

A young child with dark skin and short hair is smiling while eating from a spoon. The child is wearing a light-colored, patterned shirt with a red collar and a beaded necklace. They are holding a dark, cylindrical cup in their left hand. The background is blurred, showing other people in a crowd.

HEALTHY STARTS 2026

**UNDERSTANDING THE ROLE OF
COMMERCIAL COMPLEMENTARY FOODS
IN YOUNG CHILDREN'S DIETS IN KENYA**



ABOUT ATNi

ATNi (Access to Nutrition initiative) is a global foundation headquartered in the Netherlands that actively challenges the food industry, investors, and policymakers to shape healthier food systems. Its mission is to transform markets so that, by 2030, at least half of companies' food and beverage sales are derived from healthy products. ATNi analyses and translates data into actionable insights, driving financing, partnerships and innovations for market transformation so that all people have access to nutritious and sustainable food. ATNi is overseen by an independent board and advised by an international academic expert group that works pro bono. The organisation is funded, among others, by the Gates Foundation and the UK Foreign, Commonwealth and Development Office. More information about ATNi's governance and operating policies is available [online](#).

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ACRONYMS

AI	Artificial Intelligence
ATNi	Access to Nutrition initiative
CCF	Commercial Complementary Food
CF	Complementary Food
FBF	Fortified Blended Foods
FGD	Focus Group Discussion
FOP	Front-of-pack
GAIN	Global Alliance for Improved Nutrition
HCP	Health Care Professional
HQ	Headquarters
KEBS	Kenya Bureau of Standards
KES	Kenyan Shilling
LNS	Lipid-Based Nutrient Supplements
LQ-LNS	Large-Quantity Lipid-Based Nutrient Supplements
MNP	Micronutrient Powders
MQ-LNS	Medium-Quantity Lipid-Based Nutrient Supplements
NPPM	Nutrient and Promotion Profile Model
RUSF	Ready-to-Use Supplementary Food
RUTF	Ready-to-Use Therapeutic Food
SNP	Specialised Nutrition Products
SQ-LNS	Small-Quantity Lipid-Based Nutrient Supplements
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

GLOSSARY

Added sugar	Added sugar is defined as all monosaccharides and disaccharides added to foods and beverages by the manufacturer, cook or consumer during processing or preparation.
Commercial Complementary Food	Commercially produced food and beverage products specifically marketed as suitable for feeding children from 6–36 months of age.
Commercial food	Foods and beverages obtained from commercial sources, including packaged foods and drinks consumed as sold and foods prepared outside the home and purchased from vendors or food outlets.
Complementary feeding	For infants and young children, the World Health Organisation (WHO) recommends introducing safe, adequate and nutrient-rich foods when breastmilk or milk formula alone are no longer sufficient to meet the nutritional requirements of growing infants. This period is known as complementary feeding and generally begins at six months of age and lasts until 23 months, although breastfeeding may continue beyond this.
Complementary food	Any food, whether manufactured or locally prepared, suitable as a complement to breastmilk or milk formula, when either becomes insufficient to satisfy the nutritional requirements of older infants and young children. These foods may include those that are home-prepared, processed or bought as ready-to-eat commercial products.
Free sugars	Free sugars are defined as monosaccharides (such as glucose or fructose) and disaccharides (such as sucrose or table sugar) added to foods by the manufacturer, cook or consumer, in addition to sugars naturally present in honey, syrups, fruit juices and fruit concentrates.
Health claim	Any representation that states, suggests, or implies a relationship exists between a food or a constituent of that food and health, and includes nutrient function claims, other function claims and reduction of disease risk claims.
Infants	Children under the age of 12 months.
Nutrition claim	Any representation that states, suggests, or implies that a food has particular nutritional properties including but not limited to the energy value and the content of protein, fat and carbohydrates, and vitamins and minerals.
Nutrient and Promotion Profiling Model	This nutrient profile model is developed by the WHO (European Region) and sets out nutrient and promotional requirements across different food product categories marketed for children aged 6–36 months.

Older infants	Children aged 6–12 months.
Overweight	Overweight in children under 5 refers to children who are too heavy for their height as a result of expending too few calories for the amount of food consumed. It is typically measured as weight-for-height greater than two standard deviations from the median of the WHO Child Growth Standards.
Marketing claim	Any statement that presents a product or brand in a positive or idealised way, highlighting attributes such as taste, quality, texture, convenience, feeding benefits, expert endorsement, or ethical values. These may also include messages that imply superiority, encourage certain feeding practices, or suggest trustworthiness and approval beyond the product's factual nutritional content.
Small Quantity Lipid-based Nutrient Supplements	Small Quantity Lipid-based Nutrient Supplements (SQ LNS) are nutrition supplements embedded in a small amount of food paste (around 20g per sachet) that provide 24 micronutrients and macronutrients and an additional 110–124kcal per day, used to prevent malnutrition in children over 6 months of age.
Specialised nutrition products	Refers to the range of specialised food products and supplements that provide varying levels of energy, micronutrients, and macronutrients necessary for growth and health in order to prevent or treat undernutrition. These are often categorised as ready-to-use therapeutic or supplementary foods (RUTF or RUSF), fortified blended foods, or micronutrient powders.
Stunting	Stunting is the impaired growth and development that children experience from poor nutrition, repeated infection, and inadequate psychosocial stimulation. Stunting refers to a child who is too short for his or her age as the result of chronic or recurrent malnutrition, and is typically measured as height-for-age less than two standard deviations from the median of the WHO Child Growth Standards.
Total sugar	Total sugar includes any intrinsic sugars contained within plant cells walls, liberated sugars, free sugars and sugars naturally present in milk (largely lactose).
Wasting	Also known as acute malnutrition, wasting refers to children who are too thin for their height and is the result of recent rapid weight loss or the failure to gain weight. It is typically measured as weight-for-height less than two standard deviations from the median of the WHO Child Growth Standards.
Young children	Children above the age of 12 months.
24-hour dietary recall	A structured interview method used to collect detailed information on all foods and drinks consumed by an individual during the previous 24-hour period.

EXECUTIVE SUMMARY

PURPOSE AND SCOPE

Caregivers everywhere want their children's first foods to be nutritious and safe. Children who consume diverse, nutrient-dense diets from six months of age, alongside continued breastfeeding, are more likely to grow and develop to their full potential. Yet in Kenya, wasting remains a persistent challenge while overweight is emerging as a growing concern. Diet quality remains inadequate for many young children, and micronutrient deficiencies remain widespread.

At the same time, commercial foods are becoming increasingly prevalent in young children's diets. While many of these products are not specifically marketed for infants and young children, the commercial complementary food (CCF) market itself has grown by more than 30% in recent years and is expected to continue expanding in Kenya. Despite this shift, limited evidence exists on how commercial foods contribute to young children's diets, whether available products support healthy complementary feeding, and how food companies can contribute to improving child nutrition. To address these evidence gaps, ATNi conducted an integrated assessment of the diets, complementary feeding practices, and commercial food environments of children under three years of age in Nairobi and Makueni, representing urban and rural food environments and households across a range of socioeconomic groups.

~80%

**OF CHILDREN
CONSUMED
SOME FORM OF
COMMERCIAL FOOD.**

RESEARCH COMPONENTS



24-hour dietary recall with 632 caregivers of children aged 6-36 months



Interviews and focus group discussions with caregivers and healthcare professionals (HCPs)



Assessment of the nutritional quality, labelling and pricing of 87 locally produced and imported CCF from 19 companies, using the WHO Nutrient and Promotion Profiling Model (NPPM)



Interviews with Kenya-based companies, including CCF producers

KEY FINDINGS

Commercial foods are increasingly prevalent in young children's diets.

Home-prepared foods remain the foundation of complementary feeding in Kenya and contributed more than 70% of children's energy intake. However, commercial foods are increasingly common in young children's diets. About 80% of the children consumed some form of commercial food—including both packaged products and foods prepared and purchased outside the home. Commercial foods contributed up to 39% of total energy intake among older age groups. Consumption was particularly common among lower-income households, where commercial foods contributed a larger share of dietary energy.

Commercial foods were generally perceived positively by caregivers in terms of convenience, healthiness, and nutritional value. They also contributed meaningfully to children's reported protein and fat intake, accounting for more than one-third of intake of these nutrients despite contributing a smaller share of overall dietary energy.

Importantly, most commercial foods consumed by young children were not products specifically marketed for infant and young child feeding. Products such as biscuits, crisps, breakfast cereals, sweetened beverages, and instant noodles were commonly consumed, highlighting the need to look beyond CCF alone when considering young children's food environments. However, the most commonly consumed CCF were locally produced porridge mixes, which caregivers reported were widely accessible through local shops.

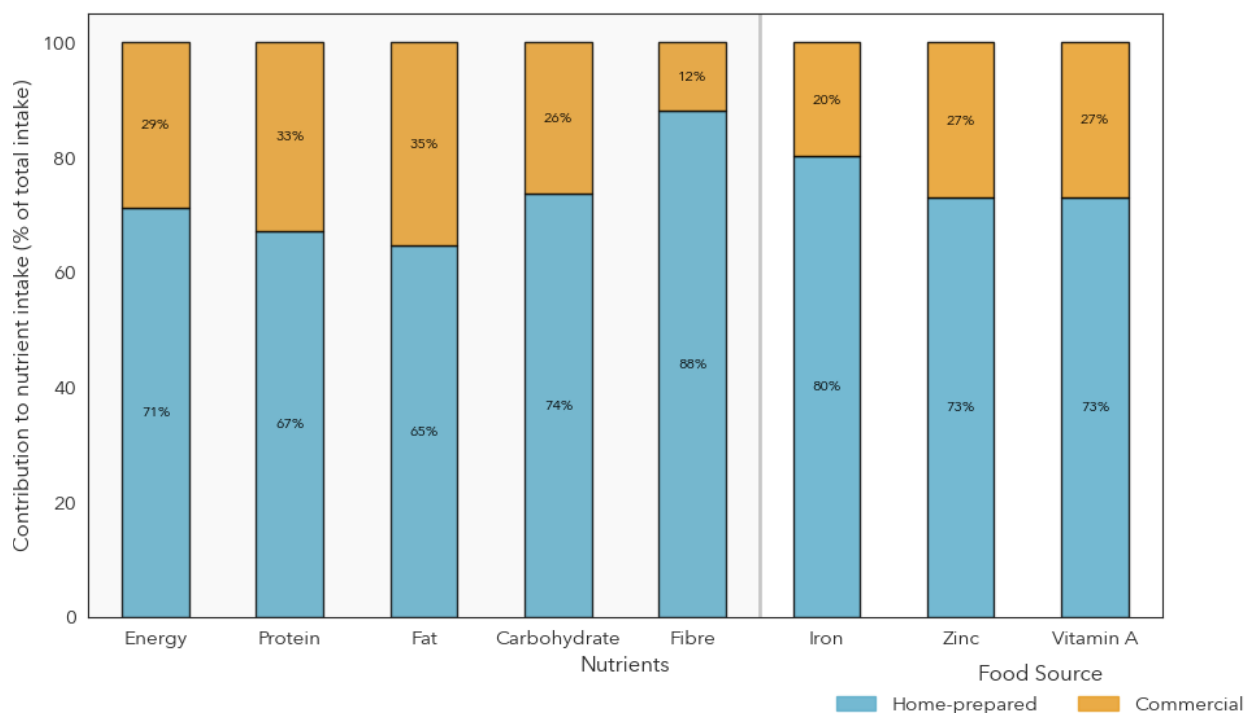
Important nutritional gaps remain in young children's diets.

Children generally met requirements for energy and several micronutrients from complementary foods (CF). However, protein and fat requirements were not met across age groups. Qualitative findings suggest these gaps are influenced by affordability constraints and feeding practices, including the delayed introduction of animal-based protein due to concerns about children's ability to chew or digest such foods.

At the same time, consumption of less healthy foods and beverages was widespread, which may displace more nutritious foods in the diet and adversely affect dietary quality. More than 60% of young children consumed sweet foods, sweetened beverages and/or salty or fried foods, with commercial products representing the primary source of these foods, particularly among children aged 12-36 months.

Dietary patterns were broadly similar across Nairobi and Makueni, suggesting that many of the challenges identified are shared across both rural and urban settings.

NUTRIENT CONTRIBUTION OF HOME-PREPARED & COMMERCIAL FOODS (N=632)



High sugar consumption and low energy density are influenced by feeding practices and commercial food environments.

74% of children consumed added sugars, most commonly through sugar added to porridge and tea. Caregivers commonly reported adding sugar to improve taste and encourage food intake, a practice that HCPs confirmed is widespread. In contrast, caregivers rarely mentioned adding nutrient rich ingredients, such as milk or peanut butter, as a way to increase the energy density of CF. This is an important practice to ensure young children receive sufficient nutrients from the small portions they consume.

Similar patterns were observed in the commercial food environment. Only 62% of assessed CCF met WHO NPPM energy density requirements, while 59% would require a front-of-pack (FOP) high sugar warning label. In addition, some products provided unclear preparation instructions that could dilute energy and nutrient density (e.g. through excessive water addition) or encouraged the addition of sugar 'to taste,' which would undermine the nutritional quality of foods prepared for young children.

59%

**OF CCF IN KENYA
WOULD REQUIRE
A FRONT-OF-PACK
HIGH SUGAR
WARNING LABEL.**

OF ASSESSED CCF:

46%

**MET WHO
NUTRIENT
REQUIREMENTS**

0%

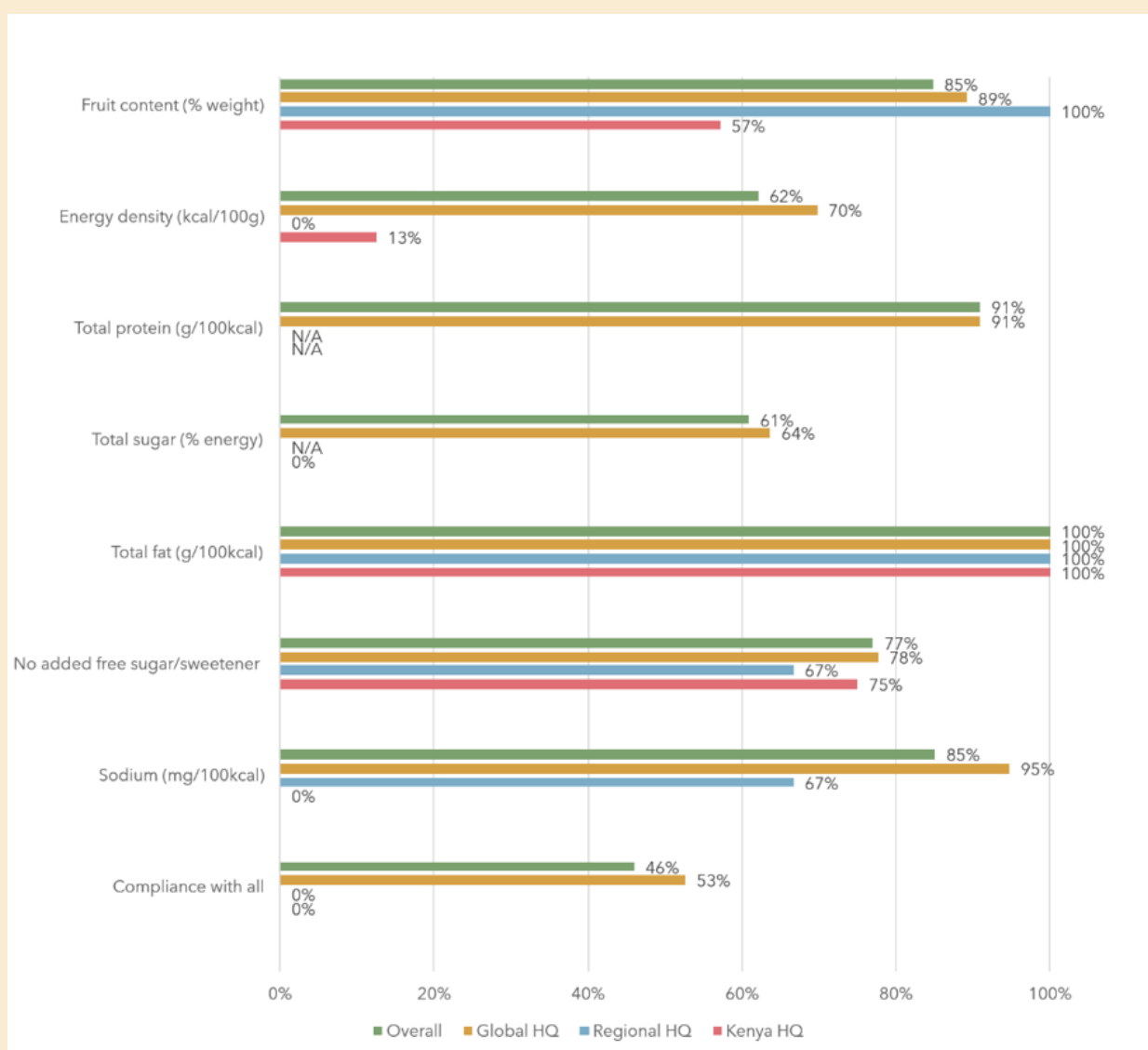
**MET WHO
LABELLING
REQUIREMENTS**

CCF can support healthy diets, but most products fall short of WHO recommendations.

