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Fill the Nutrient Gap Colombia

Report

December 2023

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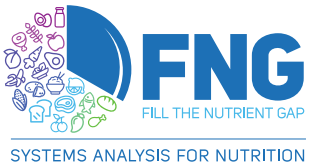

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Executive Summary

Colombia is faced with a complex nutritional situation characterized by the coexistence of undernutrition, micronutrient deficiencies, overweight and obesity, which affects the population throughout its lifetime. Moreover, since 2015, Colombia is the country that has taken in the largest number of migrants from Venezuela, which has posed a challenge for the government, civil society and humanitarian actors in the country.

Given the need to tackle malnutrition in all its forms, within the framework of the National Development Plan 2022-2026, Colombia incorporated the transition from the concepts of food and nutrition security to the human right to food, which is based on three pillars:

1. availability of food in all regions of the country; 2. accessibility of households to the food they require; and 3. adaptation of practices and habits according to nutritional needs during the life cycle.

In order to contribute to evidence regarding the barriers that households face in each of these three pillars, the World Food Programme (WFP) has worked with technical partners and experts in Colombia to perform the Fill the Nutrient Gap (FNG) analysis. By focusing on the consumption of adequate food and nutrients, the FNG analysis seeks to increase common understanding of gaps in access to nutritious diets. The objective of this analysis is to generate evidence for actions, policies and programmes aimed at improving access to healthy food and improving the nutrition situation for the entire population, especially groups with greater gaps in access. The analysis was carried out at the national level and included a focus on Venezuelan migrant households.

The FNG implementation process involved actors from different sectors, creating spaces for discussion and coordination to identify areas of opportunity and potential multisectoral strategies to promote adequate availability, accessibility and adaptation of diets that contribute to improving the food and nutrition security of the population.

Methodology and process

The FNG analysis process in Colombia began in October 2022 and ended in July 2023. It was led by WFP's country office in Colombia, with technical assistance from the Systems Analysis for Nutrition team located at the WFP headquarters in Rome, and the Regional Bureau for Latin America and the Caribbean in Panama. For the consultation and analytical support, a Technical Working Group (TWG) composed of national government entities was formed.

The analysis has two components:

1. A review of secondary information about the different factors that could have an effect on people's diets.
2. A cost-of-diet analysis using the ENHANCE linear programming platform that includes diet modelling to understand how economic barriers hinder access to nutritionally adequate diets. The analysis includes modelling of different interventions that can contribute to improving economic and physical access to food.

Both components are integrated to gain a better understanding of the obstacles faced by individuals in a specific context and to identify possible entry points and interventions with the potential to close the gaps in nutrient intake.

The results of the FNG analysis are organized into key messages, and were discussed and validated with the TWG and actors from the 1. private sector, 2. international organizations and 3. academia. These actors developed recommendations based on the evidence generated by the analysis, contrasted with the international and national evidence found.

Key messages

1. Colombia faces the triple burden of malnutrition. **Chronic malnutrition among girls and boys under 5 years of age persists, as do micronutrient deficiencies in children and women.** At the same time, overweight, obesity and non-communicable diseases in children, adolescents and adults continue to rise.

2. As of December 2022, **the nutritious diet for the modelled household would cost on average COP 20,499 a day.** This cost is more than twice that of the energy-only diet.

3. The cost of a **nutritious diet increased by 11 percent from December 2020 to December 2021, and by more than 30 percent from December 2021 to December 2022.** Vulnerable households have had to implement coping strategies in the face of rising food prices, increasing their risk of food and nutrition insecurity.

4. **As of December 2022, it was estimated that four in 10 households did not have economic access to a nutritious diet and one in 10 did not have access to an energy-only diet.** Lack of economic access indicates an increased risk of malnutrition, especially for individuals in vulnerable situations.

5. Exclusive breastfeeding decreased from 43 percent in 2010 to 37 percent in 2016, and continued breastfeeding from 45 percent to 42 percent respectively. **Without the inclusion of breast milk, the cost of a nutritious diet for a child aged between 12 and 24 months would increase by more than 50 percent.** There are also opportunities to improve the indicators for infant and young child feeding practices.

6. **Early childhood care programmes substantially reduce the cost of the nutritious diet, thus decreasing the risk of stunting, acute malnutrition** and micronutrient deficiencies, although there is little information about their efficacy and effectiveness in preventing malnutrition in the medium and long term.

7. Micronutrients supplementation and comprehensive early childhood care programmes that include maternal and child care can effectively help reduce the risk of malnutrition for pregnant and breastfeeding women. However, strengthening and increasing coverage remains a challenge.

8. **Adolescents are at greater risk of malnutrition because they have high requirements for limiting nutrients, such as calcium.** Adolescent girls also have high iron requirements. More evidence is needed regarding programmes that specifically target adolescent nutrition.

9. **Food fortification has the potential to facilitate access to nutrients that households need for adequate nutrition.** Its impact is greatest among the most vulnerable households, with diets based primarily on basic staple foods.

10. **Cash transfers,** as part of social protection or humanitarian programmes, **have the potential to improve economic access to nutritious diets and help close affordability gaps.** To fulfil their objective, transfer values must be adjusted to the inflationary reality in the country.

11. Given the current **global food crisis and the triple burden of malnutrition that Colombia is facing, coordinated multisectoral actions are needed** to enable vulnerable households to access a package of interventions to ensure their human right to healthy food.

