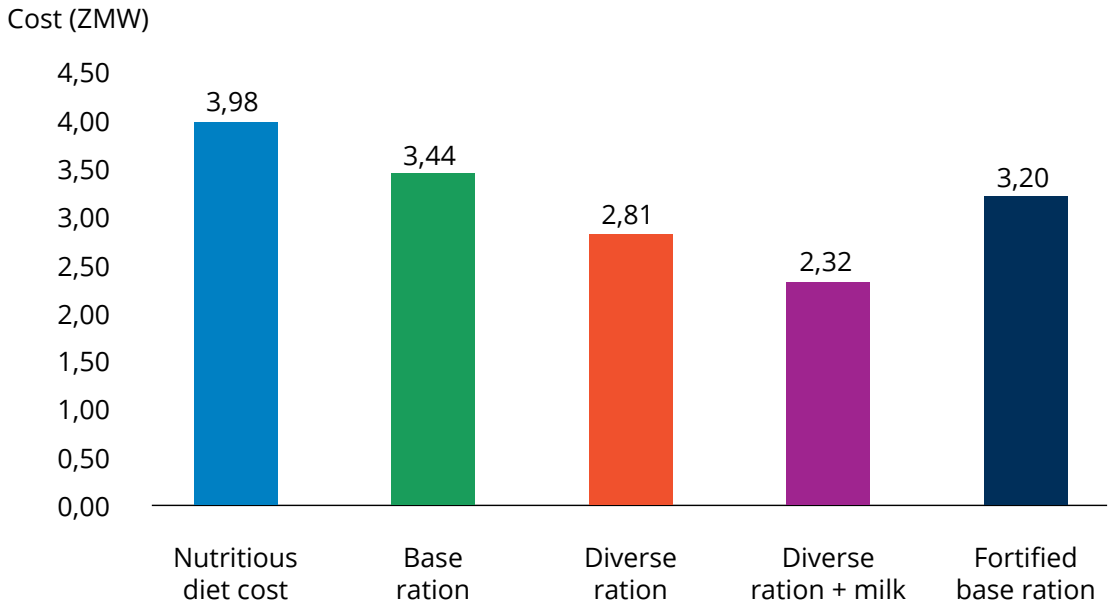
CONTRIBUTION OF SOCIAL PROTECTION TO REDUCING THE AFFORDABILITY GAP

Improving nutrient-adequacy of school meals

The current school feeding ration provided as part of the HGSM includes staples, beans, legumes and oil, and has been designed to contribute to energy and macronutrient requirements (calories, protein and fat). The FNG analysis showed the extent to which this ration contributes to the school-going child's nutrient intake and therefore reduction in their cost of the nutritious diet, reflecting the extent to which nutrient needs are being met. The analysis also identified ways of improving the nutrient adequacy of the school meal. The following rations were modelled:

- Base ration: 120 g maize, 20 g dried beans, 10 g fortified oil and salt.
- Diverse ration: base ration with fruit (40 g mango), green leafy vegetables (50 g rape), fish (10 g dried kapenta fish).
- Diverse ration + milk: diverse ration with 120 ml of milk to improve calcium intake.
- Fortified base ration: base ration with maize replaced with fortified maize meal, dried beans with high-iron beans and the addition of orange-fleshed sweet potato.

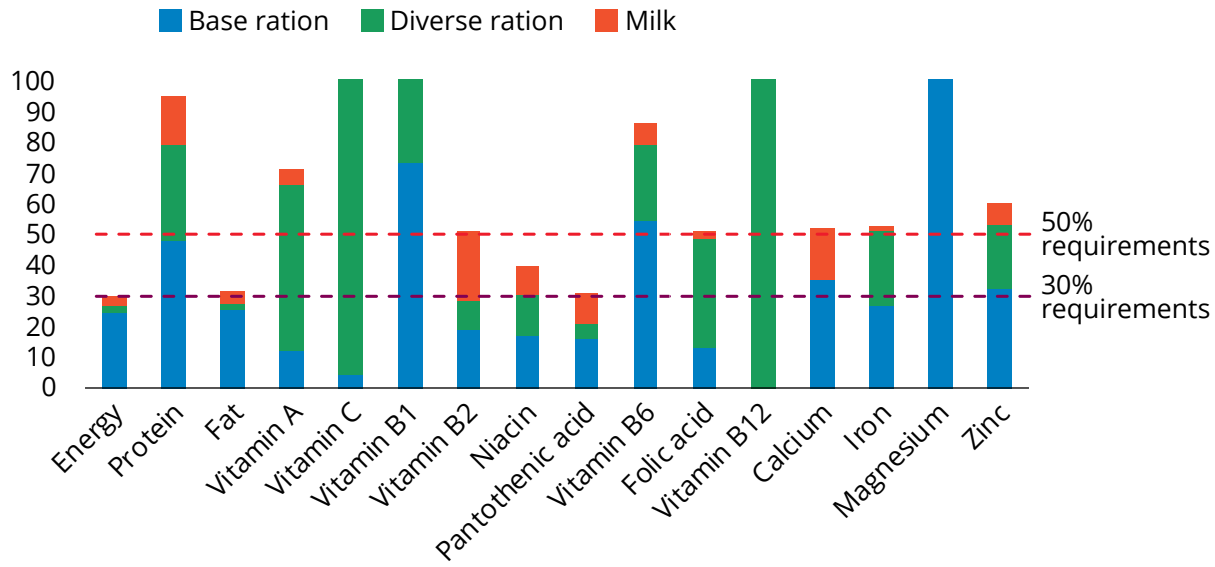
Figure 5: Modelled impact on the daily cost of the nutritious diet for a 6–7-year-old child, of basic and nutritious school meals (FNG 2021)