Appropriately formulated and regulated CCF can help address nutrient gaps when used alongside continued breastfeeding and diverse home-prepared diets. While less than half of assessed CCF products (46%) met all WHO nutrient composition requirements, many performed well against specific nutrient criteria. All assessed products met total fat requirements, 91% met applicable protein requirements, and 85% met sodium and fruit content requirements. However, the least met nutritional criteria were energy density and sugar. Among assessed products, **over half of those produced by global manufacturers met all WHO nutrient composition requirements, whereas none of the local or regional products assessed did.**

In addition, none of the assessed CCF products met all WHO labelling requirements; breastfeeding messages were largely absent, while nutrition and marketing claims were common, appearing on more than 90% of the products assessed.

WHO NUTRIENT REQUIREMENTS MET, BY COMPANY HEADQUARTERS (HQ)



Kenyan manufacturers could play a greater role in improving child nutrition.

Kenyan companies represented more than half of all CCF manufacturers identified in the market assessment but accounted for a relatively small share of products available. Local products were predominantly cereal-based and were generally more affordable and often more accessible than imported alternatives.

Interviews with local companies, including some that produce CCF, revealed a range of approaches aimed at improving the nutritional quality of products, including fortification, biofortification (high-iron beans), wholegrain formulations, protein enrichment, and extrusion technologies.

At the same time, companies highlighted significant challenges, particularly for smaller manufacturers, including the costs of nutritional testing, product registration, and fortification. Many also described difficulties balancing affordability, nutrient density, sensory acceptability, and production costs, particularly when targeting lower-income households.

CONCLUSION AND RECOMMENDATIONS

Given the dual burden of persistent wasting and rising overweight in Kenya, efforts to improve child nutrition should prioritise access to nutrient-dense foods while discouraging the consumption of fried, salty and sweet foods and beverages, whether home-prepared, commercially packaged or purchased outside the home.

Diverse home-prepared and traditional diets should remain the foundation of complementary feeding. As commercial foods play an increasingly prominent role in children's diets, these foods should be appropriately formulated, fortified, and clearly labelled to support optimal feeding practices. Together, these measures can help improve children's diets at scale and represent an important complement to more targeted nutrition interventions. In settings where food insecurity and nutritional deficiencies persist, specialised nutrition interventions such as SQ-LNS may play a complementary role in preventing malnutrition alongside continued breastfeeding and diverse diets.

Improving food environments and promoting healthier infant and young child feeding practices will require coordinated action from policymakers, industry, investors and development partners.

Priority actions include:

CCF MANUFACTURERS

- **Improve the nutritional quality, labelling, and responsible marketing of CCF** in line with national standards and guidelines and the latest WHO recommendations by addressing key gaps identified in this assessment, including low energy density, excessive sugar content, inadequate preparation guidance that does not support optimal energy and nutrient density of prepared foods, and inadequate labelling that does not support optimal breastfeeding practices.
- **Enhance transparency** through complete and accurate disclosure of nutrition information on product labels, including sodium, sugar, and micronutrient content, which were missing from several locally produced CCF.
- **Invest in the development of affordable, nutritious products** that address key nutritional gaps identified in this research (e.g. low protein and fat intake among young children), while remaining accessible across income groups.

INVESTORS

- **Prioritise investment in companies that improve the nutritional quality, affordability, and responsible marketing of foods consumed by young children**, using independent assessments to support accountability and continuous improvement.
- **Integrate nutrition considerations into investment decision-making** to maximise positive child nutrition outcomes and minimise nutrition-related risks, using tools such as [ATNi's Impact Investing Guide](#) and the [Little Book of Nutrition Finance](#) by SUN and ATNi.



GOVERNMENT AND POLICYMAKERS

- **Update Kenya's CCF regulatory framework.**
Extend the Kenya Breastmilk Substitutes (Regulation and Control) Act 2012 and CCF composition and labelling standards to explicitly cover products marketed for children aged 6-36 months, and align them with the latest WHO recommendations, including the WHO Nutrient and Promotion Profile Model.
- **Strengthen enforcement of existing CCF regulations and standards,** including inclusion of clear preparation instructions aligned with public health guidance to avoid added sugar and support adequate energy and nutrient intake among young children, and ensuring that no products—whether locally produced or imported—are marketed for infants under six months of age.
- **Support local manufacturers in producing affordable, nutritious foods for young children** through appropriate policies, incentives, and technical assistance, including targeted subsidies and streamlined KEBS certification processes to lower the costs associated with nutrient testing and product registration.
- **Implement broader food environment policies and actions,** recommended in [ATNi's Kenya East Africa Market Assessment](#), recognising that young children consume a wide range of commercial foods and beverages beyond CCF.

CIVIL SOCIETY

The findings from this research can be leveraged to:

- **Regularly benchmark companies** against the WHO NPPM and publish company-level results to track progress and incentivise improvement.
- **Support local manufacturers.** Connect local producers to existing resources, such as [GAIN's CCF manufacturing manual](#), [UNICEF's guide for CCF production](#), and [ATNi's Impact Investing Guide](#), alongside technical assistance and access to finance to support implementation.
- **Replicate the Kenya assessment approach** (dietary recalls, caregiver interviews, NPPM analyses, and company interviews) across East African markets and beyond to enable cross-country comparison and drive improvement among regional and multinational manufacturers.
- **Build a pipeline of investable CCF opportunities** by supporting businesses producing nutritious foods in Kenya and other markets to access investment and scale through [MarketFit Nutrition 2035](#) and its financing pillar.

INTRODUCTION

BACKGROUND

Complementary feeding—the introduction of foods alongside continued breastfeeding from around six months of age—is essential to meet infants’ increasing energy and nutrient requirements.¹ Inadequate complementary feeding during the critical 6–23 month period can lead to nutrient deficiencies, growth faltering, impaired organ development and metabolism.² Ensuring access to a variety of nutrient-dense foods during this period is central to addressing multiple forms of malnutrition—such as stunting, wasting, and overweight. In addition, it exposes children to different tastes and textures, which are critical for establishing healthy long-term dietary patterns.^{1,3}

In Kenya, notable progress has been made in reducing stunting; however, the prevalence of wasting has remained largely unchanged and is projected to reach 5.5% by 2030. At the same time, overweight affects around 4% of children under five, highlighting the country’s growing double burden of malnutrition.^{4–6}

These trends reflect persistent gaps in the quality of young children’s diets. National data show that only 31% of children aged 6–23 months meet the minimum acceptable diet.^a Typically, diets are dominated by starchy staples such as maize-based foods like *ugali*, with limited consumption of nutrient-dense foods such as animal-sourced foods, fruits and vegetables.^{5,7–9} Consistent with these dietary patterns, micronutrient deficiencies remain widespread among children under five, with zinc deficiency affecting over 80% of children, vitamin A deficiency affecting around 62%, and iron deficiency contributing to anaemia in approximately 30% of children.

These dietary trends among children are occurring alongside a broader nutrition transition in Kenya. Urbanisation, a growing middle class, and the expansion of formal and informal retail markets have increased the availability and consumption of commercially processed and packaged foods. ATNi’s recent assessment of the Kenyan market found that only around one-third of commercial packaged foods met defined ‘healthy’ thresholds.¹⁰

A professor at Kenyatta University noted that this shift is increasingly reflected in children’s diets, with commercial foods such as noodles and breakfast cereals becoming an increasingly common part of complementary feeding diets. At the same time, the use of CCFs intended for children under three years of age is increasing. The market has grown by nearly 30% over the past five years, with widespread use among caregivers, particularly in Nairobi, reflecting their increasing accessibility and convenience.^{11,12}



^a Percentage of children aged 6–23 months who were fed a diet meeting both minimum meal frequency and minimum dietary diversity, including the following eight food groups: breastmilk; grains; roots; tuber; legumes and nuts; dairy products (milk, yoghurt, cheese); fresh foods (meat, fish, poultry and organ meat); eggs; vitamin A-rich fruits and vegetables; and other fruits and vegetables.

The growing use of commercial foods during the complementary feeding period is increasingly recognised as a public health concern, as such products are often high in sugar, salt, and unhealthy fats and may contribute to multiple forms of malnutrition—including overweight, micronutrient deficiencies, stunting, and wasting—by displacing more nutritious foods.³

CCF can play a positive role when appropriately formulated and regulated by providing essential nutrients in convenient and familiar forms for caregivers.^{1,13,14} In 2022, the World Health Organization (WHO) published the NPPM outlining the compositional and labelling requirements for CCF.¹⁵ Globally, however, regulatory frameworks governing the nutrient composition and labelling of these products remain limited. As a result, many products do not meet WHO requirements, and contain excessive levels of sugar and salt, or are marketed in ways that mislead caregivers about their suitability for young children, increasing the risk of malnutrition and micronutrient deficiencies.^{16,17}

A 2025 United Nations Children’s Fund (UNICEF) assessment of CCF in Kenya found that only 16 of 38 products met WHO nutrient composition requirements.¹⁸ While all products met requirements for sodium, protein, and fruit content, more than one-third did not meet energy density requirements, and none met total sugar requirements. This suggests that many products may not provide sufficient energy to support optimal child growth, while also contradicting WHO recommendations on added sugars. As a result, they may contribute to the development of unhealthy dietary preferences from an early age and displace more nutritious foods from children’s diets.

The UNICEF assessment also found shortcomings in product labelling. None of the CCF met all WHO labelling requirements, and nutrition and health claims on packaging were common. In Kenya, there were an average of 8.7 claims per product—the highest among South Africa, Tanzania and Zimbabwe.¹⁸ This is concerning given the evidence that health claims can influence caregiver perceptions of healthiness. A 2025 study found that CCF were widely perceived as healthy, nutritious, cleaner and safer than non-processed CF across socioeconomic groups in Nairobi.¹¹

Taken together, these findings highlight important gaps in understanding how commercial foods are consumed, their role within children’s diets, and how practices and perceptions vary across settings. This report brings together research conducted by ATNi to address these gaps. It also provides a recent and comprehensive analysis of the evolving CCF market, including the nutritional quality, labelling, and pricing of products, both locally produced and imported, as well as the challenges and opportunities faced by key stakeholders in contributing to more nutritious foods.

The findings aim to inform how markets can better support healthy complementary feeding by improving access to affordable, nutrient-dense foods for young children and limiting the promotion of products that may displace more nutritious foods. Improving children’s diet quality is essential for supporting optimal growth and development and for reducing the risk of all forms of malnutrition, including wasting and overweight among children in Kenya.

RESEARCH APPROACH

To address the evidence gaps identified, ATNi's approach consisted of four synergistic research components:

- (1) a **24-hour dietary recall**, (2) **qualitative research**—including focus group discussions (FGDs) and semi-structured interviews with caregivers and interviews with HCPs, (3) an **assessment of CCF in Kenya** using the WHO NPPM; and
- (4) **semi-structured interviews with companies** operating in the CCF market (Table 1).

TABLE 1
OVERVIEW OF RESEARCH COMPONENTS^b

	24-hour dietary recall	Qualitative research	NPPM assessment	Company interviews
Objective	To assess the contribution of commercial and home-prepared foods to the diets and nutrient intake of older infants and young children aged 6–36 months across different counties and socioeconomic groups.	To understand complementary feeding practices, caregivers' perceptions of commercial foods, particularly CCF and specialised nutrition products, and the factors shaping feeding decisions.	To assess the nutritional quality, marketing practices, and pricing of CCF available in Kenya.	To understand the opportunities and constraints facing companies operating in Kenya's complementary feeding market, and their potential role in improving the availability of nutritious foods for young children.
Geographic scope	Kenya: Nairobi County (urban setting) and Makueni County (rural setting).		Local and imported CCF available in Kenya through online channels and physical retail outlets in Nairobi.	Kenya-headquartered companies.
Sample size	632 mothers of children aged 6–36 months (353 in Nairobi; 279 in Makueni).	163 total participants (77 in Nairobi; 86 in Makueni) across 11 FGDs (94 caregivers) and 69 semi-structured interviews (56 caregivers and 13 HCPs. ^{c,d}	87 CCF from 19 companies were eligible for assessment under the NPPM.	9 local companies (11 interviews total). This included: four CCF producers, three producers with portfolios adjacent to CCF (e.g. fortified staples) but with interest in expanding to CCF, one ingredient producer, as well as one producer of lipid-based nutrient supplements. ^e The participating companies are listed in Appendix 1.
Exclusion criteria	Children with acute or chronic illnesses, special dietary needs, or medical conditions requiring hospitalisation at the time of the survey were excluded.		CCF with incomplete or missing nutritional information on the product packaging were excluded.	Companies that were not based in Kenya were excluded.
Data collection period	November–December 2025		July 2025–June 2026	June–July 2026 ^f

Table 1 continues on the next page.

^b Supplementary methodological details are available upon request.

^c Caregivers included mothers, fathers, and grandmother, caring for children aged 6–36 months.

^d HCPs included nurses, nutritionists, and paediatricians from the public and private sectors.

^e Lipid-based nutrient supplements are highly nutrient-dense products, providing a range of vitamins and minerals coupled with energy, protein and essential fatty acids, used in the prevention and treatment of acute malnutrition.

^f Some preliminary company consultations were conducted in November 2025.

TABLE 1 (CONT.)

OVERVIEW OF RESEARCH COMPONENTS

	24-hour dietary recall	Qualitative research	NPPM assessment	Company interviews
Data collection tool	Digital tool adapted from the household dietary survey for children, developed by the Alliance Bioversity International and CIAT.	FGDs and semi-structured interview guides, informed by the WHO Guiding Principles for Complementary Feeding ¹ and UNICEF's Analysis of Food Systems for Children in Kenya. ¹⁸	Data entry template by WHO Europe and University of Leeds. Data was extracted from product packaging images collected in-store and online.	Semi-structured interview guide.
Analysis Approach	Dietary intake was assessed using a single 24-hour recall and the FAO/WHO multiple-pass approach. ¹⁹ Foods were broadly categorised as home-prepared or commercial (see 'Additional Methodological Notes' below). Nutrient intake was estimated using the Kenya Food Composition Tables (2018) and packaged food labels. ²⁰ Data was assessed against age-specific nutrient requirement reference values. ²¹⁻²³ Dietary recall data were processed in R using the dietrecallkit package by the Alliance Bioversity International and CIAT. ²⁴	A combined deductive and inductive thematic analysis approach was applied. Qualitative data were coded and analysed in NVivo.	Assessment was conducted using the 2022 WHO Europe Nutrient and Promotion Profile Model, applying category-specific nutrient composition and labelling criteria. ¹⁵ NPPM assessments were conducted using the University of Leeds dedicated Stata code. ²⁵	Thematic analysis was conducted across nutrition, affordability, responsible marketing, operations, scale potential, financing and technical assistance needs.

OTHER METHODOLOGICAL NOTES

Socioeconomic status

For the 24-hour dietary recall, socioeconomic groups were derived using principal component analysis of household assets and durable goods. Households were classified into low-, middle- and high-socioeconomic groups based on relative wealth scores. Participants in the qualitative component were purposively selected from communities representing different socioeconomic contexts across Nairobi and Makeni.

In both components, participants represented low-, middle- and high-socioeconomic groups, with the samples broadly reflecting the socioeconomic composition of each setting. Access to higher-socioeconomic households was more challenging due to residential access restrictions and higher refusal rates.

Food categorisation in the 24-hour dietary recall

Foods were categorised as:

1. Home-prepared foods: fresh foods or dishes prepared at home using locally sourced ingredients and/or packaged ingredients (e.g. bouillon cubes, packaged butter or flour).

2. Commercial foods:

Packaged foods: packaged foods consumed as sold (e.g. packaged biscuits) or prepared using only water for preparation (e.g. instant noodles or packaged porridge flour).