Focus on Migrant Households

In the context of the migration phenomenon that Colombia has experienced in recent years and the national government's commitment to protect human rights, WFP has worked together with technical partners and experts in Colombia to include in the FNG analysis a focus on the Venezuelan population in Colombia. The main findings were as follows:

- More than half of Venezuelan migrant households do not have economic access to a nutritious diet and nearly two in 10 do not have economic access to an energy-only diet. The food and nutrition insecurity faced by migrants from Venezuela is precarious.
- The Temporary Protection Status for Venezuelan Migrants reflects the government's commitment to protecting human rights in a humanitarian crisis. Migrants' integration should be promoted to help facilitate their access to social protection schemes and basic services.
- Humanitarian assistance programmes can be an opportunity for the socioeconomic integration of the migrant population. Both registration requirements and cash transfer amounts should take into account the gaps faced by this population.

Recommendations resulting from the analysis

Different actors proposed a number of general recommendations in light of the analysis, as well as recommendations specific to the key message groups.

General recommendations

- Work on generating evidence regarding nutrition, starting with the preparation of a study of food consumption to complement the FNG analysis, identifying the nutrient gaps in current diets.
- Systematically incorporate the FNG analysis in Colombia's National Nutritional Situation Survey (ENSIN, by its acronym in Spanish), as well as in the definition of the basic basket, to more accurately assess gaps in food diversity and availability in different population segments and regions of the country.
- Carry out a systematic analysis of the gaps identified in the FNG analysis, especially in relation to the quality and diversity of the food consumed, following up the findings with concrete evidence-based actions and policies.
- Take into account the evidence generated by the FNG analysis in implementation of the National Development Plan 2022-2026 and in the information systems that will be created.

- Implement coordinated multisectoral actions to guarantee access to a package of interventions that ensures the human right to food of vulnerable households, addressing its three components: availability, access and adequacy of food.
- Create a coordinating role with the national body responsible for progressively guaranteeing the human right to food in order to follow up on the recommendations and work plan generated by the analysis.

Recommendations on the current situation (messages 1–4)

- Promote a healthy diet and regulate Text Boxthe advertising of ultra-processed foods for children and adolescents.
- Encourage the consumption of calcium-containing foods and strengthen strategies for the consumption of milk and dairy products.
- Strengthen food culture by emphasizing the Food-Based Dietary Guidelines for the Colombian population. At the local level, promote and strengthen the production and consumption of fresh and natural or minimally processed foods, in accordance with the habits and customs of each region of the country.
- Implement strategies to promote a diet that favours the consumption of foods containing micronutrients with high bioavailability.
- Encourage the production of foods containing limiting micronutrients to improve their availability, promoting local production of fresh, natural or minimally processed foods, encouraging sustainable, peasant, family and community farming.

Recommendations for at-risk groups (messages 5–8)

- Expansion of child care programmes to include their home and community, adopting a comprehensive approach that involves aspects such as access to opportunities for income generation.
- Establish an effective monitoring and evaluation system based on the outcomes and impact evaluations of programmes and projects focused on at-risk groups, and promote active community participation in identifying needs, designing interventions and making decisions.
- Develop strategies for formulating products of high nutritional value that address the limitations of specific food environments.
- Strengthen implementation of policies and programmes that promote breastfeeding and complementary feeding, and improve education on appropriate feeding practices for young children.
- Strengthen and expand micronutrient supplementation and comprehensive early childhood care programmes, establishing greater coverage to ensure that they reach vulnerable populations and can guarantee a healthy diet for young children.
- Strengthen the nutritional component of the School Feeding Programme, and establish monitoring and evaluation mechanisms based on a rigorous framework to measure its impact.
- Promote food and nutrition education in schools, providing pupils with information and practical tools so that they can make healthy decisions about their day-to-day diet.
- Develop and implement specific programmes that address the nutritional needs of adolescents, especially girls at this stage.

Recommendations for vulnerable households (messages 9–10)

- Implement measures that promote higher calcium intake, establishing regulations and programmes that promote fortification of different foods with this nutrient.
- Establish alliances between government institutions, the private sector and other relevant actors to promote the production and consumption of biofortified foods, and establish mechanisms to monitor the coverage and the impact of biofortification on the intake of micronutrients among the population.
- Maintain and regularly adjust the values of cash transfers in social protection and humanitarian aid programmes, taking into account the nutritional needs of the target population, and complement them with food and nutrition education programmes.

Fill the Nutrient Gap (FNG): Introduction

In Colombia, the food and nutrition insecurity situation is complex. Approximately 30 percent of households live in moderate or severe food insecurity, with significant gaps in access to and consumption of nutritious food (1,2). Undernutrition and micronutrient deficiencies persist in the country, and there is a growing trend in the prevalence of overweight, obesity and associated non-communicable diseases. The effects of the COVID-19 pandemic and the global food crisis have been some of the causes of the increase in food and nutrition insecurity in recent years (3).

In addition, since 2015, Colombia is the country that has taken in the largest number of migrants from Venezuela. From 2015 to October 2022, the number of Venezuelan migrants living in the country increased from 39,000 to 2.89 million (4,5). As of February in 2023, 46 percent of all migrants living in the region were in Colombia, which has posed a challenge for the government, civil society and humanitarian actors in the country (6,7).