On its own, the basic school meal reduces the cost of the nutritious diet for the school-age child by around 14 percent as it contributes to energy and other nutrient requirements (Figure 5). However, in its current composition, this ration is unable to provide essential micronutrients to meet a third of all nutrient needs, as shown in Figure 6. The addition of nutritious foods such as green leafy vegetables, vitamin A rich fruit and fish help in reducing the cost of the nutritious diet by a further 15 percent. This is because the addition of these foods improves the nutrient contribution of the meals, particularly for vitamin A, folic acid, vitamin B12, calcium and iron, which the base ration was particularly poor in, helping to meet a third of a child's nutrient needs while adding only marginally to the calories.

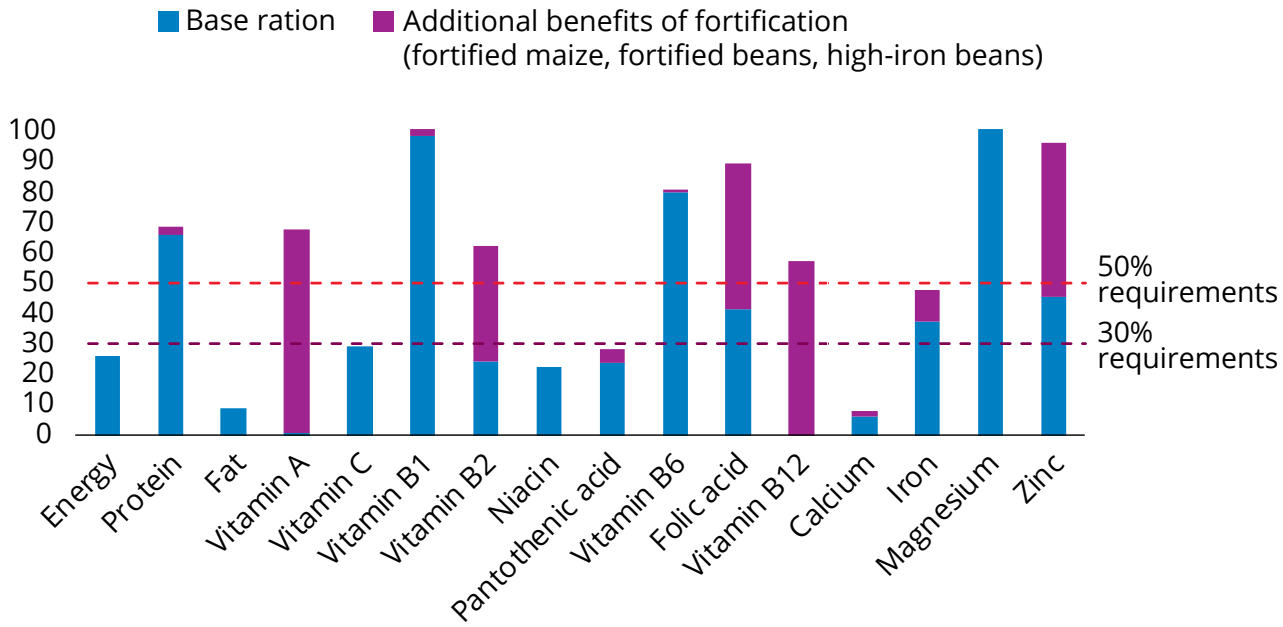
As calcium was identified as a main limiting nutrient for this age group in Zambia, milk was added to the modelled diverse ration as a rich source of calcium, which is important for the period of growth of primary school-age children. This reduces the cost of the nutritious diet even further – an additional 13 percent on top of the diverse ration, and 42 percent compared to the cost of the nutritious diet without any school meals. The large reduction in the cost of the nutritious diet indicates that a nutritious and diverse school meal is able to lower the nutritional needs that must be filled by the child's family through meals consumed outside school.