For these foods, the nutritional content is derived entirely from the packaged product. Where packaged products were prepared with additional ingredients (e.g. vegetables and/or meat added to instant noodles, or milk and/or sugar added to porridge flour), they were categorised as home-prepared foods.

CCF: packaged foods marketed for infants and young children under three years of age, consistent with the WHO definition of CCF. This includes products labelled with terms such as 'baby,' 'toddler,' 'young child,' or equivalent terms in the local language (e.g. 'toto'), or otherwise presented as suitable for children under three years of age.

Out-of-home foods: foods purchased from vendors or food outlets and prepared outside the home (e.g. boiled sweet potato, *mandazi*, and smoked beef sausages, locally referred to as 'beef smokies').

Pricing analysis

Pricing information was collected at the point of purchase or obtained from retailer or company websites, where available. Price per serving was calculated by dividing the retail pack price by the recommended serving size indicated on the package. Where serving size information was unavailable, values were estimated using comparable products available on the market.

Ethics

Research approvals were obtained from Kenyatta University Ethical Review Committee, the National Commission for Science, Technology and Innovation, and the relevant county authorities.

Use of Artificial Intelligence (AI)-assisted tools

Data processing for the 24-hour dietary recall and data extraction for the NPPM assessment followed hybrid approaches combining AI-assisted support with manual review.

For the dietary recall data processing, Claude (Sonnet 4.6) was used to assist with adapting and debugging functions from the dietrecallkit R package to support the computation of gram and nutrient intakes. The resulting outputs were thoroughly reviewed by the research team, and records requiring nutrition expertise or producing implausible or uncertain results were manually checked and corrected prior to analysis.

For the NPPM assessment, Claude (Opus 4.6 and Sonnet 4.6) was used to support the extraction of information from product label images, including product names, ingredients, nutrient information, age recommendations, claims, and other characteristics required for the assessment. All extracted information was validated against the original product images by a designated member of the research team, who manually corrected any errors or inconsistencies to ensure the data were accurate and complete prior to analysis.

At the same time, certain nutrient-dense foods were avoided due to prevailing beliefs. For example, some caregivers restricted eggs because of the perception that they could delay speech development. Animal-sourced foods were reported in both settings, with meat and fish more commonly mentioned in Nairobi, and eggs and particularly omena in Makueni, indicating efforts to include protein-rich foods where possible.⁹

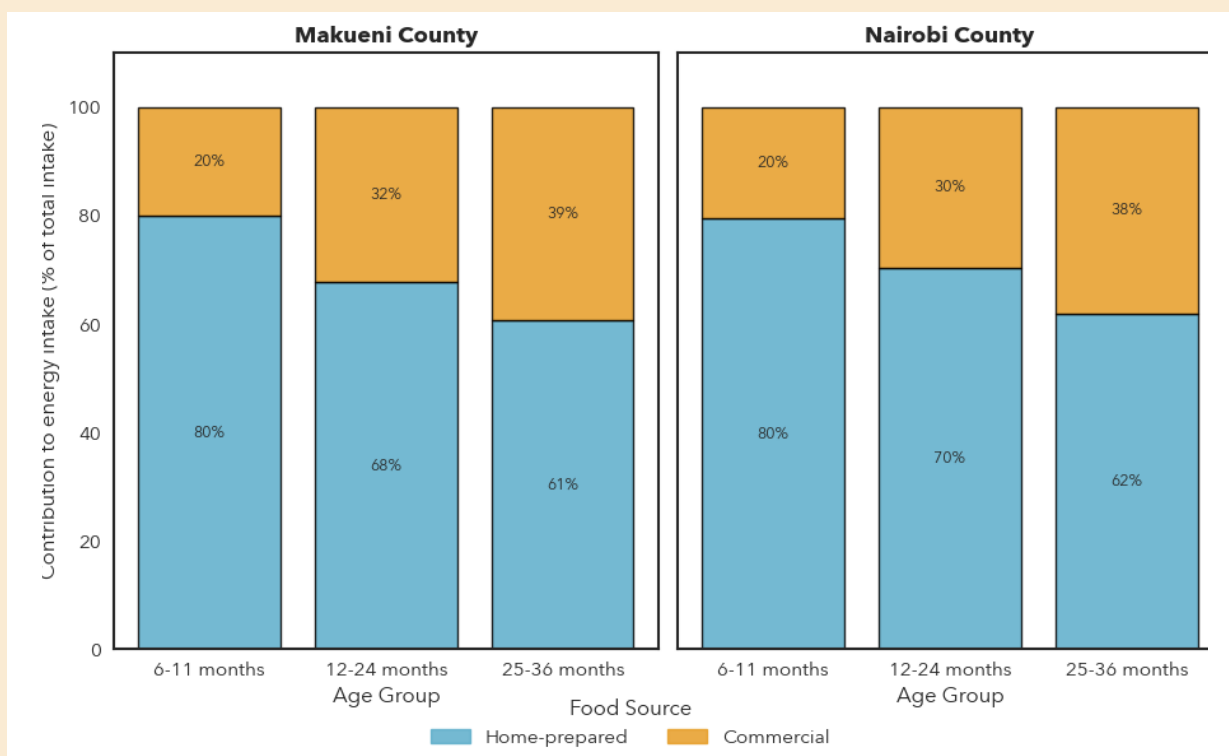
However, affordability remains a key determinant of feeding choices, with caregivers often relying on more affordable options such as omena and legumes despite the wider availability of animal-sourced foods. As one caregiver in a Nairobi informal settlement explained:

“We know there are a lot of things we should be giving them... because if we talk of giving liver, where will it come from?”

This reflects a gap between knowledge of recommended diets and the economic realities that limit their implementation, affecting both the diversity and frequency of nutrient-rich food consumption.

Home-prepared foods contributed more than 70% of total energy intake. Alongside home-prepared foods, commercial foods also featured prominently in children’s diets. While these foods contributed a smaller share of total energy intake (ranging from 20% to 39% across age groups), about 80% of children consumed some form of commercial food. Their contribution increased with age, being lowest among infants aged 6–11 months and higher among older children (Figure 2). Across all age groups and counties, the contribution of commercial foods to energy intake was consistently highest among children from lower socioeconomic households.

FIGURE 2
CONTRIBUTION OF COMMERCIAL AND HOME-PREPARED FOODS TO ENERGY INTAKE BY AGE GROUP AND COUNTY



Several commercial packaged products were among the most commonly consumed foods. These include bread, milk, yoghurt, as well as snack-type foods such as sweets, crisps (e.g. Ringos), biscuits (e.g. Nice cookies), and breakfast cereals (e.g. Weetabix). While these products are not specifically marketed as CF for children under three years of age, they are still consumed by this group.

Although a range of commercial foods were consumed, only 5% of children consumed CCFs, with older infants aged 6-11 months accounting for half of those who consumed CCFs. Among the CCFs, the most commonly consumed were locally produced porridge mixes such as Famila baby weaning porridge mix, Toto Afya wimbi baby porridge, and instant cereals such as Cerelac (reported more frequently in Nairobi). These products are used differently across households.

Local porridge mixes are often introduced at or before six months of age and used regularly—sometimes multiple times per day. Caregivers in Makueni highlighted the ease of accessing these porridge mixes through small local shops, whereas other commercial products are typically only available in supermarkets, requiring additional time and travel to obtain. In contrast, products such as Cerelac are generally introduced later and consumed less frequently, largely due to cost.

Young children were also found to consume a range of out-of-home foods and drinks, most commonly fresh milk, *mandazi*, chips and *chapati*.^{h,i} These foods are typically purchased from informal vendors and are widely accessible. As one mother in Makueni from a mid-socioeconomic setting noted:

“They are very cheap, so children buy them all the time... it’s really difficult to avoid them.”

This highlights how affordability and availability drive consumption, even as caregivers express concerns about their nutritional quality.

Caregivers’ broader feeding practices are also shaped by multiple sources of information. Advice received from health facilities was often described as the most trusted source, guiding decisions on the timing and type of foods introduced. Caregivers described receiving specific instructions—for example, to start with foods such as porridge and *matoke* (cooked bananas) at six months and to avoid certain products for younger children. For example:

“Weetabix is not good for a very young child.”

This guidance was also linked to the introduction of some foods that caregivers were initially uncertain about, such as yoghurt. Caregivers—particularly in Nairobi—also reported turning to digital media for inspiration. Platforms such as Google, TikTok and Instagram were used to access general feeding advice, recipes and weekly meal ideas. Only a few caregivers reported choosing specific products (e.g. porridge flour) based on exposure to informal, user-driven digital content—such as influencers and social media platforms—rather than deliberate promotion through formal commercial marketing channels.

^h *Mandazi* is a deep-fried East African dough, commonly consumed as a snack or for breakfast.

ⁱ *Chapati* is a soft, pan-fried flatbread made from wheat flour, commonly consumed with meat, legume, or vegetable stews, and sometimes eaten with tea for breakfast.

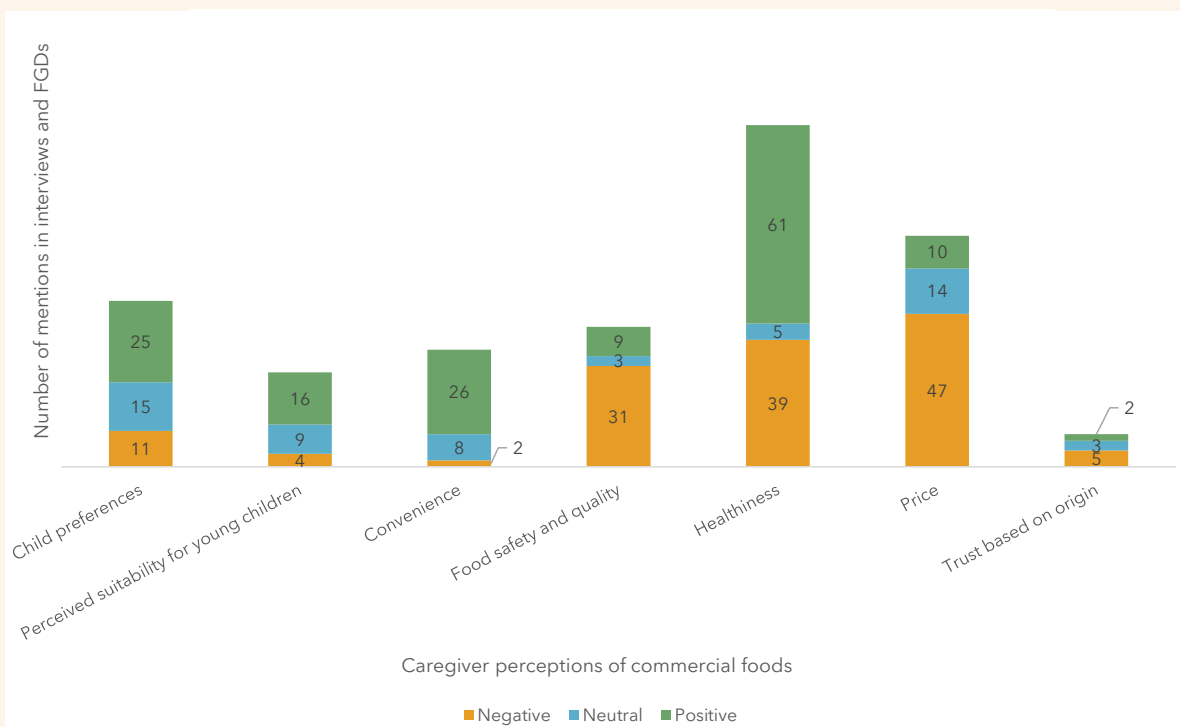
BOX 1 CAREGIVER PERCEPTIONS OF COMMERCIAL FOODS

Caregivers described feeding their children commercial foods for a range of reasons. On the one hand, commercial foods are often discussed and perceived positively in terms of healthiness and nutritional value, particularly among lower-income households, and are valued for their convenience, particularly in Nairobi. Convenience extended beyond ease and speed of preparation to include the perceived ability of certain products—such as Weetabix—to keep children satiated for longer, allowing caregivers time to attend to other tasks. Child preferences and perceived suitability were also mentioned in moderately positive terms, with children’s preference for commercial foods emerging as an important driver of dietary choices, particularly among middle-income caregivers in Nairobi. This is illustrated by one caregiver in Makueni, who explained:

“I also check what the child loves, like I could buy flours like Famila but the child does not like it or buy Weetabix but the child prefers Indomie. Like my child prefers Indomie to Weetabix. You choose what the child will not give trouble when feeding.”

On the other hand, perceptions of the food safety and quality of commercial products were predominantly negative across both Makueni and Nairobi, indicating concerns that may limit their use. Price was also frequently cited and was predominantly framed negatively, particularly among lower-income caregivers, reflecting affordability challenges in both settings. Few caregivers referenced trust based on the origin of production; however, this was primarily mentioned by caregivers residing in Nairobi and was generally framed negatively, with locally manufactured products perceived as less safe and less trustworthy than imported alternatives. Broader structural factors—such as limited time for food preparation and early return to work—further shape feeding practices, with commercial foods, including CCF, often serving as a practical response to these constraints.

FIGURE 3
POSITIVE AND NEGATIVE PERCEPTIONS OF COMMERCIAL FOODS IN MAKUENI AND NAIROBI



HIGH PREVALENCE OF LESS HEALTHY FOOD AND BEVERAGE CONSUMPTION, LARGELY SOURCED FROM COMMERCIAL PRODUCTS

In response to growing concerns about shifting dietary patterns among young children, UNICEF and WHO introduced indicators in 2021 to monitor the consumption of foods high in sugar, salt and unhealthy fats, including **sweet foods** (e.g. confectionery, cakes, and biscuits), **sweetened beverages**, and **salty and fried foods** (e.g. chips, savoury snacks and instant noodles). These categories include foods from multiple sources, including commercially packaged products, out-of-home foods, and foods prepared at home.

Applying these indicators to the dietary recall data, consumption patterns of sweet foods and beverages, and salty and fried foods were analysed across age groups, socioeconomic groups and settings. The findings suggest a strong reliance on commercial sources for less healthy foods and beverages, with variation across socioeconomic groups and settings.

- **High prevalence of less healthy food and beverage consumption:** More than 60% of children consumed either sweet foods, sweetened beverages, and/or salty and fried foods. The most commonly consumed were sweetened beverages.
- **Less healthy food and beverage consumption is largely sourced from commercial foods:** Consumption of salty, fried and sweet foods was substantially higher from commercial than from home-prepared sources, especially among children aged 12-36 months. While home-prepared sweet foods were almost entirely absent, commercial sweet foods were widely consumed across all groups (Figure 4).

- **Socioeconomic differences are evident:**

Consumption of commercial sweet foods was consistently higher among lower-income groups across all age groups.