In light of the need to address the multiple nutrition-related problems, in 2008 Colombia established the National Food and Nutrition Security Policy (PNSAN, by its acronym in Spanish) (CONPES 113), which defined food and nutrition security as the "adequate and stable availability of food, access to and timely, ongoing consumption of food in quantity, quality and safety by all people, under conditions conducive to their proper biological use, to lead a healthy and active life" (8). Similarly, within the framework of the National Development Plan 2022–2026, Colombia incorporated the transition of food and nutrition security to the human right to food (9). The three pillars that support the human right to food are: the availability of food in all regions of the country; accessibility of households to the food they require; and adaptation of practices and habits to nutritional needs during people's life cycle. These pillars should underpin the stages of realizing this right: food security, food sovereignty and food self-sufficiency.

Within the framework of this transition to the human right to food and in order to contribute to evidence regarding the barriers that households face in each of the pillars of this human right, WFP worked jointly with technical partners and experts in Colombia to carry out

the Fill the Nutrient Gap (FNG) analysis. This analysis was carried out at the national level and included a focus on Venezuelan migrant households. Moreover, the process involved actors from different sectors, creating spaces for discussion and coordination between them, with the aim of identifying areas of opportunity for nutrition in Colombia and potential multisectoral strategies to ensure the availability, accessibility and adequacy of food for a healthy diet that contributes to improving the food and nutrition situation of Colombians.

FILLING THE NUTRIENT GAP: SITUATION ANALYSIS FOR MULTISECTORAL DECISION-MAKING REGARDING THE PREVENTION OF MALNUTRITION

Malnutrition has two immediate determinants: 1. diets and food intake, and 2. care practices. By focusing on the consumption of adequate food and nutrients, the Fill the Nutrient Gap (FNG) analysis seeks to increase common understanding of gaps in access to nutritious diets. The objective of the FNG analysis is to generate evidence to support actions, policies and programmes aimed at improving access to healthy food and improving the nutrition status of the whole population, especially groups with greater gaps in access. This will be done on the understanding that ending malnutrition definitively will require the combined efforts of different actors and decision-makers to transform sustainable food systems, including changes in supply and value chains, food environments and consumer behaviour.

In this respect, the analysis has two components:

1. A review of secondary information about the main factors that could have an effect on people's diets and food.
2. An analysis of the cost and affordability of diets, to generate evidence regarding the extent to which economic barriers hinder access to nutritionally adequate diets. The analysis is carried out using the linear optimization platform ENHANCE, developed by WFP with support from Capgemini in the Netherlands, Johns Hopkins University and the Zero Hunger Lab at Tilburg University. This component includes modelling different interventions to understand how they can contribute to filling the nutrient gap.

Malnutrition cannot be prevented by actions in a single sector. The FNG analysis is designed to inform multisectoral actions; therefore, it involves stakeholders and technical partners from different sectors, including health, social protection, agriculture and food, who form a Technical Working Group to provide technical and analytical support throughout the analysis.

The Technical Working Group defines the scope and objectives of the analysis. It also provides data and information sources throughout the process to help identify barriers and entry points for nutrition. In parallel, together with the analytical team, a common understanding of the barriers to adequate nutrition is developed, as well as recommendations based on the evidence generated from the FNG analysis.

The FNG methodology was developed by WFP with technical support from the University of California Davis, the International Food Policy Research Institute (IFPRI, Washington DC), Epicentre (Paris), Harvard University (Boston), Mahidol University (Bangkok), Save the Children (UK) and UNICEF.

As of December 2023, more than 60 FNG analyses in 40 countries had been completed or were underway.

For more information about the analysis and its methodology, please see: Bose I, Baldi G, Kiess L, de Pee S, The 'Fill the Nutrient Gap' Analysis: An approach to strengthen nutrition situation analysis and decision-making toward multisectoral policies and systems change. Matern Child Nutr 2019: DOI: 10.1111/mcn.12793.

