

Addressing nutrient and diet affordability gaps for families in Urban Kenya Insights from Busia Municipality, Kenya



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Summary

Diet affordability is a major challenge in Busia Town. **Most families cannot afford healthy diets** aligned with national recommendations, and very-low-income families cannot afford even the cheapest nutritious diet. Iron, calcium, vitamin B12, fat and zinc are the most expensive and difficult nutrients to meet for families.

Modelling suggests that current **nutrition-specific interventions alone cannot close diet affordability gaps**. **Income-enhancing strategies** – such as universal child benefits and fruit tree production – **are essential**. Urgent, **bold multisectoral action is needed** to boost incomes and access to affordable healthy diets for all.

Context and methods

Diet affordability is a major barrier to accessing nutritious diets in urban areas, but data are limited in small towns in Kenya. **This brief shares findings from research in Busia Municipality.**ⁱ

The Busia Cost of Diet survey conducted **market surveys and focus groups across eight markets**, collecting prices, weight and consumption data for 215 foods from July 2022 to June 2023, capturing seasonal variations in availability and affordability.

Data were analysed using linear modelling to identify **lowest-cost local food combinations meeting nutrient needs, affordable nutrient sources and nutrient gaps** for typical families with young children. Affordability analysis uses income and expenditure from *The Kenya Poverty Report*.ⁱⁱ

Stakeholder workshops **identified priority nutrition interventions**, informing data collection and modelling of their potential **impact on nutrient and diet affordability gaps**.

Key findings

Household Diet Affordability (Figure 1)

Very low-income urban families cannot afford the cheapest nutritious diets aligned to local food habits (8 per cent affordability gap).

Average-income families with average food expenditure in Busia can afford the cheapest nutritious diet for all family members, but not a healthy diet aligned with 2017 national guidelines.ⁱⁱⁱ

Only middle-income families (Q3) with food expenditure close to the national average can afford the recommended healthy diet.



Figure 1: Household diet affordability analysis by income group for typical families of five members including young children. Food budget is estimated at the 2022 monthly mean adult consumption expenditure quintiles (Q1–Q5) and associated proportions of food (44.8 per cent) and non-food expenditure (55.2 per cent).

Affordable Nutrient Sources (Figure 2)

The cheapest sources of nutrients for a typical family with young children include **maize, dark-green leafy vegetables, soybeans, sesame seeds, green grams, avocado, offal, and breastmilk** for the youngest child.

Fortified flours (maize and wheat) **and flesh foods** (except offal) **are relatively costly**, hence only small amounts are **included** in the cheapest diet **to meet folic acid and vitamin B12** needs for the family.

Biofortified crops (high-iron beans and orange-fleshed sweet potatoes), climate-resilient cereals (**sorghum and millet**) and **milk are unaffordable**, hence not included in the least-cost nutritious diets.