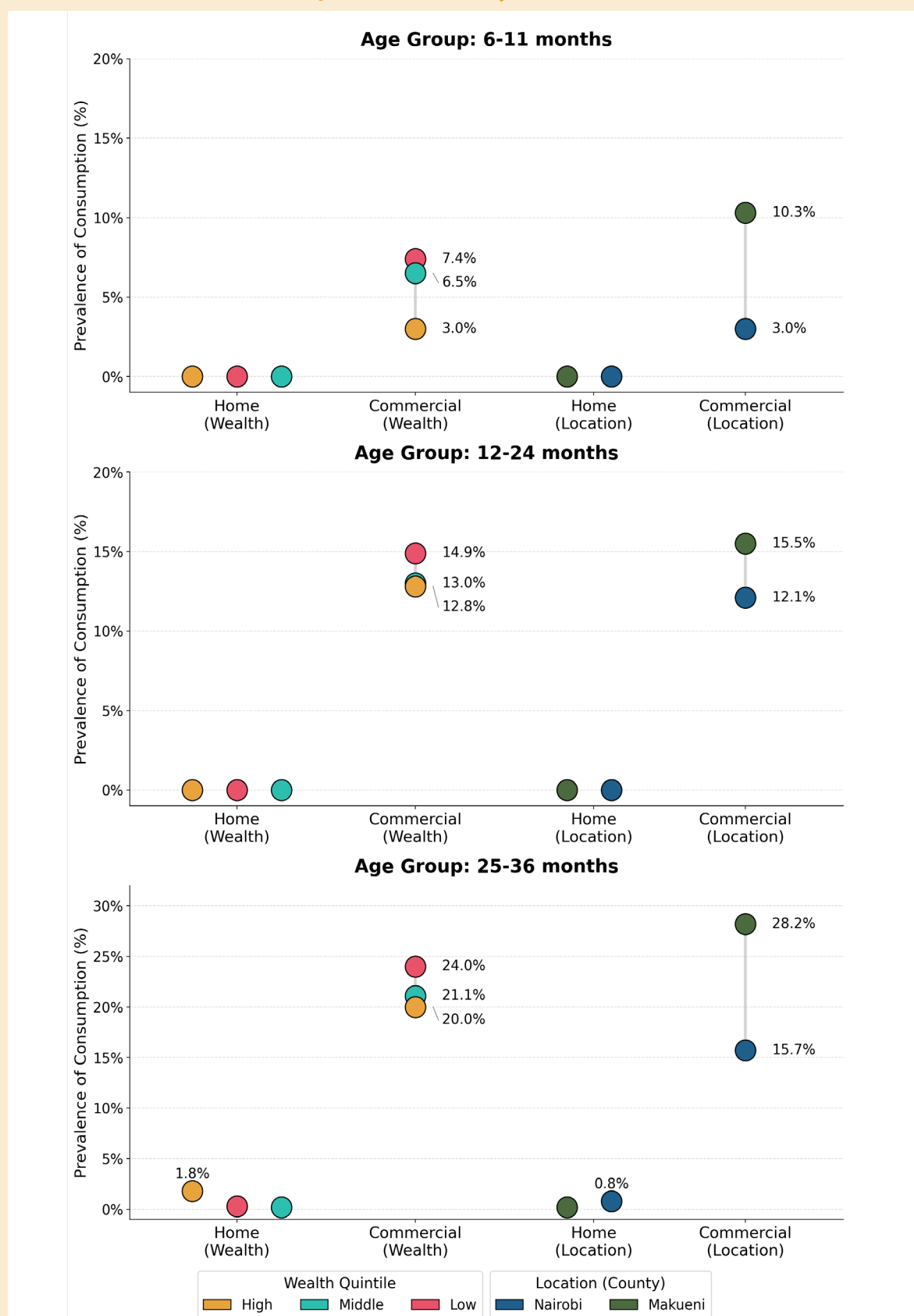
For salty and fried foods, consumption patterns varied, with the highest intake shifting between higher- and lower-income groups depending on age.

For sweetened beverages, contrasting patterns were observed, with higher consumption of home-prepared beverages among lower-income households, while consumption of commercial sweetened beverages was higher among higher-income groups, particularly among children aged 12-36 months.

- **Consumption patterns vary by setting:**

Consumption of commercial sweet foods was higher in Makueni than in Nairobi, whereas commercial sweetened beverages were more commonly consumed in Nairobi across all age groups.

FIGURE 4
CONSUMPTION PATTERNS OF SWEET FOODS BY AGE GROUP, COUNTY, SOCIOECONOMIC STATUS, AND SOURCE (COMMERCIAL VS HOME-PREPARED)^j



^j Values represent the proportion of children within each subgroup who consumed the food, based on subgroup-specific sample sizes.

YOUNG CHILDREN MEET MOST NUTRIENT REQUIREMENTS FROM CF, WITH GAPS IN PROTEIN & FAT

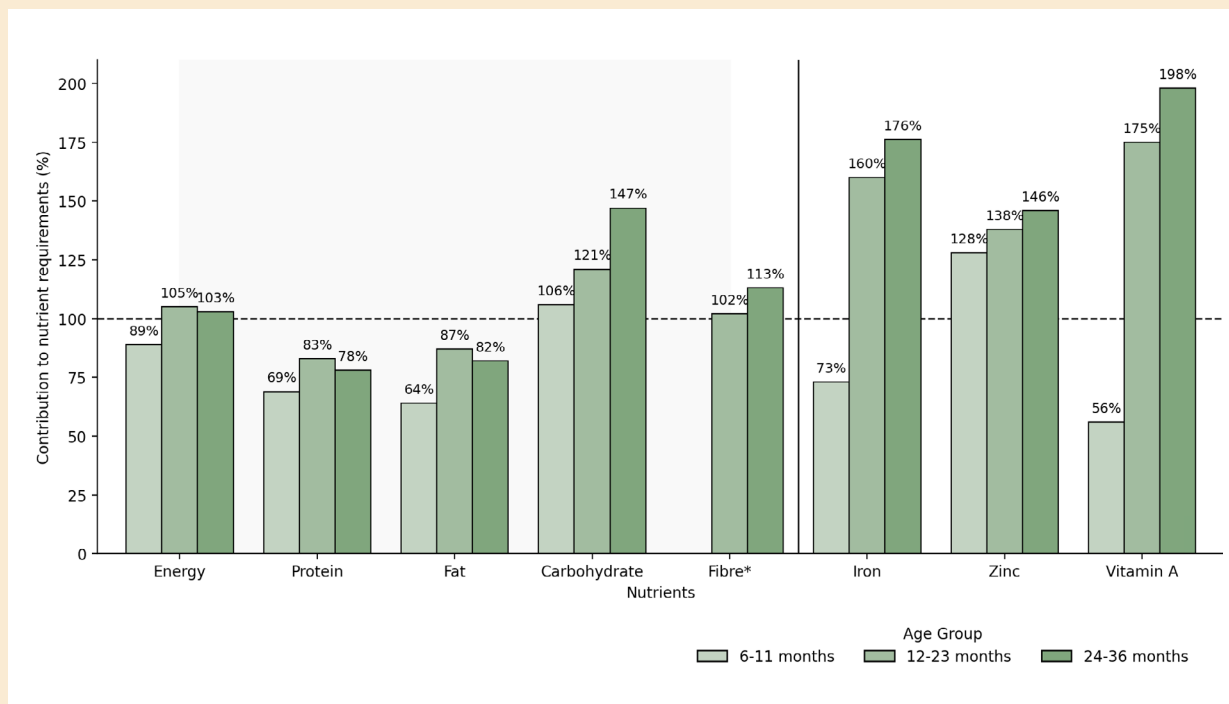
Based on the 24-hour dietary recall, foods consumed by children met or exceeded estimated requirements for most nutrients, except for protein and fat. Nutrient adequacy varied by age group. Patterns were broadly similar across counties, although children in Nairobi had slightly higher contributions towards protein, iron and zinc requirements, while contributions to vitamin A were slightly higher in Makeni.

Among children aged 12–36 months, requirements for energy, carbohydrates, fibre, iron, zinc and vitamin A were generally met or exceeded from CF. Staple foods such as *ugali*, porridges and rice were the main contributors to carbohydrate intake, while *ugali*, tomatoes and millet-based porridges contributed most to iron intake, and milk and *ugali* to zinc intake. Beef liver and milk were key sources of vitamin A. The contribution of *ugali* to iron and zinc intake may partly reflect the use of fortified maize flour in its preparation (Box 2).

Among older infants aged 6–11 months, intake from CFs alone did not meet requirements for energy, iron and vitamin A. However, as approximately 95% of older infants in this age group were still breastfeeding, breastmilk likely provided additional nutrients not captured in the analysis.^k At the same time, these findings highlight the importance of ensuring that CFs contribute meaningfully to meeting nutrient requirements during this period. In contrast, protein and fat requirements were not met in any age group (Figure 5).

^k Breastmilk remains an important source of energy and nutrients during this period and is estimated to provide approximately half of total energy requirements in children aged 6–12 months.²⁶

FIGURE 5
CONTRIBUTION TO NUTRIENT REQUIREMENTS BY AGE GROUP



Note: Nutrient intakes are expressed as a percentage of age-specific requirements. Values below 100% indicate that average intake from CF did not meet the reference requirement.

BOX 2

ROLE OF FORTIFIED MAIZE FLOUR IN CHILDREN'S DIETS

Maize flour-based foods were widely consumed, with 75% of caregivers reporting their consumption in the 24-hour dietary recall. Among these, *ugali* accounted for the majority (90%), while a smaller proportion was consumed as porridge (*uji wa mahindi*) (10%).

Approximately 51% of the maize flour used was packaged, and therefore likely fortified. This suggests that a substantial proportion of *ugali* and *uji wa mahindi* consumed was prepared with fortified flour. Given the central role of *ugali* in children's diets, this may contribute to iron and zinc intake, although the extent of this contribution depends on consistent fortification and bioavailability.

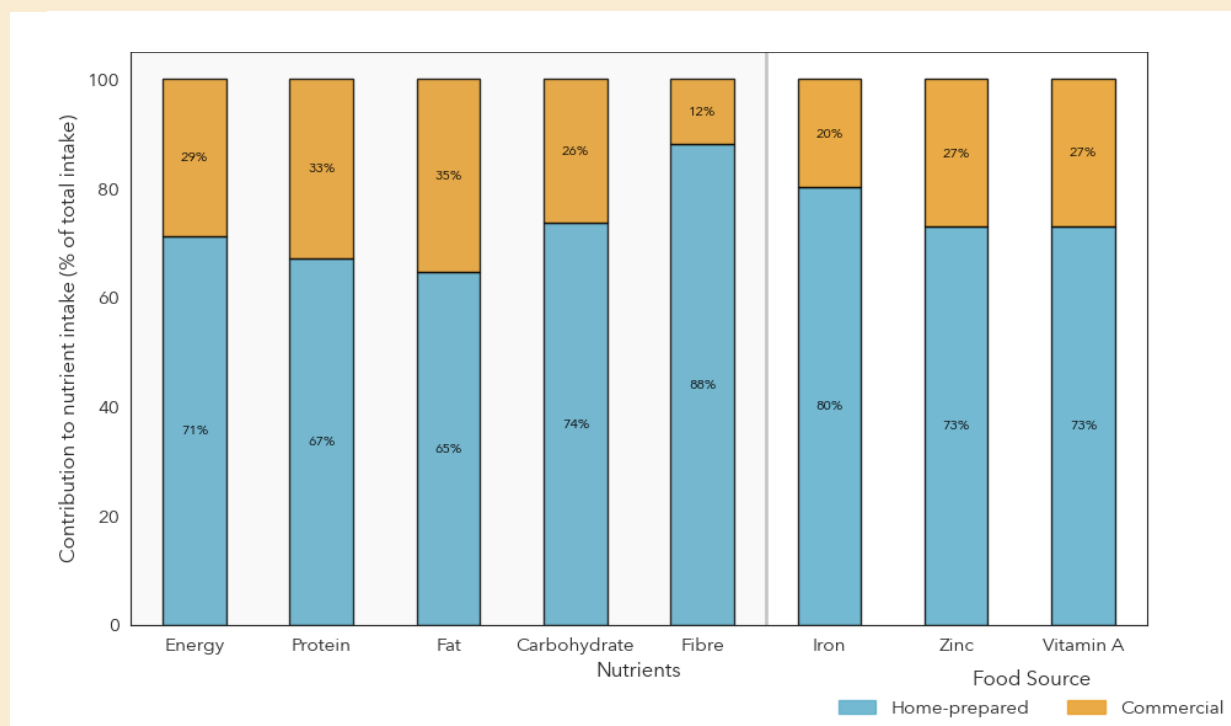
In 2012, Kenya mandated the fortification of all packaged dry-milled maize flour with key micronutrients, including iron, zinc and vitamin A. However, evidence suggests that compliance remains inconsistent, with many products not meeting regulatory standards. For example, only a small proportion of maize flour samples assessed met all regulatory requirements for key micronutrients, including iron, zinc and vitamin A. As a result, it remains uncertain whether fortified maize flour consistently contributes to nutrient intake in practice. Efforts to improve compliance are ongoing, including government and industry initiatives.²⁷

As shown in Figure 6, commercial foods contributed a relatively larger share to fat and protein intake compared with their overall contribution to diets, accounting for over one-third of intake of these nutrients, while contributing the smallest share to fibre intake. This appears to be driven in part by *mandazi* for fat and packaged milk for protein. Out-of-home foods contributed to 7–29% of nutrient intake whereas packaged foods contributed to 5–10%.

However, despite this contribution, overall protein and fat requirements were not met for all age groups, indicating that current dietary patterns across both home-prepared and commercial foods do not provide sufficient amounts of these nutrients.



FIGURE 6
NUTRIENT CONTRIBUTION OF HOME-PREPARED AND COMMERCIAL FOODS



Qualitative findings provide context for these gaps, particularly in relation to home feeding practices. Caregivers and HCPs described how children are often given only broth or soup from family dishes, with protein-rich components such as meat or fish withheld due to concerns about chewing ability.

As one mother from a middle-income household in Nairobi explained:

"If I prepared something like meat stew, you know at one year, he still doesn't have teeth, so I give ugali using that soup, meat soup or soup from greens, if greens are well mashed he would be able to take and swallow, but not meat."

Similarly, a clinical nutritionist in Nairobi noted:

"They tend to think these babies don't need protein... even at one year... the baby is not ready, so they give soup."

The following section examines the role and characteristics of commercial foods, with a focus on CCFs available on the Kenyan market, beyond those captured in the dietary recall.

CCFS HAVE POTENTIAL TO SUPPORT CHILD NUTRITION IN KENYA, BUT IMPROVEMENTS ARE NEEDED

The market assessment identified a total of 161 CCF products from 29 companies, including 15 Kenya-headquartered manufacturers.¹ Despite accounting for more than half of the companies identified, Kenyan manufacturers accounted for only 25 of the 161 products identified. A further eight products were produced by companies headquartered elsewhere in Africa, indicating that products from globally-headquartered manufacturers account for the majority of CCF identified through the market assessment. Appendix 2 lists all 29 companies, together with the number of products identified and the number included in the assessment for each company.

According to Euromonitor retail sales estimates, market share is concentrated among a relatively small number of manufacturers. In 2025, Nestlé Kenya accounted for almost 50% of the Kenyan CCF market through its instant cereal brand, Cerelac. The local company Proctor & Allan East Africa held approximately 22% of the CCF market, followed by Tiger Brands with almost 13%. Unga Group Ltd, Winnie's Pure Health and all other companies, each accounted for less than 1% of the market.¹²

Some companies identified during the market assessment were excluded from the product analysis based on the study eligibility criteria. For example, products manufactured by Kenyan companies Lishe Bora Kenya and Shushan Acres, which are marketed for children under three years of age, were excluded because the packaging did not provide the nutritional information required to complete the assessment. In addition, some otherwise eligible products from other companies could not be assessed because the packaging information was incomplete or unavailable. This included cases where products were not found in stores and images of the complete labels could not be found online.

Therefore, of the 161 CCF identified, 87 products from 19 companies were assessed using the WHO NPPM. Under this model, products must meet all applicable nutrient composition requirements and labelling criteria to be eligible for promotion for older infants and young children. The detailed methodology and assessment criteria are available in the WHO NPPM guidance.

How healthy are CCFs in Kenya?

Overall, 46% of the products met all NPPM nutrient composition requirements. Among the companies assessed, all products by Holle (7) and Kraft Heinz (3) met all the nutrient composition requirements. None of the assessed products from Kenyan and regional producers met all nutrient composition requirements (Figure 7). Similarly, neither of the two Nestlé products assessed met all nutrient composition requirements. However, as only one or two products were assessed per company, these results may not reflect the nutritional performance of their wider CF portfolios.

Performance against individual nutrient composition requirements varied across criteria. All products met the requirements for **total fat (100%)**, and most companies' CCF met the requirements for **total protein (91%)**, which applied to cereal-based products containing milk and savoury meal categories. Only the savoury meal products assessed from Hain Celestial did not meet this requirement. Most products also met the **sodium (85%)** and **fruit content (85%)** requirements. However, sodium information was missing for several products—including four of the eight products assessed from Kenyan companies and one product from a Tanzanian company. Therefore, the requirement was not met for these products.

¹ The market assessment identified 161 CCF, of which 87 were eligible for inclusion in the NPPM assessment. Several additional products were identified after completion of the NPPM assessment, including products marketed through social media-based sales channels, and were therefore not included in the analysis.

Approximately **77%** of products contained **no added free sugars or sweeteners**. For product categories assessed under other sugar requirements set by the NPPM—which primarily included imported savoury meals and snacks—only **61%** met the requirement of deriving **less than 15% of total energy from sugars**.

However, **59%** of the 64 assessed CCF would **require a FOP high sugar warning label** under the NPPM, indicating that their total sugar content exceeded the model's specified thresholds.^m Products requiring a high sugar warning label were most commonly fruit purées—which contain high levels of naturally occurring sugars—as well as several cereal-based CCF from Kenyan companies.ⁿ Detailed results by company and product category are presented in Appendix 3.

Compliance with the **energy density** requirement was comparatively lower, with only **62%** of the assessed CCF meeting the recommended energy density thresholds required to provide adequate nutrition. Detailed results by company and product category are presented in Appendix 4.