Process

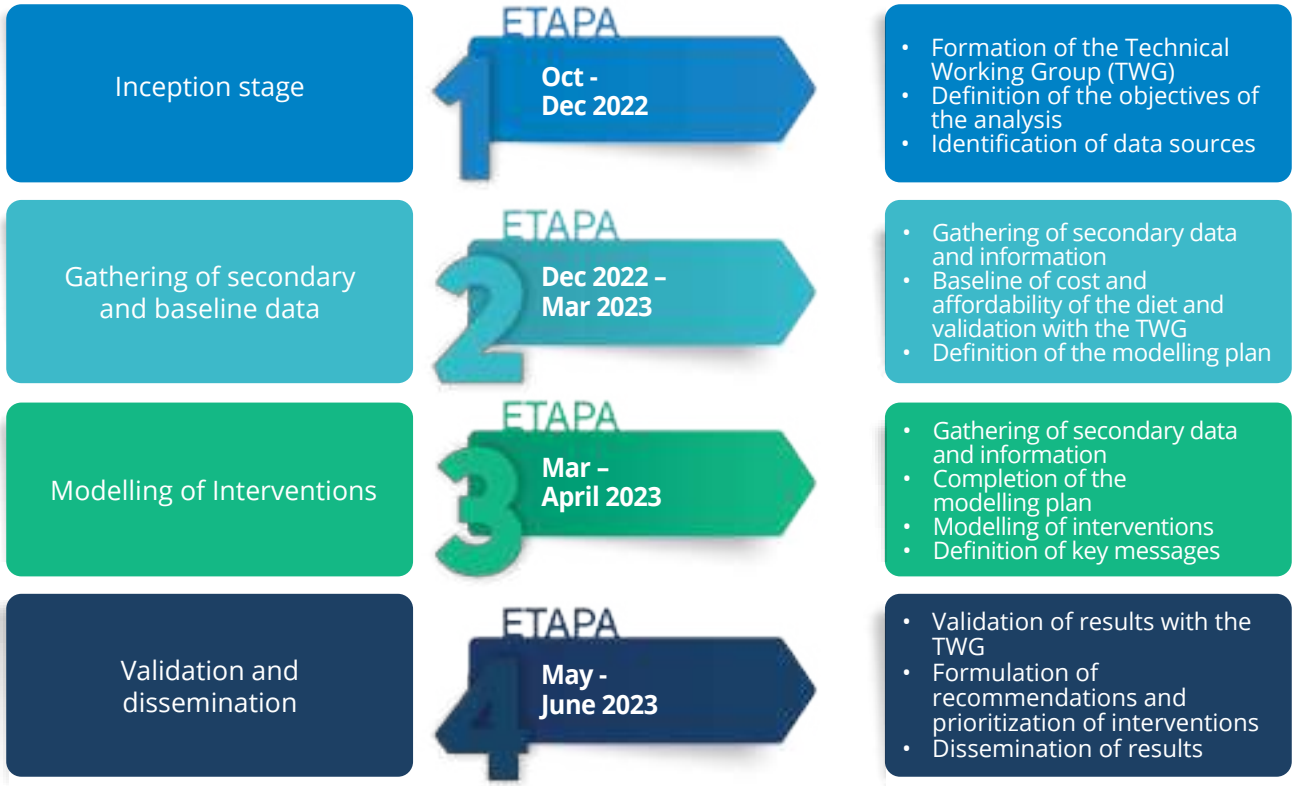
The FNG analysis process began in October 2022 and was completed in July 2023 (Figure 1). It was led by WFP's country office in Colombia, with technical assistance from the Systems Analysis for Nutrition team located at WFP's headquarters in Rome and WFP's Regional Bureau for Latin America and the Caribbean in Panama. Furthermore, for the analytical consultation and support, a Technical Working Group (TWG) was formed, made up of technical delegates from the following national government entities:

1. Ministry of Health and Social Protection (MSPS)
2. National Planning Department (DNP)
3. National Administrative Department of Statistics (DANE)
4. Administrative Department for Social Prosperity (DPS)
5. Colombian Institute of Family Welfare (ICBF)
6. Migración Colombia

In addition, the National Administrative Department of Statistics (DANE) helped define the sources of information for the analysis, which are available on its website, and provided guidance on the technical aspects to be taken into account for their use.

The inaugural TWG meeting was held virtually in November 2022. In February 2023, The baseline was validated with the TWG in an in-person meeting. During March and April, information was collected to model interventions aimed at understanding how they might help reduce the nutrient gap. In June 2023, the results of the analysis were validated with the TWG and workshops were held to share results with actors from 1. the private sector, 2. international organizations, and 3. academia. Finally, on 15 June 2023, an in-person workshop was held where actors from government, academia, the private sector and international organizations developed recommendations for programmes and policies based on the evidence generated by the analysis. Figure 1 shows the stages of the analysis construction process in Colombia.

Figure 1: The FNG analysis process in Colombia.

