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CONTEXTUALIZING PROGRESS IN NUTRITION AND DIETS IN KENYA

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INTRODUCTION

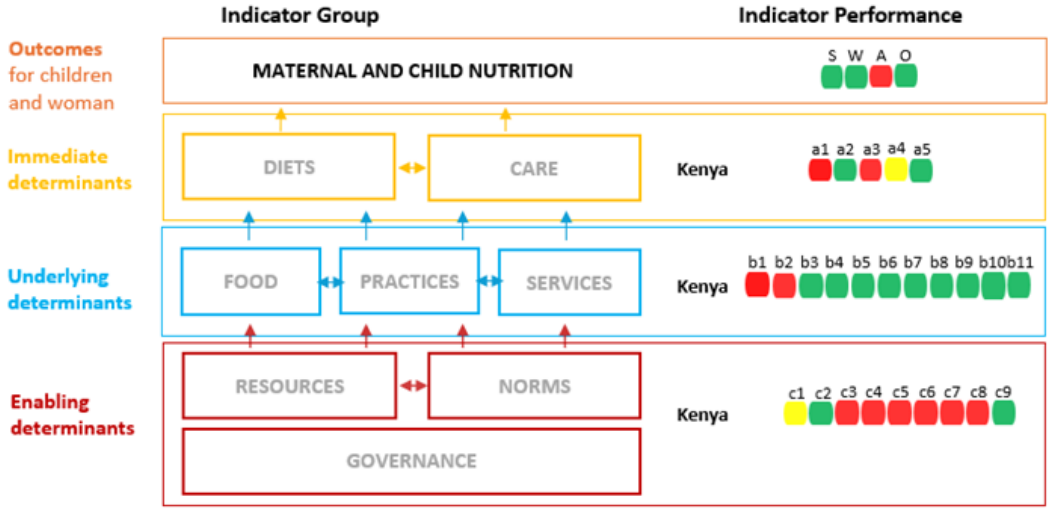
Malnutrition remains a major health concern in Kenya. Undernutrition, micronutrient deficiencies, and overnutrition, often referred to as the triple burden of malnutrition, persist despite numerous targeted efforts to reduce them.

The coexistence of these different types of malnutrition reflects a complex and evolving nutrition landscape. Causes of malnutrition are diverse, ranging from macro to micro level factors. We utilize UNICEF's Conceptual Framework on Maternal and Child Nutrition to analyze the determinants of malnutrition (1). Figure 1 provides an overall summary of the performance of the various determinants in Kenya. At the macro level, enabling determinants include socioeconomic, political, cultural, and environmental factors, which indirectly affect (mal)nutrition. These enabling factors shape the underlying determinants, including food availability and access, caregiver resources, and healthcare resources, which in turn influence immediate determinants like dietary intake, directly impacting nutrition outcomes for women and children.

Over the years, the determinants of malnutrition in Kenya have evolved, influencing the country's nutrition outcomes. While many have improved (cf. Figure 1), several have stagnated or deteriorated.

Here, we examine the trajectory of key nutrition indicators and contextualize them with the performance of both established and emerging determinants of malnutrition. These "emerging" determinants are drivers considered important in recent literature but that have not (yet) been as thoroughly investigated as established determinants. This policy brief aims to deepen the understanding of the complex and interconnected factors shaping diets and nutrition trends and to inform policy design that addresses these challenges in the context of changing food systems and recurring global and economic shocks.

Figure 1: *UNICEF conceptual framework of malnutrition and key indicator performance between 2014 and 2022*. Green = improvement, yellow = stagnation, red = deterioration*



S**: Stunting under 5, **W**: Wasting under 5, **A**: Anaemia in young children, **O**: Overweight in young children
***a1:** Excl. breastfeeding <6 mo; **a2:** Intro. of foods (6-8 mo), **a3:** Child. breastfeeding at 2 years; **a4:** Min dietary divers. (6-23 mo); **a5:** Min. meal freq. (6-23 mo); **b1:** Per capita dietary energy; **b2:** Protein supply; **b3:** Total fertility rate 15-49; **b4:** Age at first marriage; **b5:** Antenatal visits pregnancy; **b6:** Assistance during delivery; **b7:** Female sec. school attend; **b8:** Women who are literate; **b9:** Piped water at dwelling; **b10:** Pop. using open defecation; **b11**: Households with basic wash; **c1:** GDP growth; **c2:** GDP per capita; **c3:** Poverty; **c4:** Inflation; **c5:** Education exp.; **c6:** Health exp.; **c7:** Out-of-pocket health exp.; **c8:** Unemployment; **c9:** Literacy rate.*
**Based on the direction of change of indicators between the latest Demographic and Health Survey (DHS) rounds*
*** Based on the direction of change of indicators between the latest Joint Malnutrition Estimates (JME) rounds*