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- ^m Results related to the NPPM FOP high-sugar warning label criterion are not shown in this figure.
 - ⁿ This criterion applies across several product categories, including cereal-based foods, dairy products, fruit and vegetable purées, and some snack foods.

BOX 3 INSIGHTS FROM KENYAN COMPANIES

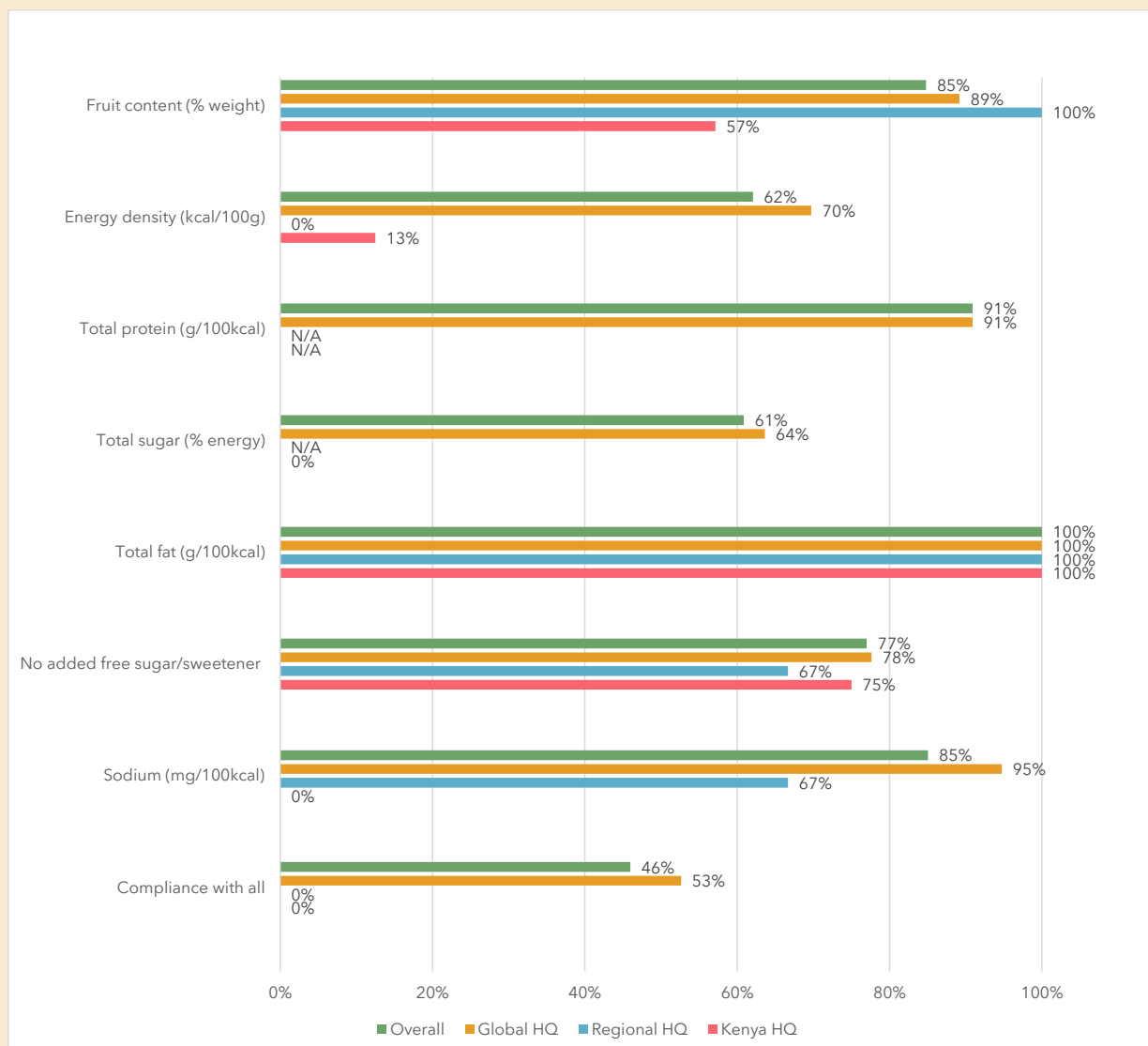
Interviews with Kenyan companies (see Appendix 1) suggest that **the market for products specifically positioned as CCF for young children under the age of three remains relatively limited**. While some companies produce dedicated CCF, many reach young children through adjacent categories such as (fortified) porridges, staple foods, snacks, or specialised nutrition products (SNPs). However, **several companies expressed interest in expanding into the CCF market**, particularly through fortified porridge products that build on existing familiarity among caregivers and children, as well as established distribution channels.

The interviewed companies described a range of approaches to improving nutritional quality, including **fortification** (using vitamin and mineral premixes), **biofortification** (high-iron beans), **wholegrain formulations**, **protein enrichment**, and **extrusion technologies**. One company also noted producing **protein powder** through biomass or fungal fermentation for incorporation into porridges, staple flours used for chapati, mandazi, and ugali, and other food products such as seasoning or stock cube formats. Some companies highlighted the role of technical partners, including organisations such as Sanku and the Global Alliance for Improved Nutrition (GAIN), in supporting product formulation and development, including guidance on fortification levels.

Several local products included in the NPPM assessment, however, could not be assessed due to **missing nutritional information from product labels**. The company interviews highlighted some of the challenges faced by smaller local manufacturers, including **limited resources for product testing, nutrient analyses, and registration processes**, which may partly explain the absence of nutritional information on several product labels. Manufacturers also described **difficulties in balancing affordability, nutrient density, sensory acceptability, and production costs**. Some companies reported challenges in reducing sugar content while maintaining product acceptability, while others struggled to produce more nutritious products at prices accessible to lower-income households.

Discussions of product nutrition and quality were generally broad, and **references to specific standards or guidance applicable to CCF products were limited** during the interviews conducted. This includes the Kenya Bureau of Standards (KEBS) standard for processed cereal-based foods for older infants and young children and relevant WHO guidance. Similarly, there was **limited mention of relevant regulatory frameworks governing the labelling and marketing of CCF**, such as the Kenya Breastmilk Substitutes (Regulation and Control) Act 2012 or WHO recommendations.

FIGURE 7
NUTRIENT REQUIREMENTS MET, BY COMPANY HEADQUARTERS (HQ)



Energy density of CF: from feeding practices to product formulation

Energy density is a key determinant of adequate dietary intake during the complementary feeding period. Given young children's limited gastric capacity, CF should provide at least 0.8kcal/g. Foods with lower energy density may make it difficult to meet energy and nutrient requirements. In addition, as intake of breastmilk decreases, a child's total energy intake may be lower than it was during exclusive breastfeeding, increasing the risk of malnutrition and growth faltering.²⁸⁻³⁰

Findings from the dietary recall indicate that home-prepared foods consistently fall below the reference energy density range of 0.8-1kcal/g, a level estimated to provide foods with adequate energy and nutrient density for young children (Figure 8).²⁸ This may partly reflect common preparation practices reported by caregivers, such as the addition of water to soften foods, which may dilute their energy content. This is further illustrated by the typical preparation of commonly consumed porridges such as *uji wa wimbi* (finger millet porridge), which yields an energy density well below the reference range.³¹ While some caregivers reported adding ingredients such as

margarine, milk, or sugar, and less frequently peanut butter or oil, these were not consistently used with the intention of improving nutritional value, but rather to improve taste and palatability. This suggests a broader limited awareness of energy density and its nutritional significance. Patterns were broadly similar across Makueni and Nairobi.

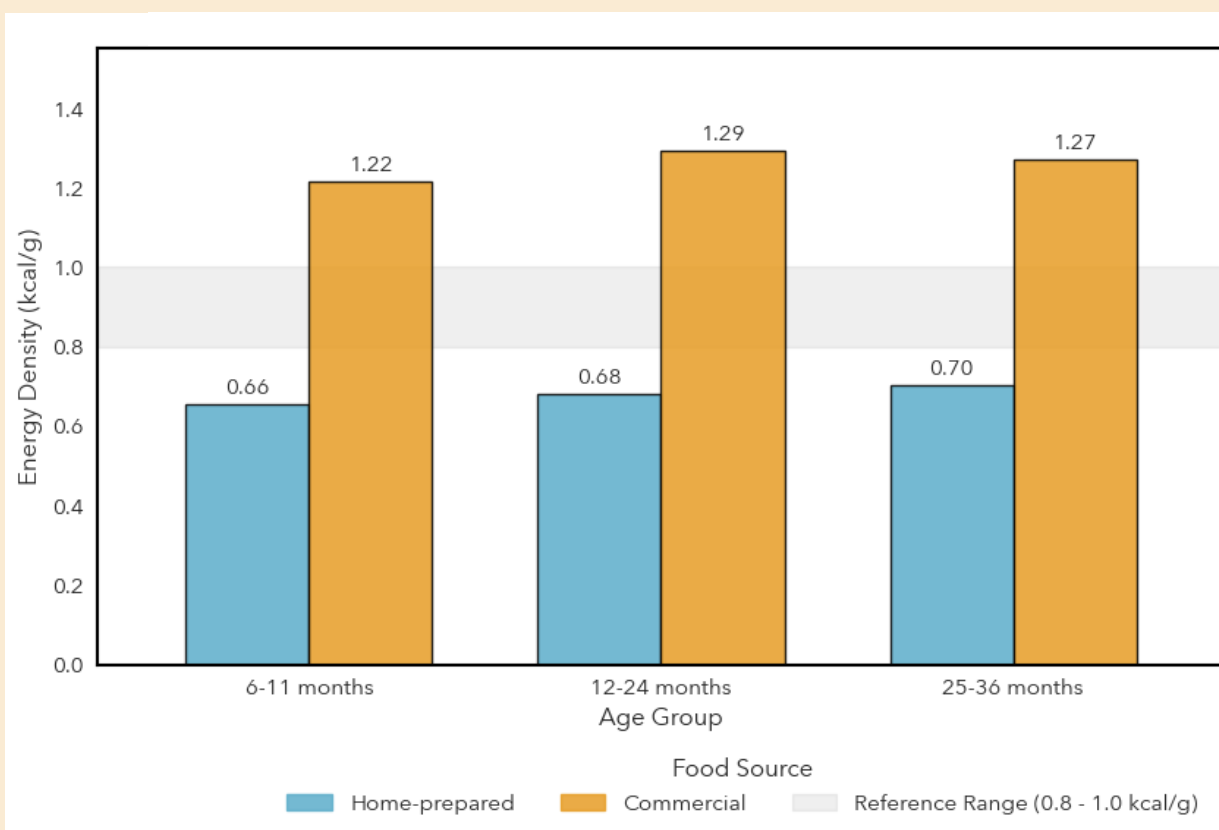
In contrast, commercial foods consumed by children tend to have higher energy density, often meeting or exceeding the reference range across age groups (Figure 8).

However, the NPPM analysis showed that only 62% of the assessed CCF met the recommended energy density requirements, making this one of the least frequently met nutritional criteria among CCF on the Kenyan market. Among the most commonly consumed CCF identified in the dietary recall, both assessed Cerelac products met the energy density requirements. In contrast, the assessed Famila baby weaning porridges did not, as their preparation instructions involved adding more than four cups of water.

Some products, mainly from Kenya or regionally-based companies, included preparation instructions that recommend adding sugar or milk “to taste”, reflecting a broader emphasis on palatability rather than on improving energy density or nutritional value. This pattern was also observed in the caregiver interviews. Across all CCF assessed, products that did not meet energy density requirements were most commonly fruit purées, and locally or regionally produced cereal-based products.

These findings indicate that inadequate energy density in children’s diets is shaped by preparation practices for home-prepared foods, variations in CCF formulation, and suboptimal CCF preparation instructions. Addressing this gap will require both improved caregiver guidance on food preparation, including practical and age-appropriate ways to increase the energy density of commonly prepared foods, alongside stronger local standards for CCF formulation and labelling, particularly regarding preparation instructions.

FIGURE 8
ENERGY DENSITY OF COMMERCIAL VS HOME PREPARED FOODS BY AGE



Added sugar in complementary feeding: widespread practices and product influences

Findings from the dietary recall indicate widespread consumption of added sugars among young children, with 74% of participants (n=465) consuming added sugars from sources such as white sugar, brown sugar, and/or honey. Average daily intake was 16g per day (approximately one tablespoon of sugar), with added sugars contributing a higher share of total energy intake among younger children. This exceeds global guidance recommending that free sugar intake remain below 5% of total energy intake for children under the age of two—a threshold that was exceeded across all age groups (Figure 9).³² However, these estimates reflect added sugar from home-prepared foods only, as sugar content was often unavailable on commercial product labels, and intrinsic sugars were not captured. As a result, total sugar intake is likely underestimated.

The most frequently consumed sweetened dish was porridge (58%), followed by sweetened tea (32%), and drinking chocolate (4%). Among children consuming porridge, approximately 75% consumed it in sweetened form. On average, added sugar contributed approximately one-third of the total energy content of sweetened porridge, with a substantially greater contribution observed in Nairobi (46%) than in Makueni (29%).

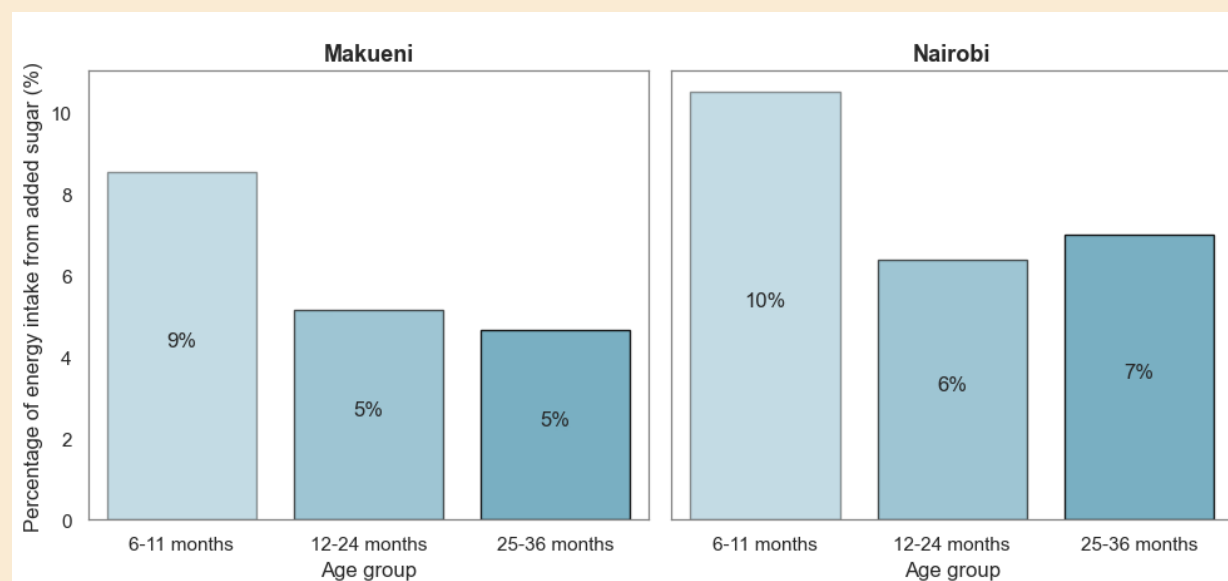
Qualitative findings help explain these patterns. Sugar addition to CFs is routine and widely accepted across both Makueni and Nairobi, and across socioeconomic groups, with sugar most commonly added to porridge. Caregivers frequently described adding sugar to improve taste and encourage intake, with some reporting habitual use from early infancy, including adding glucose to water to encourage drinking.^o HCPs also confirmed that sugar addition in complementary feeding is a common practice within communities. However, while caregivers reported receiving general feeding guidance from health facilities, there was no explicit mention of counselling on reducing or avoiding added sugar, suggesting a gap in nutrition messaging.

Findings from the NPPM analysis highlight additional concerns in the product environment. Added sugar was among the least met nutritional criteria, with products such as snack-type foods more often failing to meet requirements. Variation was observed across company types, with some cereal-based products from Kenya- and regionally-headquartered companies including porridge preparation instructions that explicitly recommend adding sugar or sweeteners (e.g. “add sugar to taste”). In addition, sugar content was often not reported on product labels, for both CCF and products intended for general consumption, limiting the ability of caregivers to make informed choices.