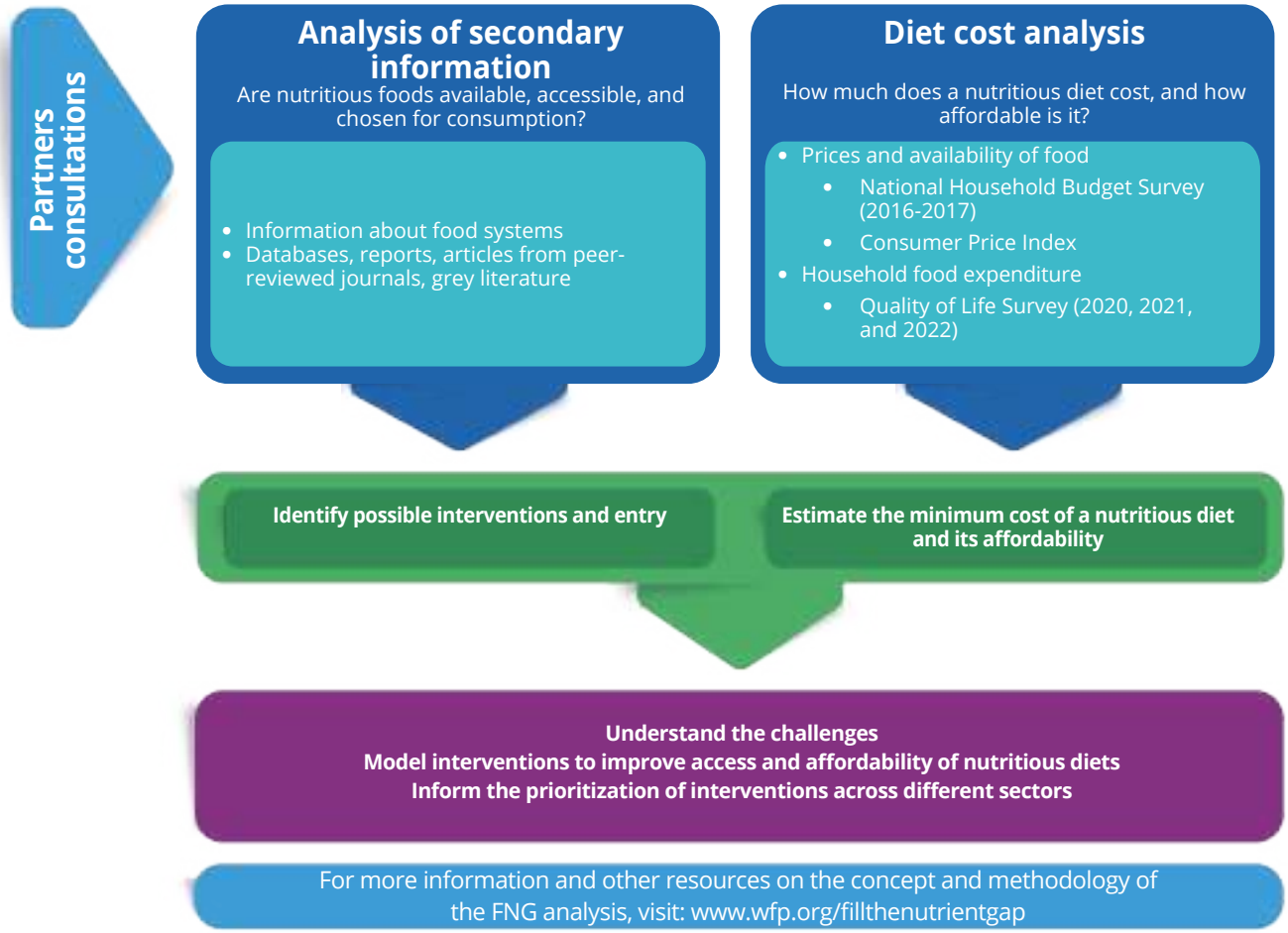


Methodology

The FNG analysis has two components (Figure 2): 1. a review of information, secondary data and literature specific to the analysis context regarding factors that could influence individuals' diets, and 2. an analysis of the cost and affordability of the diet.

These two components are integrated to gain a better understanding of the obstacles faced by individuals in a specific context and to identify possible entry points and interventions with the potential to close gaps in nutrient intake.

Figure 2 : Methodology of the FNG analysis.



Secondary data and literature analysis

The review of secondary data and literature consists of compiling and reviewing information about the different factors that could have an effect on people's diets. The methodology that guides the compilation of secondary information is based on the report of the High-Level Panel of Experts (HLPE) on food security and nutrition, published in 2017. This methodology considers a number of factors that could determine or influence people's consumption of food and nutrition status.

The process seeks to identify sources of information about:

- The country's nutritional epidemiological profile
- The type and availability of nutritious foods in local markets
- Nutrient intake
- Local practices
- Public policies
- The affordability of nutritious foods
- Possible entry points for interventions.

Secondary information is consolidated and analysed to characterize and contextualize the situation and barriers in the country, as well as to identify opportunities, entry points and potential interventions to increase the consumption of nutritious foods.

DIET COST ANALYSIS

The diet cost analysis uses the Linear Optimization Platform ENHANCE to ascertain the extent to which poverty, food availability and food prices can affect people's ability to meet their macronutrient and micronutrient requirements.

Using primary data or secondary data sources, ENHANCE calculates what quantity and combination of locally available foods result in the lowest possible cost to provide individuals or households with their average energy requirements and recommended intake of protein, fat and micronutrients1. Diets are modelled with predefined limits to avoid the inclusion of unrealistic amounts or types of food as well as the excessive supply of nutrients.

The FNG methodology defines the "Nutritious Diet" as the optimized combination of foods that for the lowest possible cost meets the macronutrient and micronutrient requirements, where roughly 50 percent of energy comes from staple foods frequently consumed in the country2. This diet meets the requirements for nine vitamins and four minerals, without exceeding the energy and fat requirements.

Household food expenditure data are compared with the cost of the nutritious diet in order to calculate the proportion of the population that would not have access to this diet. Unaffordability is disaggregated at the subnational level and for different periods to facilitate comparison. The proportion of unaffordability is a conservative estimate because it is based on an optimized selection of foods. The actual cost and unaffordability of nutritionally adequate diets is likely to be higher.

1 As defined by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). The requirements for nine vitamins and four minerals are included.

2 This diet is not intended to reflect what individuals or households currently eat, nor should it be used to develop food-based dietary recommendations or guidelines.

Modelled diets

Modelled diets are not intended to reflect what individuals or households are currently consuming, nor should they be used to develop food-based recommendations or provide dietary guidelines. Modelled diets only reflect a baseline according to the following:

The Energy-Only Diet:

The energy-only diet refers to the combination of foods that for the lowest possible cost meets the energy requirements (kilocalories) of the modelled household. It mainly consists of basic staple foods and other foods with high energy density.

The Nutritious Diet:

The nutritious diet is the combination of foods that for the lowest possible cost meets the macronutrient and micronutrient requirements of the modelled household, with adjustment for approximately 50 percent of energy to come from staple foods for all members of the modelled household, with the exception of the child between 12 and 23 months of age, for whom it provides approximately 30 percent of the energy. In the case of Colombia, rice, corn and wheat were included as basic staple foods, as these are an essential part of the diet.