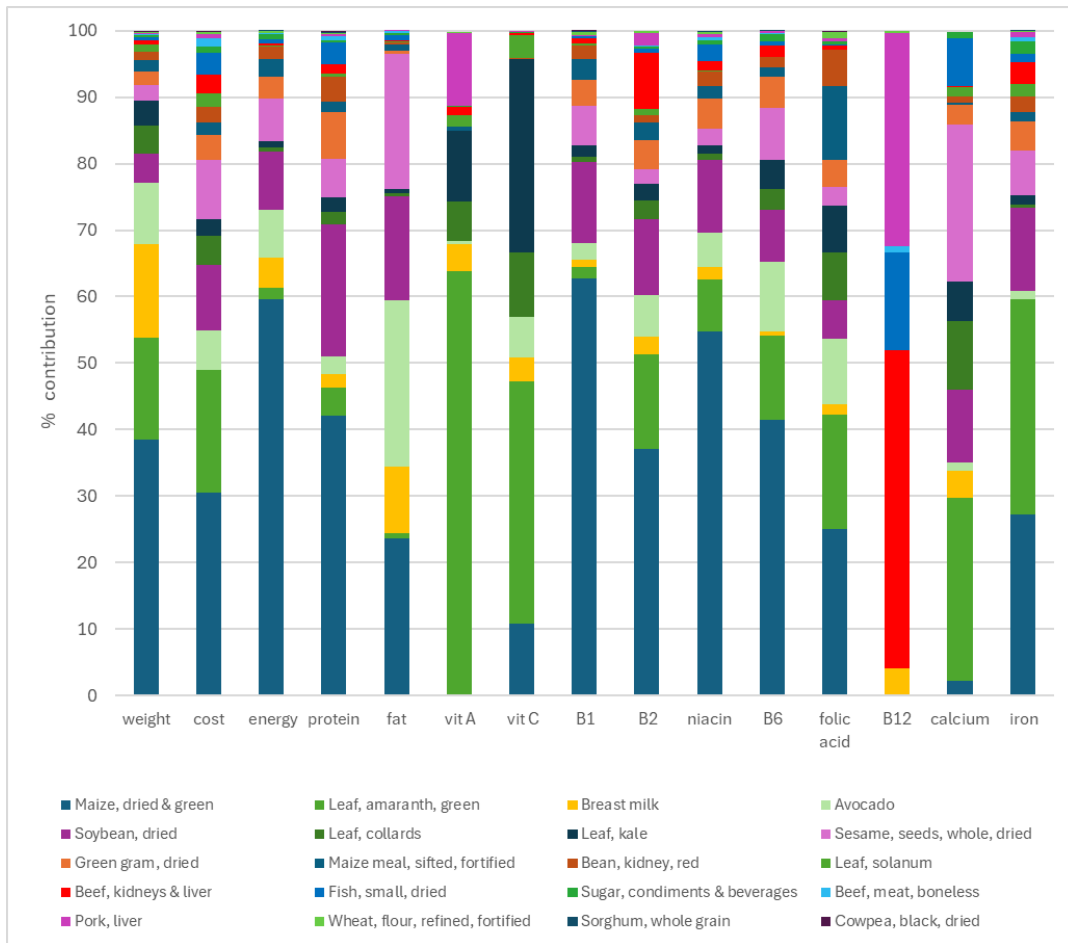


Figure 2: Cheapest nutritious diet, combination of foods and their contribution to nutrient intakes for a typical family.

Current Nutrient Gaps

While the hypothetical cheapest nutritious diet meets nutrient needs for a typical family, **iron, calcium, vitamin B12 and fat are the most difficult and expensive** to obtain for all family members due to high food prices and limited availability.

Meeting zinc needs for infants aged six to eight months is particularly challenging, reflecting a crucial gap for young children during the complementary feeding period (6–23 months).

Effectiveness of Current Interventions (Table 1)

Nutrition-specific interventions (food fortification, homestead egg production, school meals and micronutrient powders) support individual intake but are insufficient to close affordability gaps on their own, in the context of prices and incomes.

Bovine blood meal, a highly affordable iron source, could close nutrient and affordability gaps, but its acceptability could be constrained by cultural, religious and food safety concerns.

Income-enhancing interventions – including homestead production of **avocado trees** and universal child benefits – offer the strongest potential to close the diet affordability gap (8 per cent) and improve nutrition security for poor families.

Gap closed	Interventions
≥ 8%	<ul style="list-style-type: none"> ▪ Bovine blood meal in family diets. ▪ Avocado tree home production. ▪ Universal child benefits plus food voucher (KES 1,150/child/month).
4–7%	<ul style="list-style-type: none"> ▪ Free school meals for adolescents. ▪ Universal child benefits, standard (KES 800/child/month).
0–3%	<ul style="list-style-type: none"> ▪ Free meals for preschool children. ▪ Point-of-use micronutrient powders for children 6–23 months. ▪ Increasing access to calcium- and iron-rich foods – high-iron beans, chicken liver, fortified maize flour, chicken egg (home) production, and fresh cow’s milk.

Table 1: Potential contribution of individual interventions towards closing the 8 per cent nutritious diet affordability gap in very-low-income families.

Policy recommendations

1. Scale Up Income-Enhancing Interventions for Vulnerable Households

Create job opportunities for families to increase financial access to nutritious diets, especially in urban areas. Consider introducing **universal child benefits** and/or targeted **food vouchers** (total KES 1,150/month per child) for very-low-income families to close diet affordability gaps. The cash transfers could be paired with nutrition education to maximise impact on diet quality for young children.

2. Increase Availability and Access to Affordable Nutrient-Dense Foods

Invest in expanding **production, access and acceptability** of locally affordable **nutrient-dense foods** – especially offal and blood meal, soybeans, sesame seeds, high-iron beans, green grams, dark-green leafy vegetables and fortified foods. Public procurement (eg, in school meals) can support market development for these foods. Support **urban agriculture and backyard gardening**, including kitchen gardens and fruit trees, to improve household nutrition and income. **School food production and free meals** can further help close nutrient gaps, especially for adolescents, and reduce household diet affordability gaps. Strategies are also needed to **make fresh milk more available and affordable** for households.

3. Adapt Nutrition Guidance and Complementary Feeding Programmes to Local Contexts

Strengthen nutrition programmes to address iron, zinc and calcium gaps for infants and young children (6–23 months), pregnant and lactating mothers and other vulnerable groups at population level. Consider implementing and evaluating safety and cultural acceptability of bovine blood as an alternative source of iron. Revise materials for nutrition education and counselling on maternal and child nutrition, and complementary feeding recipes to reflect **affordable, locally available foods** and the economic realities of low-income households.

4. Align efforts with the County Nutrition Action Plan (CNAP) and County Agri-Nutrition Implementation Strategy (CANIS) to ensure integrated implementation across sectors.

References

- i Florence Nabwire, James Njiru, George Ooko, Scholastic Nabade, Frank Moturi Peris, E Ofware and Lilly Schofield, *Cost and Affordability of Diets in Busia Town Municipality, Kenya* (University of Cambridge Institute for Sustainability Leadership, 2024).
- ii Kenya National Bureau of Statistics (KNBS), *The Kenya Poverty Report: Based on the 2022 Kenya Continuous Household Survey* (KNBS, 2024).
- iii Ministry of Health, *National Guidelines for Healthy Diets and Physical Activity* (Government of Kenya, 2017).