Figure 6: Contribution of base ration and nutritious additions to daily recommended nutrient intake of a child aged 6–7 years (FNG 2021)



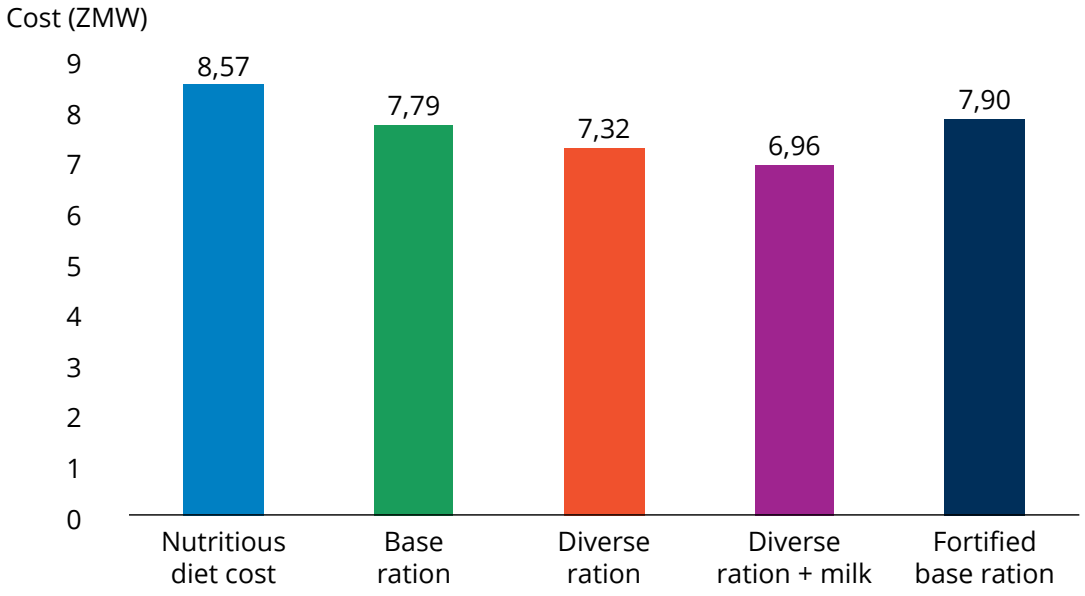
Adding fresh nutritious foods may not be feasible in contexts where the foods are not available, or the value chain is not developed enough to ensure an adequate quantity available to schools. The use of fortified versions of existing foods can help improve the micronutrient content of the school meal. In the case of Zambia, a fortified meal, consisting of fortified maize flour, high-iron beans and orange-fleshed sweet potato, would reduce the child's nutritious diet cost by an additional 6 percent. The fortified school meal contributes towards covering an additional 67 percent of vitamin A requirements, 38–57 percent of vitamins B1, B2, B12 and folic acid requirements, 50 percent of zinc requirements and 10 percent of iron requirements (Figure 7).

Figure 7: Contribution of base ration and additional contribution of fortification to daily Recommended Nutrient Intake of a child aged 6–7 years (FNG 2021)



The FNG also modelled school meals for the adolescent girl (14–15 years) to show the limitations of the current school meal for older pupils. Because adolescent girls have higher energy and micronutrient needs, when given the same size and composition of the meal the reduction in the cost of the nutritious diet would be lower in magnitude. While the base ration reduced the nutritious diet cost by 14 percent for the child aged 6-7, the reduction was only 9 percent for the adolescent girl (Figure 8). Similarly, the diverse rations also reduce the nutritious diet by a smaller proportion than they do for the child. The reduction in the 'diverse ration + milk' is only 19 percent compared with 42 percent for the child aged 6-7.

Figure 8: Modelled impact on the daily cost of the nutritious diet for an adolescent girl when provided with basic and nutritious school meals



The HGSM programme is exploring innovative approaches for income generation, allowing schools to produce a variety of foods on their grounds to be used for the school meals, leading to a reduction in their cost of school meals, and improving their nutrient content. Excess food produced could also be sold in the local marketplace to generate revenue to pay for school supplies and/or purchase foods for school meals.

VI. Bridging research with policy and action

The FNG demonstrated the connection between social protection systems and food systems and revealed how they impact access to healthy and nutritious diets. The findings show the importance of strengthening linkages between social assistance and food systems to improve the effects of programmes on nutrition and to ensure these interventions reach the most vulnerable populations.