The cost of the energy-only diet is a benchmark for monitoring the minimum economic requirement to cover kilocalorie requirements alone. The cost of the nutritious diet is a benchmark for establishing the minimum cost required to avoid micronutrient deficiencies in the diet, according to local food prices and availability.

The results of the diet cost analysis are compared with the food expenditure percentiles of households in the region under analysis. It is considered that households whose percentile of food expenditure (per capita) is below the cost of the diet (per capita) would not have economic access to it. It is considered that households whose expenditure percentile is above the cost of the nutritious diet would have economic access to it.

Modelled household

The FNG analysis determines the cost of the diet for a household with a specific composition, in order to model individuals representing the different stages of the life cycle and nutritionally vulnerable groups. The modelled household has five members:

1. a 12-23-month-old child;
2. 6-7-year-old child of school age;
3. a 14-15-year-old adolescent girl;
4. a breastfeeding adult woman;
5. an adult male.

Additionally, for the modelling of certain interventions, the cost of the diet was estimated for individuals other than those within the modelled household (e.g., pregnant women).

Data sources and analysis regions

The data for the diet cost analysis used in the FNG analysis for Colombia came from 1. the National Household Budget Survey (ENPH) 2016- 2017; 2. the Consumer Price Index (CPI), and 3. the National Quality of Life Surveys (QLSs) of 2020, 2021 and 2022.

The ENPH was the basis for calculating the price and availability of food by analysis region1. The base values were updated by analysis region based on indexing by product (using the COICOP code) using the CPI for each capital city or the national CPI in capital cities that do not have a specific CPI. The prices were updated in the months of June and December from 2019 to 2022. That made it possible to calculate the cost of the diet at the eight aforementioned points in time for each analysis region.

The QLSs of 2020, 2021 and 2022 were used as data sources for household food expenditure for those three years. Only food and non-alcoholic beverages were included in the expenditure categories. For processing of the data first of all the per-capita expenditure per household was calculated. The expenditure percentiles by analysis region were then extracted. The affordability of diets was calculated using the cost of the diet for the month of December from 2020-2022, since the data in the QLSs are collected in the last quarter of the calendar year to which they pertain.

The analysis regions used for calculating the cost and affordability of the diet were 32 capital cities in Colombia, since that was the level of disaggregation at which the three data sources used coincide.

Modelling of interventions

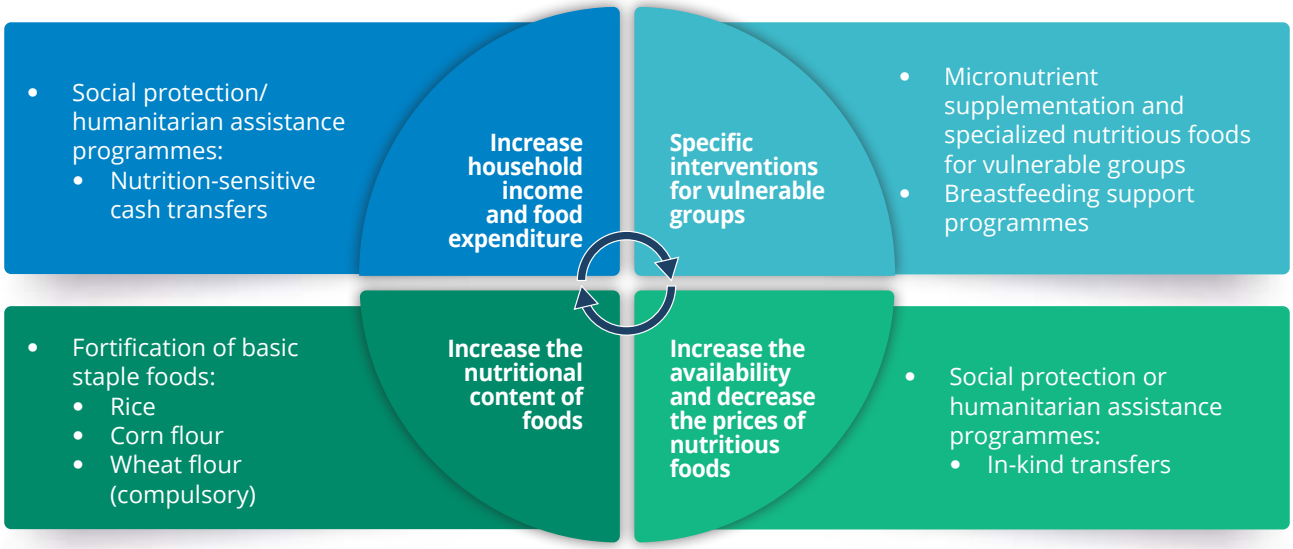
As part of the FNG analysis process, the impact that existing or potential interventions could have on the cost of the nutritious diet or the household's ability to meet its nutritional requirements was modelled. The modelled interventions are theoretical and were identified by the different technical partners with the aim of improving access to nutritious diets for specific individuals or for the modelled household as a whole.