TRAJECTORIES IN NUTRITION INDICATORS

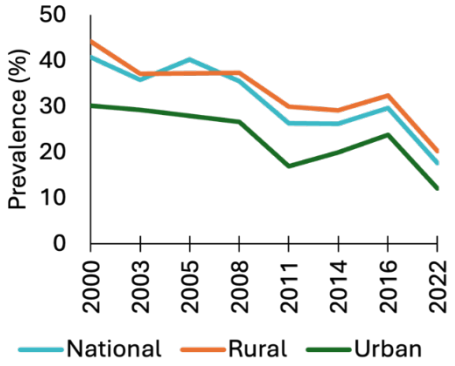
Progress has been uneven on nutrition indicators. Stunting has improved, but wasting has worsened in recent years. At the same time, micronutrient deficiencies in women of reproductive age and overweight and obesity are on the rise.

Stunting

Kenya has made substantial progress in reducing child stunting, defined as low height-for-age (2). The prevalence has been steadily declining from 36% in 2003 to 17.6% in 2022 (3). The latest modelled estimates show that stunting stands at 16.1% in 2024, making it one of the few countries currently on track to meet the 2025 World Health Assembly (WHA) stunting reduction target (4). This rate was lower than the Eastern Africa and the Africa-wide averages (5).

Stunting declined by 1.36 percentage points (pp) [1]per year between 2008/9 and 2022. Despite this progress, Kenya continues to face geographic inequalities. Arid and semi-arid lands have stunting rates above the national and regional averages. For example, stunting rates were 37% in Kilifi, 34% in West Pokot, and 31% in Samburu (3). Droughts worsen food insecurity in arid counties such as Turkana, Mandera, and Marsabit. Although rural and urban stunting rates have declined over time, disparities remain. In 2022, the rural stunting rate was 20.3%, this was higher than the national average and the urban rate of 12.1% (Figure 2).

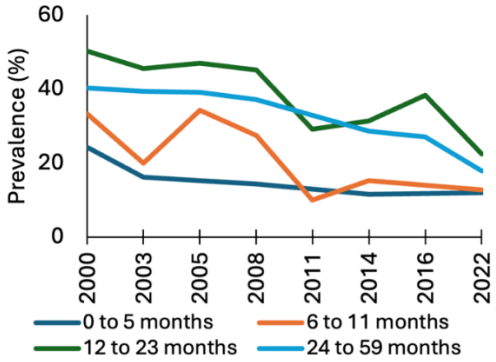
Figure 2. *Trends in stunting by area*



[1] This figure was obtained by calculating the average annual rate of change in stunting prevalence between the 2008/9 and 2022 survey years.

Stunting also remains highest among the poorest households, reaching 27.6% in the lowest wealth quintile and 21.5% in the second quintile. As seen in Figure 3, stunting among different age-groups also declined but it slightly increased for the age-group 0-5 months from 10% (2014) to 12% (2022) (3). Stunting is highest among children of mothers with no education (22.2%) and those with primary education (22.1%).

Figure 3. *Trends in stunting by age-group*



Wasting

The number of children under five affected by wasting or low weight-for-height has increased from 4% (2014) to 4.9% (2022) (3). This rate was lower than the African average of 5.8% and the eastern African average of 5% in 2022. The most vulnerable are most affected: wasting was higher among children in rural areas (5.3%) compared to urban areas (4.0%), with the highest prevalence observed among those in the lowest wealth quintile (9.5%).