These findings suggest that high sugar consumption among young children reflects both caregiver practices and aspects of the commercial food environment, including product formulation, labelling, and preparation guidance. Addressing this will require strengthened guidance for caregivers on limiting free sugar intake in early childhood, alongside improvements in product standards and transparency.

^o A product called Glucose was identified in the market, which includes specific instructions for adding the product to babies’ drinks.

FIGURE 9
CONTRIBUTION OF ADDED SUGARS TO TOTAL ENERGY INTAKE FROM HOME-
PREPARED FOODS (N=465), BY AGE GROUP



Are CCFs in Kenya marketed responsibly?

None of the companies had products that met all the NPPM labelling requirements. Performance against individual labelling requirements varied considerably across criteria (Figure 10). Compliance was highest for the **minimum age of introduction**, with **87%** of products meeting this requirement and 15 of 19 companies achieving full compliance. Most products that failed this criterion were fruit purées marketed as suitable from four months of age, rather than the recommended six months, which is intended to protect exclusive breastfeeding. This is particularly relevant given that 9% of children in the dietary recall had been introduced to CFs before six months of age, with similar proportions observed in Makueni and Nairobi.

The **upper age criterion**, on the other hand, was one of the poorest-performing requirements. None (**0%**) of the eligible products met the NPPM guidance that smooth or puréed products should not be marketed for children older than 12 months, which is intended to encourage the transition to textured foods and limit exposure to liberated sugars.

Adherence was generally high for **product name clarity**, with **83%** of CCF meeting this requirement. However, performance was lower among fruit purées, mainly because product names did not accurately represent their main ingredients. **Ingredient list clarity** was met by just over half of the assessed products (**56%**); none of the assessed CCF from Kenyan and regional companies met this requirement. The most common gap was the complete absence of quantitative ingredient declarations, which was universal among Kenyan and regional products but was also observed on some global brands. Where partial quantification was provided—almost exclusively on products from globally-headquartered companies—the proportion of added water was the most frequently omitted element, followed by the proportion of the fruits and vegetables named on the FOP.

Additional labelling gaps were observed among six imported products for which the product name, ingredient list, and storage instructions were provided in English, while other information on the packaging was available only in a foreign language. These findings suggest that some products available on the market may not fully meet national language requirements, potentially limiting caregivers' ability to access and understand important product information.^P

Only 41% of puréed products sold in spouted pouches (n=29) included instructions advising caregivers **not to feed directly from the spout**. Performance varied across manufacturers of fruit- and vegetable-based pouches: Hero and Holle met this requirement for all applicable products, while Carrefour, Danone and Food Innovation Industries did not meet it for any of the products assessed.

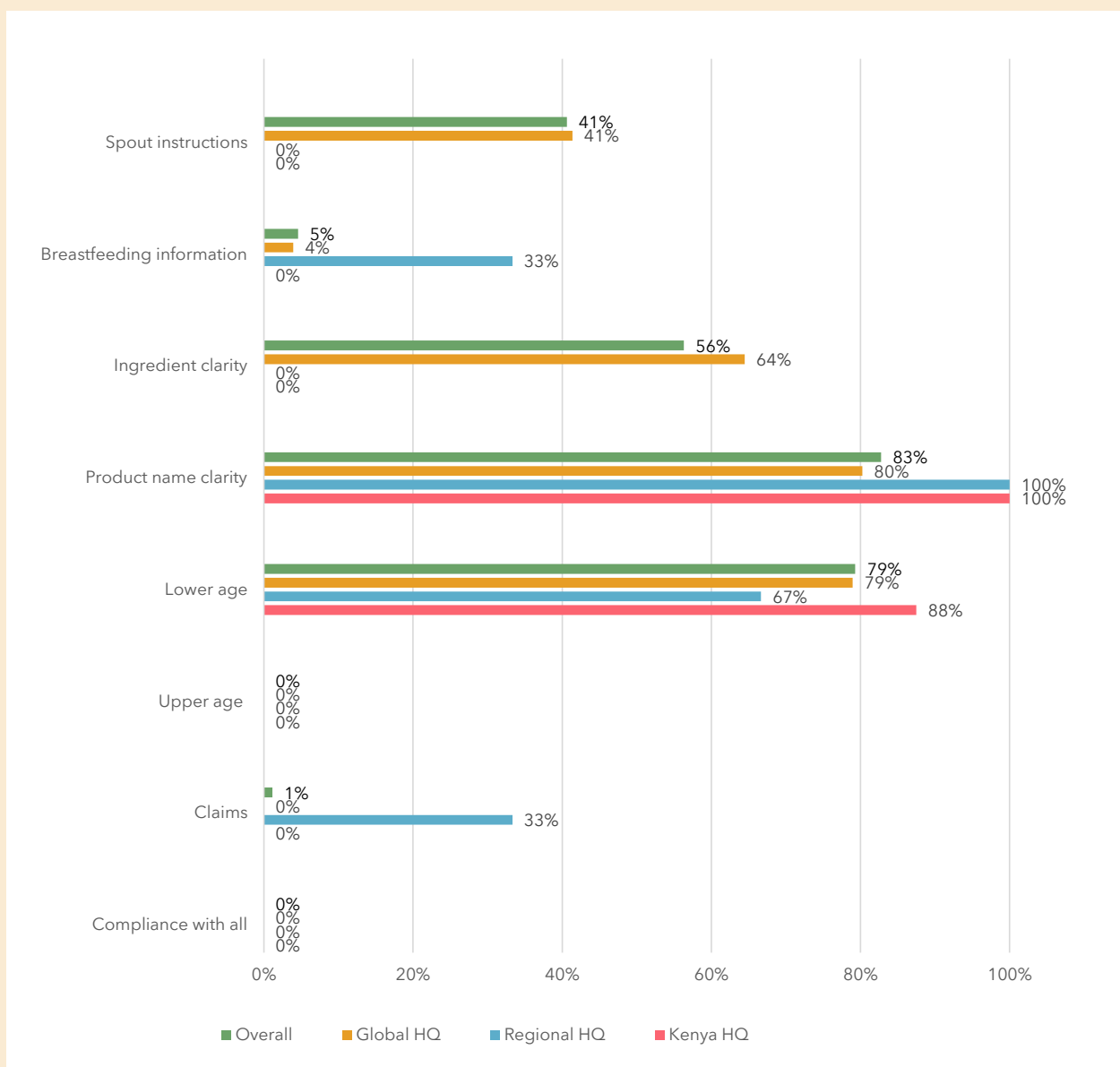
Requirements related to the **promotion and protection of breastfeeding** were rarely met, with only 5% of products including the required breastfeeding messages. Only the three Kraft Heinz cereal products and one fruit purée from Tiger Brands met this requirement. Most products did not include statements on the importance of continued breastfeeding until two years of age or beyond, or on the recommendation not to introduce CFs before six months.

With regard to **claims, only one product**, a composite flour manufactured by the Ugandan company Forna Health Foods, did not display any nutrition, health or marketing claims. None of the other products assessed met this NPPM requirement, as they displayed one or more claims. Nutrition claims were the most common, appearing on 95% of the assessed CCF, including claims such as "no added sugar." Marketing claims were also widespread (~90%), and typically emphasised sensory attribute, such as taste ("delicious", "yummy") and texture ("smooth", "no chunks"), suitability for weaning, or perceived ingredient quality ("grown by farmers we know and trust"). Health claims appeared on 25% of the products assessed and were mostly nutrient function claims linked to fortification, such as "Vitamin D for normal growth and development of bones", "Iron to support normal cognitive development" and "Vitamin C for normal immune system function."

Figure 10 presents findings by company headquarters location; detailed company- and product-level results are provided in Appendix 5.

^P The Kenya Breastmilk Substitutes (Regulation and Control) Act 2012 requires key information for packaged complementary foods, including preparation instructions, the recommended age of use, and relevant warnings, to be provided in both English and Kiswahili.

FIGURE 10
LABELLING REQUIREMENTS MET, BY COMPANY HQ



LOCAL CCFS OFFER A MORE AFFORDABLE OPTION, BUT PRODUCTION AND ACCESS CHALLENGES REMAIN

Of the 87 CCF products assessed, price information was available for 68 products. CCFs produced by globally-headquartered companies had a substantially higher average price per serving (KES 333) than those from regional companies (KES 24) or local Kenyan companies (KES 26) and were typically sold in smaller pack sizes (20g–250g compared with 180g–1,000g). The highest price per serving was observed for an imported snack product, whereas the lowest was recorded for a locally produced baby porridge flour. These price differences should be considered in the context of households' purchasing power. In Nairobi, on average, households reported spending about half of their income on food. Household incomes were generally lower in Makueni, where nearly 74% of households reported earning less than KES 15,000 per month, and many households allocated at least half of their income to food expenditure.

The findings from the pricing analysis also suggest that products marketed by global manufacturers are generally more expensive than those produced by local and regional companies. Average prices were also slightly lower among CCF that met all NPPM nutrient composition requirements (KES 284 per serving) than among those that did not (KES 318 per serving).

While original retail prices were used in the pricing analysis where available, it is worth noting that substantial discounts were observed for several products, particularly those manufactured by globally-headquartered companies. These discounts were often linked to products approaching their expiry dates—with many scheduled to expire within one month of purchase—and reached up to 62% in some cases.

While locally and regionally produced CCF were generally more affordable than imported alternatives, caregivers and HCPs frequently described commercial foods as expensive relative to home-prepared alternatives, highlighting affordability as an important consideration when choosing foods for young children.

This was especially evident in Makueni, where caregivers often preferred home-prepared alternatives such as flour blends made from locally available grains—mainly sorghum and millet—milled at local posho mills. While CCF were generally perceived as expensive, a small number of caregivers in Nairobi identified local brands, such as Famila and Toto Afya, as relatively more affordable options. Nevertheless, many caregivers considered commercial products to offer poor value for money compared with home-prepared meals. This perception was observed even among higher-income households in Nairobi. As one mother explained:

“If you tell me to give my baby vegetables with rice and chicken, I can make that at home... because I know the price of these is almost like the price of a whole chicken that we can feed as a family. They are so expensive, I can't afford them.”

HCPs echoed these concerns, noting that age-appropriate CCFs are often more expensive than widely available alternatives marketed for the general population, such as Weetabix, which some caregivers perceived as more economical and filling per serving. Caregivers also highlighted transportation costs and limited product availability as barriers to access and expressed a desire for more affordable and accessible CCF options.

These affordability concerns were also reflected in the interviews with the Kenyan companies (see Appendix 1). The companies highlighted affordability as a key consideration in product development and commercialisation. Companies producing consumer-facing nutritious foods described a highly price-sensitive market, where products must remain close in price to familiar alternatives or provide sufficient value to justify switching purchases. Two companies producing fortified snacks, porridges, and flours reported pricing their products similarly to comparable non-fortified alternatives. One company noted that future fortified porridge products, including those intended for children under three, would also need to remain competitively priced within roadside-shop channels, while a larger company exploring CF products highlighted that future pricing strategies would likely be differentiated across low-income and middle-income market segments.

To maintain affordability, companies reported using a variety of cost-management strategies, including bulk purchasing, subsidised inputs, production efficiencies, and harvest-season sourcing. One manufacturer of fortified flours and porridges described efforts to reduce costs through larger grain purchases, while other companies emphasised the importance of relationships with local suppliers. Companies fortifying products also benefited from external support initiatives. For example, one producer reported reduced fortification costs through subsidised premix and free dosifier access provided by Sanku. Several companies noted improved production efficiency and capacity expansion as key cost-reduction strategies, including bringing raw material drying in-house and investing in semi-automated production systems to improve margins through labour and electricity savings.

Companies also highlighted several strategies for improving product accessibility and reaching target populations. Some companies reported reaching older children through schools, community and humanitarian channels, while others offered products in smaller pack sizes to improve affordability for lower-income households. To reach households, distribution channels extended beyond formal supermarkets and included dukas (small retail shops), roadside shops, open markets, farmers' markets, and e-commerce platforms. One small CCF producer also reported relying on word-of-mouth, church engagements and local events, while noting that expansion into supermarkets remained dependent on KEBS certification.

USE OF SPECIALISED NUTRITION PRODUCTS AND IMPLICATIONS FOR INTRODUCTION AND SCALE-UP IN KENYA

Across the 150 caregivers interviewed, the use of SNPs among children under 36 months of age was limited, although awareness and exposure varied by location and socioeconomic status (SES) (Figure 11).

Mentions of SNPs and reported use were more frequent in Nairobi—particularly among lower- and middle-socioeconomic groups—suggesting greater exposure and familiarity. Caregivers in Makueni, despite demonstrating some awareness, reported relatively fewer instances of use (Table 2). Caregivers described using a range of products beyond lipid-based nutrient supplements (LNS), including fortified blended foods (FBF) and micronutrient powders (MNP). These products were typically obtained through health facilities via prescription but were also accessed through donations—including those linked to community-based nutrition programmes, such as Positive Deviance/Hearth in Nairobi—and informal channels.⁹

Awareness of LNS was largely limited to therapeutic products, including ready-to-use therapeutic food (RUTF) and ready-to-use supplementary food (RUSF), which were widely recognised across all groups, often in relation to the treatment of acute malnutrition or weight gain. In contrast, neither caregivers nor HCPs reported awareness of small-quantity LNS (SQ-LNS), which are designed as a preventive intervention.^r

⁹ Positive Deviance/Hearth is a community-based, food-based approach developed by World Vision International that aims to reduce child malnutrition, build local capacity to support rehabilitation, and prevent future cases through locally driven solutions and sustained behaviour change.³³

^r There is a growing evidence base demonstrating that SQ-LNS can significantly reduce the risk of severe wasting, stunting, mortality, and micronutrient deficiencies among children aged 6–23 months.³⁴

FIGURE 11

NUMBER OF CAREGIVER REFERENCES TO SPECIALISED NUTRITION PRODUCTS, BY LOCATION AND SOCIOECONOMIC STATUS

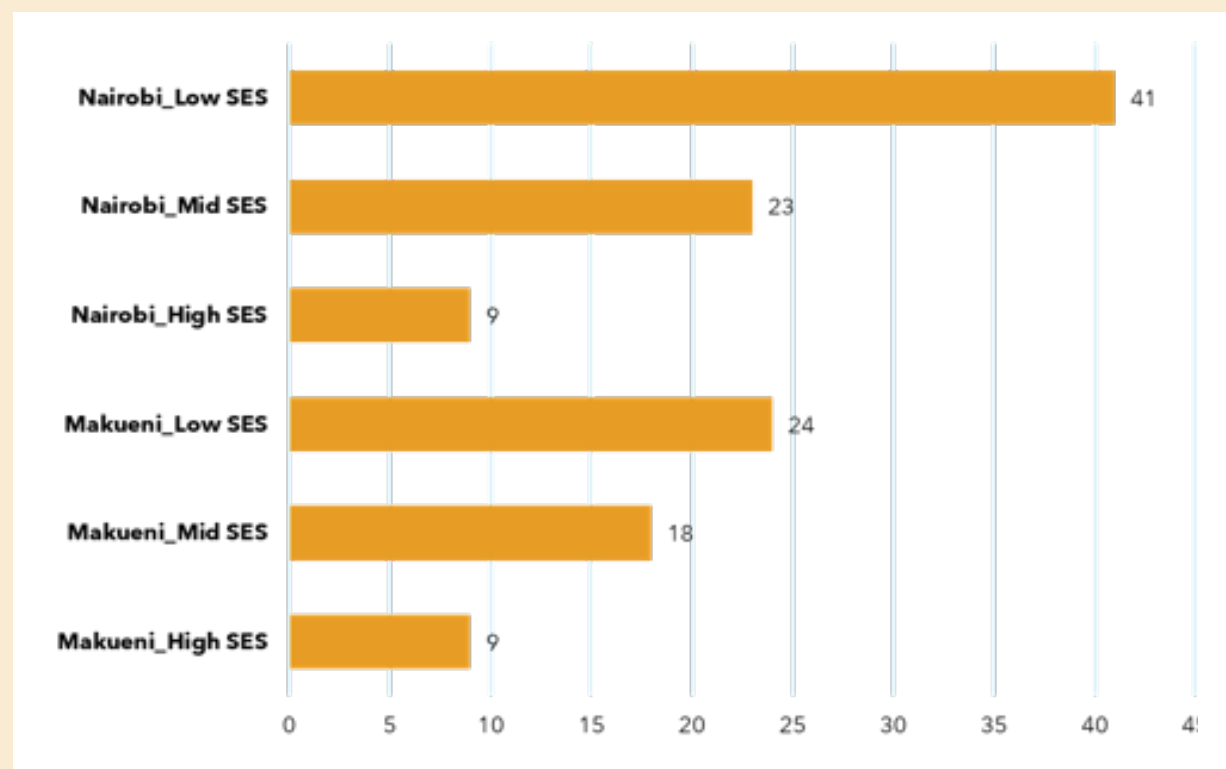


TABLE 2

REPORTED USE OF SPECIALISED NUTRITION PRODUCTS AMONG CAREGIVERS, BY LOCATION AND SOCIOECONOMIC STATUS

Location	Socioeconomic status	Number of caregivers reporting SNP use	Types of SNPs reported
Makueni	High	3	LNS (prescribed or obtained through informal donations ^s)
	Middle	4	LNS and FBF (prescribed or purchased in informal market)
	Low	4	LNS and FBF (prescribed; one instance of LNS purchased in informal market)
Nairobi	High	0	No mention of SNP use
	Middle	7	LNS, FBF and MNP (prescribed)
	Low	7	LNS and MNP (prescribed; two instances of LNS purchased in informal market)

^s Informal donations refer to donations of LNS products received through non-organised channels, including from friends, acquaintances, or during group meetings and gatherings held at healthcare facilities.