Modelled interventions can be categorized according to the following four entry points (Figure 3):

- Interventions that seek to increase household income and food expenditure through cash transfer programmes within the framework of the social protection system or humanitarian assistance.
- Interventions that seek to increase the nutritional content of food, such as the mass mandatory fortification of basic staple foods.
- Interventions that specifically target nutritionally vulnerable individuals, such as micronutrient supplementation, food supplementation with specialized nutritious foods for children and/or pregnant or breastfeeding women.
- Interventions that increase the availability or decrease the prices of nutritious foods, through the provision of food baskets to households.

[1] For each analysis region and for each product consumed, the unit of measurement was standardized to grams, the price paid by each household per 100g of product was calculated and the median price/100g in each analysis region was taken as the base value.

Figure 3: Entry points for modelling interventions.



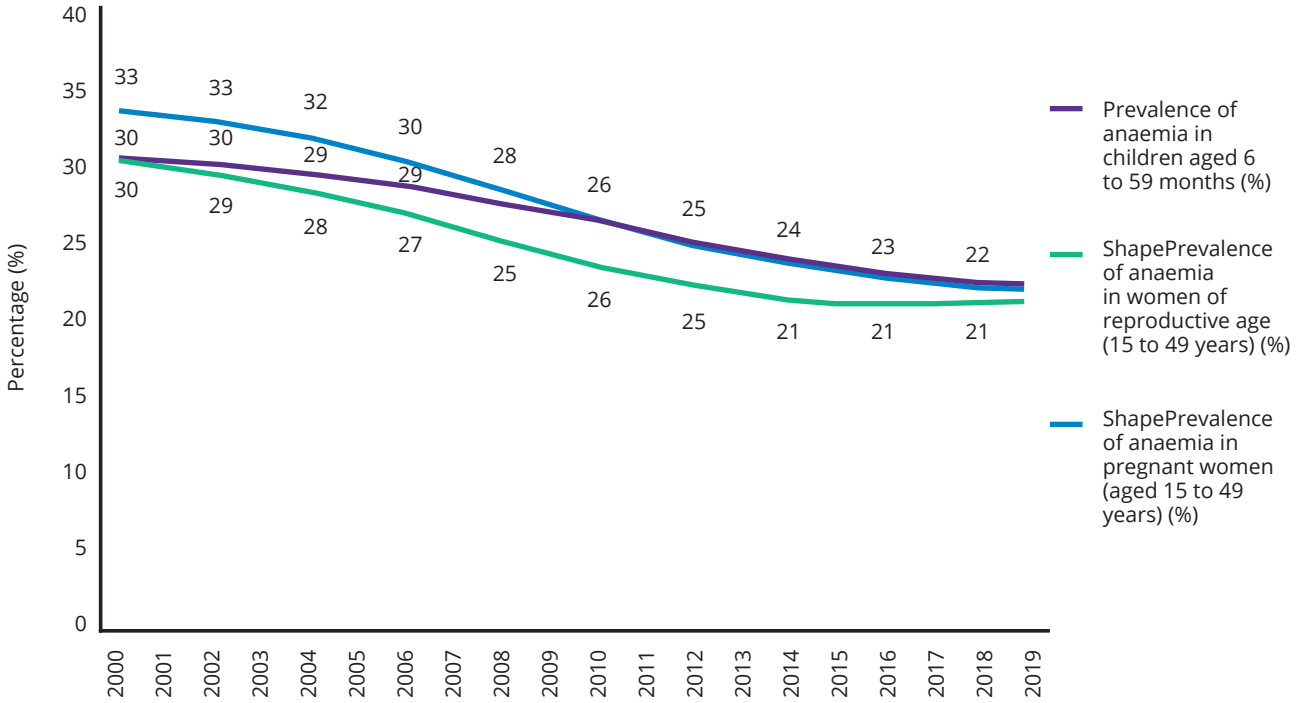
1.

Colombia faces the triple burden of malnutrition. Chronic malnutrition persists among children under 5 years of age, as do micronutrient deficiencies in children and women. At the same time, overweight, obesity and non-communicable diseases in children, adolescents and adults continue to rise.

According to databases of malnutrition estimates made jointly by UNICEF, WHO and the World Bank (10), between 2010 and 2016 Colombia failed to reduce the prevalence of stunting among children under the age of 5.[2] Since 2016, no national surveys have been conducted to be able to monitor the current situation.

Data on the prevalence of anaemia and micronutrient deficiencies are limited. WHO estimates (11) indicate that in 2019 there was a moderate prevalence of anaemia, at more than 20 percent, both in children under 5 years of age and in women of reproductive age and pregnant women (both between 15 and 49 years of age). In the last decade, it is estimated that very limited progress has been made for these three age groups, as shown in Figure 4.

Figure 4: National prevalence of anaemia for different age groups, 2000-2019 (WHO, 2023).



On the other hand, overweight and obesity have increased steadily over the past two decades. The latest available data show that in 2016 more than half of adult men and more than six in 10 adult women (18 years of age or older) were overweight (12). Overweight and obesity also affect children. In 2016, about six percent of girls under 5 were overweight, while 26 percent and 23 percent of girls and boys between the ages of 5 and 19 years, respectively, were overweight, and six percent and seven percent, respectively, were obese. In both cases, it is estimated that these figures have increased in recent years (12).

The increasing prevalence of overweight and obesity is reflected in the loss of human capital related to non-communicable diseases. Seven of the top 10 risk factors for mortality and disability in 2019 were related to inadequate diets and dietary risks (13), due to the overconsumption of products with a high density of energy, fats, sugars and sodium, and underconsumption of nutritious foods.