In a workshop held with stakeholders, the FNG results were used to identify main recommendations to make the HGSM more nutrition sensitive. Stakeholders highlighted that evidence generated by the FNG on the contribution of school meals to nutrition of school-age children should be used to advocate for increased resources to operationalize the HGSM strategy. Funding could be used to support and expand the programme to cover adolescents, in particular girls, to include nutritious foods in meals. It could also help strengthen the capacity of the local food system to deliver these foods by using schools as platforms to produce nutritious foods and to promote nutrition knowledge.

The results of the FNG were used by WFP to inform the guidelines on nutrition sensitive social protection published by the Ministry of Community Development and Social Services in 2022 (17). These guidelines provide different pathways to making social protection programmes more nutrition sensitive, including the home-grown School Feeding Programme. This includes advocating for providing diverse and nutritious foods in school meals, including fortified/biofortified foods. The guidelines specify that expanding the programme to secondary schools can help target adolescent girls and increase awareness of the importance of adequate nutrient intake for this nutritionally vulnerable group.

The guidelines cover cash-based transfers and use the recommendations of the FNG to consider nutrition vulnerability as a targeting criterion to maximize the impact of social assistance programmes on nutrition. They mention the need for considering the costs of nutritious foods when determining the value/size of the cash transfer.

Based on the FNG results and stakeholder recommendations, WFP continues to advocate for better integration of nutrition into policies and programmes, by working with line ministries to enhance a multisectoral approach to nutrition, a stated government nutrition priority. In addition, WFP, the National Food and Nutrition Commission and other relevant government stakeholders continue to work together to make fortification of widely consumed staple foods a reality in the country.

VII. Bibliography

1. Zambia Statistics Agency, Ministry of Health Zambia, & ICF. Zambia Demographic and Health Survey 2018. 2020. [online] https://dhsprogram.com/pubs/pdf/FR361/FR361.pdf.
2. DFID. The Cost of Malnutrition: Why Policy Action is Urgent. 1 July 2016. [online] https://www.gov.uk/research-for-development-outputs/the-cost-of-malnutrition-why-policy-action-is-urgent.
3. World Bank. Poverty and equity brief – Zambia. Washington D.C : World Bank, 2022.
4. Central Statistical Office. Living Conditions Monitoring Survey Report. Lusaka, Zambia: s.n., 2015.
5. World Bank. DataBank. [online] https://databank.worldbank.org/source/jobs/Series/SI.POV.GINI.
6. World Bank & UNICEF. Republic of Zambia: Social Protection and Jobs Public Expenditure Review 2021. 2021. [online] https://www.unicef.org/esa/documents/republic-zambia-social-protection-and-jobs-public-expenditure-review-2021.
7. Gonyuie, E. National Food & Nutrition Policy. NFNC. 19 May 2020. [online] https://www.nfnc.org.zm/download/national-food-nutrition-policy.
8. —. Social Protection Policy Brief. NFNC. 19 May 2020. [online] https://www.nfnc.org.zm/download/social-protection-policy-brief/.
9. Republic of Zambia, Ministry of Finance and National Development. 8NDP. 2022. [online] https://www.nydc.gov.zm/wp-content/uploads/2022/04/8th-NDP-2022-2026.pdf.
10. Republic of Zambia ,Ministry of Community Development, Mother and Child Health. National Social Protection Policy. 2014. [online] https://www.social-protection.org/gimi/gess/RessourcePDF.action?ressource.ressourceId=54164.
11. UNICEF. Zambia Social Protection Budget Brief 2019. 2019. [online] https://www.unicef.org/esa/media/5016/file/UNICEF-Zambia-2019-Social-Protection-Budget-Brief.pdf.
12. WFP. Case studies on social protection and food and nutrition security: Ethiopia, The Gambia, Kenya, Mozambique and Zambia – 2018. 31 January 2018. [online] https://www.wfp.org/publications/case-studies-social-protection-and-food-and-nutrition-security-ethiopia-gambia-kenya.
13. Republic of Zambia, Ministry of Gender Education. National Strategy on HGM (2020–2024). 2020.
14. Director of School Health and Nutrition, Ministry of Education, Ms Malalu Muludika. Webinar on Nutrition and School Feeding. June 2022.
15. WFP. FIll the Nutrient Gap Zambia. 2021.
16. UNICEF. Fed to Fail? The Crisis of Children's Diets in Early Life. Child Nutrition Report. 2021. [online] https://data.unicef.org/resources/fed-to-fail-2021-child-nutrition-report/.
17. Ministry of Community Development and Social Services. Nutrition sensitive social protection guidelines. Lusaka: Republic of Zambia, Ministry of Community Development and Social Services, 2022.
18. Bose, Indira, et al. The "Fill the Nutrient Gap" Analysis: An approach to strengthen nutrition situation analysis and decision making towards multisectoral policies and systems change. Maternal and Child Nutrition, Vol. 15, 2019.

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