While overall use was low, caregivers—particularly in Makueni—expressed interest in SNPs and associated them with improved child health, suggesting potential openness to preventive products, including SQ-LNS, if they became available. One caregiver of low socioeconomic status in Makueni noted:

“I would love to give it [LNS] to my child if they are rich and good for his body, but I’ve never seen them.”

This gap in awareness, alongside indications of caregiver interest, is particularly important, as stakeholders noted that the Kenya Nutrition Action Plan 2023–2027 will include the use of SQ-LNS as a targeted intervention to address child wasting, in line with the 2023 WHO guidelines.³⁵ Early efforts to implement this are already underway. Action Against Hunger Kenya is currently piloting the provision of SQ-LNS in Isiolo County—a high-risk setting where the prevalence of global acute malnutrition remains above emergency thresholds. The programme combines a 14-day supply of SQ-LNS with routine follow-up to monitor children’s nutritional status and progress.^{36,37} Together, these developments signal growing institutional interest in preventive approaches but also highlight the need to align policy ambition with demand generation, system readiness, and sustainable supply. Ensuring appropriate distribution and use will be particularly important given existing challenges in the SNP landscape.

The presence of SNPs in informal markets raises concerns about supply chain controls and appropriate use. Experts from Action Against Hunger Kenya highlighted the diversion of donor-supplied commodities—intended for distribution through health facilities—into informal markets within Kenya and across borders. Caregivers and HCPs also reported that therapeutic products—particularly RUTF—were available for purchase in local shops, especially in Nairobi. Although less common, such reports were also noted in Makueni; for example, a HCP serving a low socioeconomic community reported:

“You may find children in the plots eating the Plumpy Nuts^t ...they say that they buy them in the shops. So, it would be nice if the government looks at that.”

In addition, stakeholders noted concerns that some locally produced and imported products marketed as SNPs and available in retail settings may not align with the specifications used by institutional nutrition programmes.

These findings point to risks of misuse of therapeutic products outside clinical supervision, as well as challenges in distribution systems and potential concerns regarding product quality. According to an expert at the World Food Programme (WFP) Kenya, measures are being implemented in response to these challenges to strengthen supply chain controls. These include routine market assessments at national and county levels to monitor the presence of SNPs in retail settings, the confiscation of unauthorised products, and strengthened security across the supply chain—particularly in storage facilities to prevent break-ins. Complementing these monitoring and enforcement activities, WFP and UNICEF jointly implemented social media campaigns in 2024–2025 to raise community awareness of the importance of therapeutic nutrition commodities, emphasising that these products are intended for medically supervised use and should not be bought or sold in local markets. Such efforts are particularly important in the context of introducing or scaling up preventive interventions such as SQ-LNS, where clear guidance on appropriate use and distribution pathways will be essential.

In Kenya, SNPs are supplied by a mix of local and international producers (Table 3). Several local and regional manufacturers are already producing therapeutic and supplementary products at scale, positioning them as potential candidates for future local production of SQ-LNS. Early pilots are already underway among local manufacturers, including one with Insta Products Limited which is an approved UNICEF supplier. Stakeholders highlighted significant regulatory, technical, and market barriers to local SQ-LNS production and scale-up. SQ-LNS production requires high volumes to be commercially viable, dedicated production lines, and technically complex formulations. Unlike RUTF and RUSF (typically ~100g per sachet), SQ-LNS must achieve a precise nutrient profile within a small 20g sachet, making production more complex.

^t Plumpy’Nut is a peanut-based RUTF, manufactured by Nutriset, for treatment of severe acute malnutrition.

Reliance on institutional buyers further impacts market development, particularly in the context of declining global procurement driven by funding constraints. SNP manufacturers also face duties and taxes on nutrition products, increasing costs and limiting procurement by health facilities.

These findings suggest that, despite growing policy momentum and caregiver interest, the effective introduction of preventive products, such as SQ-LNS, will depend on addressing gaps in awareness, strengthening distribution controls, and supporting sustainable market development. This includes clear product standards with effective regulatory oversight, predictable procurement demand, and policies that reduce cost barriers across the supply chain.

TABLE 3
SPECIALISED NUTRITION PRODUCTS AND KEY SUPPLIERS IN KENYA

Company	HQ	Brand	Global product portfolio
Delish and Nutri	Kenya	VitaNut	RUSF*
Equatorial Nut Processors	Kenya	Equatorial Health	RUSF, RUTF, FBF (cereals blends, corn-soy blends, Super Cereal Plus, Super Cereal Plus Plus)
Insta Products Limited	Kenya	-	RUTF*, RUSF*, SQ-LNS*, MQ-LNS*
NuFlower	India	NutriFEEDO™	SQ-LNS, MQ-LNS, RUTF, RUSF
Nutriset	France (PlumpyField Network countries include Ethiopia, Sudan, Madagascar)	Plumpy'Nut®, Plumpy'Sup™, PlumpyDoz, Enov'Nutributter®	SQ-LNS, MQ-LNS, RUTF, RUSF
Soy Afric	Kenya	Unimix, corn-soy blend	FBF* (fortified corn-soy blend)
Prosoya Kenya Limited	Kenya	Unimix, Jazia, Ujilala	FBF (fortified corn-soy blend)*, fortified blended porridge*

* Indicates that the product is available in Kenya.

Note: Product availability in Kenya could not be fully verified for Equatorial Nut Processors, NuFlower, and Nutriset; however, both NuFlower and Nutriset previously confirmed that they do not supply SQ-LNS in Kenya.

WHAT DO THESE FINDINGS MEAN?

FOCUS ON FEEDING PRACTICES AND FOOD ENVIRONMENTS

This research complements broader initiatives such as UNICEF's First Foods Africa programme, which recognises that improving children's food environments is an important pathway towards reducing malnutrition, including stunting and wasting. By integrating dietary intake data, qualitative research, market assessments, and company perspectives, the study provides a more comprehensive understanding of how household practices, food environments, and market systems interact to shape young children's diets in Kenya. It addresses important evidence gaps regarding the contribution of commercial foods to young children's diets in Kenya, while also generating company-level insights that can help inform product reformulation, responsible marketing practices, investment decisions, and broader policy efforts to ensure healthier foods for young children.

A particular feature of this research is that it was conducted in both Makueni and Nairobi. Many of the key nutritional challenges identified—including reliance on starchy staples, inadequate protein and fat intake, exposure to sugary foods and limited consumption of nutrient-dense foods—were observed across both settings. This suggests that many complementary feeding challenges are shared across rural and urban Kenya, although the factors driving them may differ according to local food environments.

Consistent with WHO guidance and national recommendations, home-prepared foods remain the foundation of young children's diets. Children in both Makueni and Nairobi generally met energy requirements, primarily through their carbohydrate intake. Protein and fat requirements were not met across all age groups, and these gaps are likely to be even greater among more food insecure populations. Therefore, the findings suggest that the main challenge is insufficient nutrient density, not insufficient

food consumption. While wasting is influenced by multiple factors, recent evidence has identified inadequate protein intake as an important determinant of wasting among young children, underscoring the importance of providing nutrient-dense and protein-rich foods during the complementary feeding period.³⁸

Caregivers consistently expressed strong aspirations to support their children's growth and health and generally recognised the importance of nutritious foods. However, feeding decisions were frequently constrained by affordability, convenience, food availability, sociocultural norms, and children's food preferences, echoing findings from previous studies in Kenya. This was particularly evident in the contrast between reported and observed feeding practices. Many caregivers described sugary foods and beverages as foods they sought to avoid, yet dietary recall data revealed widespread consumption of these foods. This suggests that caregivers generally understand recommended feeding practices, but that feeding behaviours are shaped by a range of factors that extend beyond knowledge alone.

Photo Credit: WVI



COMMERCIAL FOODS ARE INCREASINGLY PART OF YOUNG CHILDREN'S DIETS

Commercial foods were often perceived as nutritious, convenient, and beneficial for children's health and development, consistent with findings from a recent study in Nairobi.³⁹ Most children consumed some form of commercial food, although only a small proportion consumed CCF. Nevertheless, taken together with recent evidence of widespread caregiver-reported use of CCF in Nairobi, these findings suggest that commercial foods are becoming increasingly common in young children's diets in Kenya.¹¹

This trend appears particularly relevant for lower-income households, where commercial foods contributed a greater share of energy intake, underscoring the importance of understanding both their nutritional benefits and potential risks. On the one hand, they contributed meaningfully to protein and fat intake and may therefore help address some nutrient gaps where access to nutrient-dense foods remains constrained. On the other hand, they also accounted for a substantial share of less healthy foods and beverages consumed by children, including sweetened snacks and sugary drinks, which may displace more nutritious foods within the diet.

This is particularly concerning given growing evidence linking unhealthy snack food consumption with an increased risk of nutrient inadequacy and adverse growth outcomes.⁴⁰ Previous research from urban slums in Kenya has also reported associations between the consumption of commercial foods and child wasting.⁴¹ The prominence of commercial foods among lower-income households, combined with recent evidence showing relatively high consumption of sweetened beverages among children experiencing severe child food poverty, suggests that improving the nutritional quality and responsible marketing of commercial foods may represent an important opportunity to support the diets and nutritional outcomes of vulnerable children.^{42,u}

^u UNICEF defines child food poverty as children's inability to access and consume a nutritious and diverse diet in early childhood (i.e., the first five years of life).

THE GROWING CCF MARKET PRESENTS BOTH OPPORTUNITIES AND RISKS

With regard to CCF, global public health guidance recognises that appropriately formulated CFs can help address nutrient gaps when consumed alongside continued breastfeeding and diverse home-prepared diets. In addition, fortified cereals may provide essential micronutrients through food formats already familiar to caregivers.^{1,14}

This is particularly relevant given the projected growth of the CCF market in Kenya.¹² Compared with previous assessments of CCF in Kenya, this research identified a larger number of products and companies operating in the Kenyan market, likely reflecting continued market expansion. However, it remains unclear whether some products identified through online channels represent officially distributed products or parallel imports.

In addition, important concerns remain regarding the nutritional quality and labelling of many CCF currently on the market. While none of the products met all NPPM labelling requirements, 53% of global companies' CCF met all NPPM nutritional requirements, whereas none of the local or regional CCF assessed did, consistent with findings reported by UNICEF in 2025.¹⁸ Local CCF, however, were often more affordable and accessible than imported alternatives, suggesting that local manufacturers may be well positioned to improve access to nutritious foods for young children. Interviews with local companies highlighted the difficulties of balancing affordability with nutrient density, product acceptability, and production costs.

Strengthening the contribution of local companies to child nutrition would therefore require an enabling environment that supports product reformulation, fortification, proper labelling and serving instructions, innovation, and sustainable production while maintaining affordability and accessibility. This includes supporting innovations that address key nutritional gaps identified in this research, such as protein-enriched fortified porridges and the use of fermentation-derived protein ingredients, while also generating evidence on their safety, suitability, and effectiveness for young children.

STRONG POLICIES EXIST, BUT IMPLEMENTATION GAPS REMAIN

Kenya has one of the stronger policy environments for infant and young child feeding in the region, including breastfeeding legislation, complementary feeding guidance, and standards governing CCF food composition and labelling, which together provide an important foundation for supporting healthier diets among older infants and young children.⁴³

However, the findings suggest that important implementation gaps remain. Several CCF did not meet energy density requirements, many would require high sugar warning labels, and most lacked the required messages to protect and promote optimal breastfeeding practices. In addition, some products lacked the nutritional information to complete the assessment, provided unclear preparation instructions that could dilute energy and nutrient density (e.g. through excessive water addition), or encouraged the addition of sugar, thereby undermining the nutritional quality of foods prepared for young children. Addressing these gaps will require not only stronger enforcement but also greater awareness among industry actors and other stakeholders involved in early childhood nutrition of the policies and standards that apply to CCF, including how these should be interpreted and implemented in practice.

Periodic review of existing national policies, guidelines, and standards is also important, to ensure alignment with evolving international guidance. Equally important is creating an enabling environment that supports the availability of affordable, nutrient-dense foods through appropriate incentives, financing mechanisms, and technical assistance, particularly for smaller manufacturers.

CONCLUSION

Healthy home-prepared and traditional foods should remain the foundation of complementary feeding, but in a rapidly changing food environment, commercial foods are likely to play a greater role in shaping young children's diets in the future. Given ongoing policy developments and growing attention to wasting prevention in Kenya, the findings provide timely evidence to inform future action.

Strengthening complementary feeding requires not only empowering caregivers but also improving access to nutrient-dense foods through a combination of diverse, home-prepared diets and appropriately formulated, fortified CCF with clear labels that support optimal child feeding practices. Improving these measures has the potential to benefit large numbers of children and represents an important complement to more targeted nutrition interventions. In settings where food insecurity and nutritional deficiencies persist, specialised nutrition interventions such as SQ-LNS may have a complementary role in preventing malnutrition alongside continued breastfeeding and diverse diets.

Ultimately, improving young children's diets in Kenya will require coordinated action to support caregivers, strengthen food environments, and improve industry and policy practices. Doing so will support healthy growth and development during the first 1,000 days, contribute to the prevention of malnutrition in all its forms, including wasting and stunting, and create lasting benefits for children's health and future opportunities into adulthood.



RECOMMENDATIONS

To Improve the Commercial Food Environment for Young Children in Kenya

FOR CCF MANUFACTURERS

Improve the nutritional quality and responsible marketing of commercial foods and beverages commonly consumed by young children, including products not specifically intended for infant and young child feeding. With regard to CCF:

- **Improve the nutritional quality, labelling, and responsible marketing of CCF** in line with national standards and guidelines, and the latest WHO recommendations (see Box 4), including by:
 - improving energy density;
 - limiting total sugar content;
 - strengthening preparation guidance to support optimal nutrient density; and
 - ensuring labels include messages that support optimal breastfeeding practices, including the introduction of CFs from six months of age and continued breastfeeding up to two years of age or beyond.
- **Enhance transparency through clearer and more complete nutrition labelling**, including disclosure of sodium, sugar, and micronutrient content.
- **Strengthen product traceability and distribution controls** to reduce the risk of products entering unofficial sales channels.
- **Invest in the development of affordable, nutrient-dense foods that address key nutritional gaps** identified in this research (e.g. low protein and fat intake among young children), while remaining accessible to households across income groups, particularly lower-income households.