Overweight (children)

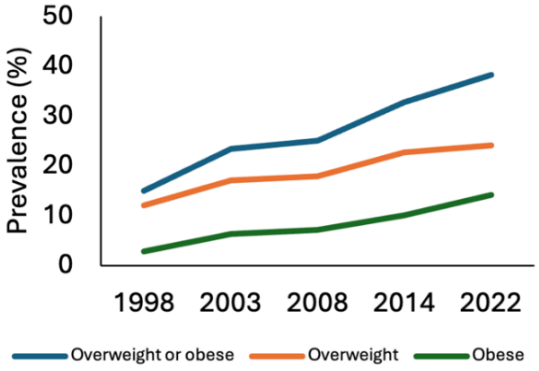
At the same time, children under 5 in Kenya are also impacted by excess body weight relative to height. Consumption of energy-dense and nutrient-poor foods represents a risk factor for overweight, obesity and non-communicable diseases (NCDs) in adulthood. In Kenya, overweight among children has shown a declining trend, standing at 3.2% which is lower than the African average of 4.9% in 2022. However, modelled estimates indicate an

increase in prevalence to 4.3% in 2024 (6). Overweight was higher among

Overweight & obesity (women)

Overweight and obesity among women (20-49 years) in Kenya have been increasing over the years, with the prevalence at 44.8% in 2022 (Figure 4). Higher rates are witnessed in urban areas (52.9%) than in rural areas (38.7%), among women with higher education levels (49.7%), and in the highest wealth quintile (60%).

Figure 4. *Prevalence of overweight and obesity among women 20-49 years*



Anemia

Anemia results from micronutrient deficiencies, such iron, as well as from chronic diseases and infections. It can lead to fatigue, reduced work capacity, and higher maternal morbidity and mortality, thereby increasing risks during pregnancy and childbirth. Anemia among women of reproductive age is increasing, according to modelled estimates the latest prevalence is at 32.2% (6).

DETERMINANTS OF NUTRITION AND DIETS

In Kenya, some immediate determinants have improved, including minimum meal frequency or the introduction of solid foods (6-8 months). Several underlying determinants, such as total fertility rate, antenatal care visits, or female literacy, have generally improved. However, most enabling determinants have deteriorated over the past decade.

Enabling determinants

Population growth has declined, and GDP per capita and adult literacy rates have risen (7). The urban population has also been steadily increasing, reaching approximately 30% in 2023 (7). However, following the 2016/17 drought and subsequent global shocks, the country faced rising unemployment and inflation, along with volatile GDP growth (7). The poverty headcount ratio increased since 2016 to 36.1% in 2021 (7). Government expenditure on health and education -as a percentage of GDP- has also been on a downward trend, with education dropping from 5.1% (2020) to 4.0% (2023) (7).

Underlying and immediate determinants

The mean household size has reduced to 3.7 in 2022 from 4.2 in 2009 (3). In terms of employment, women who reported working in the previous 12 months and are currently employed decreased from 61.4% in 2014 to 52.4% in 2022, and among men from 81% to 71% (3). Gender empowerment in Kenya has been improving. The percentage of women who jointly make decisions with their husbands regarding their own health care increased from 40% in 2014 to 44.2% in 2022. Similarly, joint decision-making for major household purchases rose from 52.9% to 58.7%. Attitudes toward gender-based violence have also shifted: the proportion of women who agree that a husband is justified in hitting or beating his wife for at least one reason declined from 41.8% to 32.4%.

Fertility and maternal health have also been improving: Total fertility rate has decreased, while the age at first marriage slightly increased. Antenatal care improved and skilled delivery rose significantly. Coverage of essential health services also slightly increased from 50.3% (2015) to 53.3% (2021).

Infant and young child feeding (IYCF) indicators have shown mixed progress. Exclusive and continued breastfeeding rates have declined slightly in recent years, while dietary diversity and meal frequency have improved modestly. However, moderate food poverty has increased, and consumption of nutrient-rich foods such as eggs and flesh foods among young children has fallen. These factors continue to

contribute to poor growth outcomes. The Minimum Dietary Diversity for Women (MDD-W) indicator shows that, 69.3% of women (15 to 49 years) consumed at least five out of ten defined food groups in the previous 24 hours.

Access to water and sanitation has improved, with open defecation declining and access to handwashing facilities rising substantially between 2014 and 2022. Education and literacy among women have also expanded, reflected in higher secondary school attendance and literacy rates. However, overall food supply has been declining since 2019, posing a risk to food and nutritional security.

Food environment as an emerging determinant

Studies in Kenya have shown that there are other emerging determinants of diets and nutrition outcomes. As countries develop, individuals tend to increase their consumption of unhealthy foods, including ultra-processed foods, which are associated with higher rates of overweight and obesity and non-communicable diseases (NCDs) among children and adults. This is partially driven by increased urbanization and changes in food retail environments in African countries (8). African countries are now witnessing an increasing number of supermarkets that has mixed effects on diets and nutrition outcomes

The Role of the Food Environment

Supermarket food purchases have been shown to be positively associated with improvements in child height-for-age and weight-for-age scores, with the effect on height being stronger (9,10). *For instance, children in households purchasing food from supermarkets exhibited an average height gain of nearly 2 cm by age eight* (9).

Households purchasing from supermarkets had significantly higher food variety scores and dietary diversity scores, even after controlling for socioeconomic status. These households consumed more nutrient-rich foods such as meat, fish, eggs, and fruits, which are key sources of micronutrients essential for child growth (9).

Other studies have shown that while supermarkets can improve food access and affordability, they also tend to promote higher consumption of processed, energy-dense foods, alongside reduced intake of staples and fresh produce, contributing to overweight and obesity (11).

The Role of the Food Environment

Purchasing food from supermarkets was associated with higher BMI among adults and an increased probability of being overweight or obese (10,12,13). *It also contributed to higher levels of fasting blood glucose (FBG) and a higher likelihood of suffering from pre-diabetes* (12,13).

Among smallholder farmers, agricultural commercialization affects nutrition. Greater commercialization (a higher share of total farm output sold) improves calorie, zinc, and iron intake, mainly through higher household income that enables more diverse food purchases (14,15). *Participation in supermarket supply chains has a positive impact on farm household nutrition in Kenya. Households supplying supermarkets consume significantly more calories and micronutrients and exhibit lower rates of undernourishment and deficiencies in vitamin A and iron* (16). *Higher household incomes and greater specialization in nutrient-rich vegetables production largely drive these improvements.*

CONCLUSION

Kenya has performed relatively well in terms of nutrition indicators, reporting lower averages compared to regional values. The country has made substantial progress in reducing stunting over the years. However, there is still a slight increase in stunting among the 0-5 months age group. There are also significant within-country variations with some counties recording high stunting rates, also rural–urban differences are evident, with rural areas experiencing poorer nutrition outcomes. Socioeconomic disparities persist, as stunting and wasting are more pronounced among poor households and those with less-educated mothers. In contrast, overweight and obesity are higher in urban areas, among wealthier households, and among women with more education. Additionally, both overweight and obesity among women and anemia prevalence have been rising.

Examining the drivers of diets and nutrition reveals that these developments have occurred alongside deteriorating enabling conditions: slow and volatile GDP growth, rising poverty and unemployment, and high inflation have constrained household incomes, limiting access to adequate nutrition and potentially

contributing to worsening malnutrition. Underlying determinants such as total fertility rate, median age at first marriage, antenatal care visits, female education, access to piped water, and availability of handwashing facilities have improved. However, other determinants such as moderate food poverty are rising, while government health and education spending has declined, weakening access to essential services needed to prevent chronic undernutrition. Regarding immediate determinants, declines in exclusive and continued breastfeeding, along with reduced consumption of animal-source foods among young children, indicate worsening feeding practices that directly impact child growth. Additionally, the overall food supply has been declining since 2019, posing a risk to food and nutritional security.

Emerging food system changes (e.g., supermarket purchases, farm diversity) are improving child nutrition and micronutrient intake but are also linked to rising adult overweight and obesity, particularly in urban areas. These challenges are compounded by weather and economic shocks, which worsen food insecurity and negatively impact nutrition outcomes in the country.

POLICY RECOMMENDATIONS

Based on this assessment, this policy brief presents a set of policy recommendations to enable policymakers to improve diets and nutrition outcomes in Kenya.

Stabilize enabling determinants: Combat rising poverty, target unemployment and inflation all of which limit food affordability and accessibility.

Strengthen maternal and child nutrition through improved feeding practices by promoting exclusive breastfeeding for 0–5 months and continued breastfeeding up to 24 months. Increase access and awareness of animal-source foods and diverse diets for young children. Scale up community-based programs on infant and young child feeding (IYCF), micronutrient supplementation, and maternal nutrition.

Address socioeconomic and structural inequalities and strengthen resilience to shocks by expanding social protection measures that target low-income households to mitigate the effects of poverty and food insecurity. Allocate sufficient emergency funds for rapid nutrition support during shocks.

Promote healthier urban food environments and prevent overweight/obesity: Promote access to nutrient-rich foods through supermarkets while regulating the marketing and availability of ultra-processed, energy-dense products, coupled with nutrition education and urban interventions, to improve child growth and prevent rising overweight and obesity.

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For full list of references, methods and detailed discussion, please refer to the forthcoming discussion paper “Assessing progress in malnutrition amid crises in Zambia, Malawi, and Kenya: Regional and country-level insights”, available at zef.de.

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