BOX 4 EXISTING RESOURCES TO SUPPORT INDUSTRY ACTION

In addition to the resources outlined in Box 5, the following resources can support companies seeking to improve the nutritional quality, labelling, and responsible marketing of CCF:

- GAIN's Manual for the Manufacture of Complementary Foods in Kenya (2020)

This manual serves as a practical resource for local manufacturers, offering detailed instructions on the formulation, fortification, and quality control of CFs in line with Kenya's regulatory framework. It includes guidance on nutrient specifications, safe processing practices, packaging and labelling requirements, and strategies to ensure affordability and accessibility of fortified CFs for Kenyan households. It also emphasises compliance with national standards and alignment with global best practices to improve child nutrition outcomes.⁴⁴

- UNICEF's Guide for Manufacturers on Ensuring Quality and Safety of Commercially Produced Complementary Foods (2025)

Based on international standards and guidelines, the manufacturer's guide provides practical guidance for the development of CCF. It covers the definition and categorisation of CCF, the selection, handling, and storage of raw materials, nutrient composition requirements, processing techniques to improve protein and micronutrient absorption, hygiene and food safety requirements, and labelling requirements.⁴⁵

FOR POLICYMAKERS

1 Strengthen the policy and regulatory environment for foods consumed by young children

- **Align the scope and requirements of the Kenyan national standards governing the composition and labelling of CCF** with evolving international guidance (see Box 5), while ensuring that all products intended for children aged 6-36 months are included within the scope of the standards (see Box 5).⁴⁶⁻⁴⁸
- **Strengthen the Kenya Breastmilk Substitutes (Regulation and Control) Act 2012**, in line with the latest WHO guidance, by clearly defining CCF and expanding provisions governing the marketing of CCF to children aged 6-36 months.
- **Strengthen enforcement of existing CCF regulations and standards**, including:
 - Requiring products to display on-pack nutrition information (covering both macro- and micronutrients) in English and/or Swahili and clear preparation instructions aligned with public health guidance to avoid added sugar and support adequate nutrient intake among young children;
 - Ensuring that no products—whether locally produced or imported—are marketed for infants under six months of age.
- **Improve awareness among manufacturers, distributors, retailers, and other stakeholders regarding the policies and standards applicable to CCF** and how they should be implemented in practice.
- **Strengthen monitoring of CCF parallel imports and unofficial sales channels**, including unregulated SNPs.
- **Strengthen national nutrition data and monitoring systems**, including updating the Kenya Food Composition Tables to include total and added sugar values and expanding routine monitoring of commercial foods consumed by young children.
- **Support local manufacturers in producing affordable, nutrient-dense foods for young children** through appropriate policies, incentives, and technical assistance, including targeted subsidies and streamlined KEBS certification processes to lower the costs associated with nutrient testing and product registration.
- **Implement broader food environment policies recommended in ATNi's [Kenya East Africa Market Assessment](#)**, including measures to improve nutrition labelling, promote healthier food products, and ensure proper fortification practices, recognising that young children consume a range of commercial foods and beverages beyond CCF.

BOX 5 EXISTING RESOURCES TO SUPPORT POLICY & REGULATORY ACTION

Several resources are available to support policymakers seeking to strengthen the nutritional quality, labelling, and responsible marketing of CCFs, including:

- UNICEF Compendium of International Standards and Guidelines for the Improved Composition and Labelling of Commercially Produced Complementary Foods in Southeast Asia (2023)⁴⁹
- WHO NPPM: supporting appropriate promotion of food products for infants and young children 6-36 months in the WHO European Region (2022)¹⁵
- WHO Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children (2017)⁵⁰
- WHO International Code of Marketing of Breastmilk Substitutes and subsequent World Health Assembly resolutions⁵¹
- WHO Guideline for Complementary Feeding of Infants and Young Children 6-23 Months of Age (2023)¹
- WHO Guideline on the Prevention and Management of Wasting and Nutritional Oedema (Acute Malnutrition) in Infants and Children under 5 Years (2023)³⁵

2 Support healthier complementary feeding practices

- **Update and strengthen Kenya's complementary feeding guidance** to promote the consumption of nutrient-dense foods and discourage fried, salty and sweet foods and beverages, whether home-prepared, commercially packaged, or purchased outside the home.
- **Improve caregiver awareness of how to prepare foods that meet young children's energy and nutrient needs** by providing practical guidance on appropriate preparation methods, including the use of healthy ingredients (e.g. milk, peanut butter, fortified flour) in porridges and other commonly consumed foods, while limiting the addition of sugar.
- **Strengthen caregiver understanding of nutrition information through targeted evidence-based communication and education** delivered via digital platforms, schools, healthcare facilities, community centres, and nutrition programmes, enabling caregivers to make informed purchasing and feeding decisions.
- **Provide evidence-based guidance on the appropriate use of SNPs**, including SQ-LNS, for the prevention of malnutrition in food insecure settings, alongside continued breastfeeding and diverse home-prepared diets.

FOR INVESTORS

- **Prioritise investments in companies that demonstrate commitment and progress in the nutritional quality and responsible marketing of CCF**, in line with national requirements and global guidance.
- **Assess existing and prospective investments for their potential impact on nutrition**, including child nutrition, and apply nutrition-sensitive investment approaches to maximise positive nutrition outcomes and minimise nutrition-related risks.

[ATNi's Impact Investing Guide](#) and the [Little Book of Nutrition Finance](#) by Scaling Up Nutrition (SUN) Movement and ATNi provide practical guidance on integrating nutrition considerations into investment decision-making.

- **Use independent nutrition and marketing assessments and evidence to guide engagement with companies** and support continuous improvement.
- **Identify opportunities for investments in new technologies and innovations** that deliver healthier affordable foods for young children.

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APPENDIX

Appendix 1 List of interviewed companies

Company category	Company name	Key products and opportunities
CCF producer	Unga Group Limited	Fortified flour and porridges, including weaning products. Protein-enriched fortified porridge in development.
CCF producer	Flour Fusion Millers	Fortified maize flour and porridge blends, including finger millet weaning porridge.
CCF producer	Shushan Acres	Sweet potato-based baby porridge mix with sorghum, millet and amaranth.
CCF producer	Nature's Health Limited	Toto Afya baby weaning porridge, alongside adjacent porridge/flour products.
CCF adjacent producer	Capwell Industries Limited	Fortified rice/staples, porridge/uji-related products, ready-to-eat meals and nutrition-differentiated biscuits. Foods for young children identified as a potential future market, including wholegrain porridges, extruded porridges, and puffed-millet snacks for children.
CCF adjacent producer	TenX Nutrition	Fortified everyday foods, primarily Mandazi POWER. Potential future expansion into fortified porridge/uji products.
CCF adjacent producer	Delish and Nutri	Peanut powder (used in school porridge) and high-iron beans. Also producing RUSF.
Ingredient supplier	Essential Impact	Protein powder produced through biomass/fungal fermentation. Initial applications include porridge, wheat flour for <i>chapati</i> and <i>mandazi</i> , wholegrain maize flour for <i>ugali</i> , seasoning/stock cube formats and milk-powder replacement.
LNS producer	Insta Products	Producer of RUTF, RUSF and SQ-LNS.

Appendix 2 Number of CCF identified in the Kenyan market, and included in the NPPM assessment, by company

Company name	HQ	Number of products identified	Number of products assessed against the NPPM
Africa Improved Foods	Rwanda	1	0
Brown's Food Co.	Kenya	1	1
Butto Foods	Kenya	1	0
Carrefour Kenya/ Majid al Futtaim	UAE	6	6
Danone	France	16	15
Flour Fusion Millers	Kenya	1	0
Food Innovation Industries	Egypt	2	2
Forna Health Foods Limited	Uganda	2	1
Hain Celestial	United Kingdom	29	12
Hero	United Kingdom	38	17
HiPP	Germany	17	8
Holle N�hrmittel AG	Germany	7	7
Kirinyaga Flour Mills	Kenya	1	0
Kraft Heinz	USA	6	3
Lishe Bora Kenya	Kenya	2	0
Live Life Well	Kenya	1	1
Long Life Natural Foods	Tanzania	1	1
Manna Foods	India	4	4
Mican Foods	Kenya	4	2
Nature's Health Limited	Kenya	1	0
Nestl�	Switzerland	3	2
Peafoods	Kenya	3	0
Proctor & Allan	Kenya	2	1
Shushan Acres	Kenya	1	0
Soy Afric	Kenya	2	0
Stawi Foods and Fruits	Kenya	1	0
Tiger Brands	South Africa	4	1
Unga Ltd	Kenya	2	2
Winnie's Pure Health	Kenya	2	1
		161	87

Appendix 3 Results of the number of products that require a high sugar front-of-pack warning label, by company and product category

Company	Category	Front-of-pack warning label required (n=64)
Brown's Food	Snacks	N/A
Carrefour	Dairy	0/1
	Fruit and vegetables	1/1
	Meals	N/A
Danone	Cereals	0/8
	Fruit and vegetables	7/7
Forna Health Foods	Cereals	0/1
Hain Celestial	Fruit and vegetables	9/10
	Meals	N/A
Hero	Fruit and vegetables	5/5
	Snacks	N/A
HiPP	Cereals	0/1
	Fruit and vegetables	2/3
	Meals	N/A
Holle	Cereals	0/5
	Fruit and vegetables	1/2
Kraft Heinz	Cereals	0/3
Live Life Well	Cereals	1/1
Long Life Natural Foods	Cereals	1/1
Manna Foods	Cereals	0/4
Mican Foods	Cereals	2/2
Nestlé	Cereals	2/2
Proctor & Allan	Cereals	1/1
Food Innovation Industries	Fruit and vegetables	2/2
Tiger Brands	Fruit and vegetables	1/1
Unga Ltd.	Cereals	2/2
Winnie's Pure Health	Cereals	0/1
TOTAL % (n)		59% (38)

Note: Criteria were assessed according to the [WHO Europe Nutrient and Promotion Profile Model \(NPPM\) for commercial foods for infants and young children](#). Products not subject to a specific criterion are indicated as N/A (not applicable).

Appendix 4 Results of the NPPM nutrient assessment, by company and product category

Company	Product Category	Criteria applied to all product categories (n=87)				Criteria assessed for specific product categories			
		Met all nutrient composition requirements	Met sodium thresholds	With no added free sugar/ sweetener	Met total fat thresholds (no trans)	With <15% total energy from total sugar (n=23)*	Met total protein (g/100 kcal) & protein weight threshold (n=22)*	Met energy density threshold (n=87)*	Met applicable fruit content threshold (n=46)*
Brown's Food	Snacks	0/1	0/1	0/1	1/1	0/1	N/A	0/1	N/A
Carrefour	Dairy	0/1	0/1	0/1	1/1	N/A	N/A	1/1	1/1
	Fruit and vegetables	0/1	0/1	1/1	1/1	N/A	N/A	0/1	1/1
	Meals	3/4	4/4	4/4	4/4	3/4	4/4	4/4	4/4
Danone	Cereals	8/8	8/8	8/8	8/8	N/A	5/5	8/8	8/8
	Fruit and vegetables	5/7	7/7	7/7	7/7	N/A	N/A	5/7	N/A
Forna Health Foods	Cereals	0/1	1/1	1/1	1/1	N/A	N/A	0/1	1/1
Hain Celestial	Fruit and vegetables	4/10	10/10	6/10	10/10	N/A	N/A	6/10	1/1
	Meals	0/2	2/2	2/2	2/2	1/2	0/2	1/2	1/2
Hero	Fruit and vegetables	1/5	5/5	5/5	5/5	N/A	N/A	1/5	1/2
	Snacks	2/12	12/12	4/12	12/12	7/12	1/1	4/12	N/A
HiPP	Cereals	1/1	1/1	1/1	1/1	N/A	N/A	1/1	1/1
	Fruit and vegetables	1/3	3/3	3/3	3/3	N/A	N/A	1/3	1/3
	Meals	3/4	4/4	4/4	4/4	3/4	4/4	4/4	4/4
Holle	Cereals	5/5	5/5	5/5	5/5	N/A	1/1	5/5	5/5

	Fruit and vegetables	2/2	2/2	2/2	2/2	N/A	N/A	2/2	N/A
Kraft Heinz	Cereals	3/3	3/3	3/3	3/3	N/A	3/3	3/3	3/3
Live Life Well	Cereals	0/1	0/1	1/1	1/1	N/A	N/A	0/1	0/1
Long Life Natural Foods	Cereals	0/1	Missing sodium content	1/1	1/1	N/A	N/A	0/1	1/1
Manna Foods	Cereals	1/4	3/4	2/4	4/4	N/A	N/A	4/4	2/4
Mican Foods	Cereals	0/2	1/2 products missing sodium content	2/2	2/2	N/A	N/A	0/2	2/2
Nestlé	Cereals	0/2	1/2	0/2	2/2	N/A	2/2	2/2	1/2
Proctor & Allan	Cereals	0/1	Missing sodium content	1/1	1/1	N/A	N/A	0/1	1/1
Food Innovation Industries	Fruit and vegetables	1/2	2/2	2/2	2/2	N/A	N/A	1/2	N/A
Tiger Brands	Fruit and vegetables	0/1	1/1	0/1	1/1	N/A	N/A	0/1	N/A
Unga Ltd.	Cereals	0/2	1/2 products missing sodium content	1/2	2/2	N/A	N/A	0/2	0/2
Winnie's Pure Health	Cereals	0/1	Missing sodium content	1/1	1/1	N/A	N/A	1/1	1/1
TOTAL % (n)		46% (40)	85% (74)	77% (67)	100% (87)	61% (14)	91% (20)	62% (54)	85% (39)

Note: Criteria were assessed according to the [WHO Europe Nutrient and Promotion Profile Model \(NPPM\) for commercial foods for infants and young children](#). Some criteria apply only to specific product categories and are marked with an asterisk (*). Detailed thresholds, eligibility criteria, and category-specific requirements are described in the [WHO NPPM guidance](#). Products not subject to a specific criterion are indicated as N/A (not applicable).

Appendix 5 Results of the NPPM labelling assessment, by company and product category

Company	Product Category	All labelling criteria	Any claim	Upper age (n=41)*	Lower age	Product name clarity	Ingredient list clarity	Promotion and protection of breastfeeding	Instructions not to consume soft foods via pack spout (n=29)*
Brown's Food	Snacks	0/1	0/1	N/A	1/1	1/1	0/1	0/1	N/A
Carrefour	Dairy	0/1	0/1	N/A	1/1	1/1	1/1	0/1	0/1
	Fruit and vegetables	0/1	0/1	0/1	0/1	1/1	0/1	0/1	N/A
	Meals	0/4	0/4	0/4	4/4	4/4	0/4	0/4	N/A
Danone	Cereals	0/8	0/8	N/A	3/8	8/8	8/8	0/8	N/A
	Fruit and vegetables	0/7	0/7	0/7	7/7	7/7	0/7	0/7	0/7
Forna Health Foods	Cereals	0/1	1/1	N/A	0/1	1/1	0/1	0/1	N/A
Hain Celestial	Fruit and vegetables	0/10	0/10	0/10	6/10	4/10	8/10	0/10	5/10
	Meals	0/2	0/2	0/2	2/2	2/2	0/2	0/2	0
Hero	Fruit and vegetables	0/5	0/5	0/5	5/5	4/5	5/5	0/5	5/5
	Snacks	0/12	0/12	N/A	12/12	8/12	12/12	0/12	N/A
HiPP	Cereals	0/1	0/1	N/A	1/1	1/1	1/1	0/1	N/A
	Fruit and vegetables	0/3	0/3	0/3	3/3	2/3	1/3	0/3	N/A
	Meals	0/4	0/4	0/4	4/4	2/4	0/4	0/4	N/A
Holle	Cereals	0/5	0/5	N/A	5/5	5/5	5/5	0/5	N/A
	Fruit and vegetables	0/2	0/2	0/2	2/2	2/2	2/2	0/2	2/2
Kraft Heinz	Cereals	0/3	0/3	N/A	3/3	3/3	3/3	3/3	N/A

Live Life Well	Cereals	0/1	0/1	N/A	1/1	1/1	0/1	0/1	N/A
Long Life Natural Foods	Cereals	0/1	0/1	N/A	1/1	1/1	0/1	0/1	N/A
Manna Foods	Cereals	0/4	0/4	N/A	4/4	3/4	1/4	0/4	N/A
Mican Foods	Cereals	0/2	0/2	N/A	2/2	2/2	0/2	0/2	N/A
Nestlé	Cereals	0/2	0/2	N/A	2/2	2/2	0/2	0/2	N/A
Proctor & Allan	Cereals	0/1	0/1	N/A	1/1	1/1	0/1	0/1	N/A
Food Innovation Industries	Fruit and vegetables	0/2	0/2	0/2	2/2	2/2	2/2	0/2	0/2
Tiger Brands	Fruit and vegetables	0/1	0/1	0/1	1/1	1/1	0/1	1/1	N/A
Unga Ltd.	Cereals	0/2	0/2	N/A	2/2	2/2	0/2	0/2	N/A
Winnie's Pure Health	Cereals	0/1	0/1	N/A	1/1	1/1	0/1	0/1	N/A
TOTAL % (n)		0% (0)	0% (0)	0% (1)	87% (76)	83% (72)	56% (49)	5% (4)	41% (12)

Note: Criteria were assessed according to the [WHO Europe Nutrient and Promotion Profile Model \(NPPM\) for commercial foods for infants and young children](#). Some criteria apply only to specific product categories and are marked with an asterisk (*). Detailed eligibility criteria and category-specific requirements are described in the [WHO NPPM guidance](#). Products not subject to a specific criterion are indicated as N/A (not applicable).