The Colombian government has adopted different strategies to address these problems (14), including

[2] 2. The latest ENSIN carried out in Colombia shows a small amount of progress in reducing chronic malnutrition (22), from 13.2 percent to 10.8 percent. This discrepancy is due to differences in the data processing methodology, as the UNICEF/WHO/World Bank databases use standards for comparison between countries to monitor progress in relation to international targets, such as the Sustainable Development Goals (10).

the fortification of foods of mass consumption, micronutrient supplementation for pregnant and breastfeeding women and young children, and the provision of specialized nutritious foods and other foods to those same groups. Also, the front-of-pack labelling regulations (15), the technical regulations designed to limit the sodium content in foods (16), and taxes on products high in sugars and/or saturated fats (17) are in the process of being implemented.

Given the limited progress made in reducing stunting and anaemia, and the increase in the prevalence of overweight and obesity, Colombia is far from meeting the goals set by the World Health Assembly for 2025. The country is facing a triple burden of malnutrition, which in all its forms continues to affect the development of the human capital of a large number of Colombians.

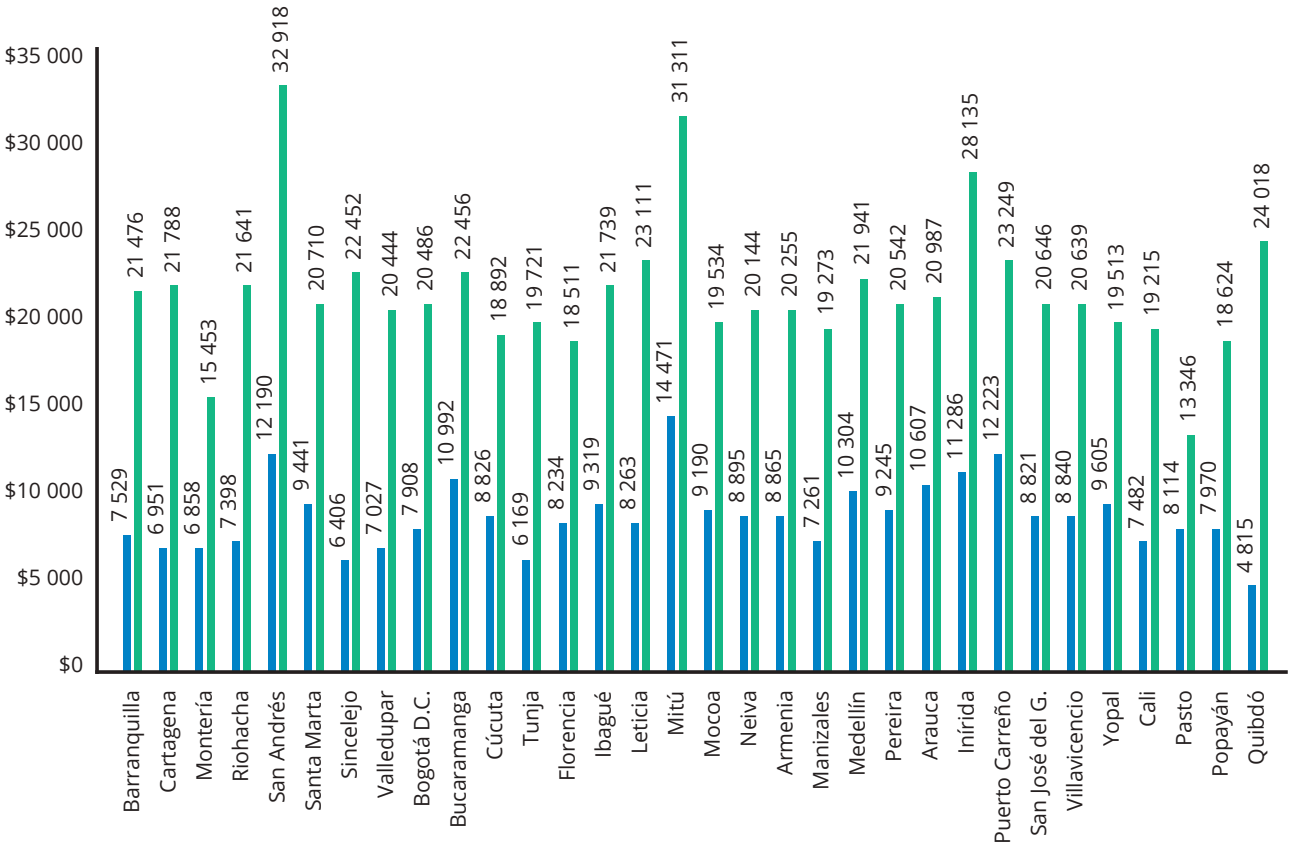
2.

As of December 2022, the nutritious diet for the modelled household would cost on average COP 20,499 a day. This cost is more than twice that of the energy-only diet.

The minimum cost of meeting the energy requirements (energy-only diet) of the modelled household varies from COP 4,816 a day in Quibdó to COP 14,471 a day in Mitú, with a weighted average between capital cities of COP 8,393. Meanwhile, the population-weighted average cost of a diet that would meet the requirements for energy, protein and fat as well as 13 micronutrients (the nutritious diet) for the five members of the modelled household would be COP 20,499, ranging from COP 13,346 (Pasto) to COP 32,918 (San Andrés).

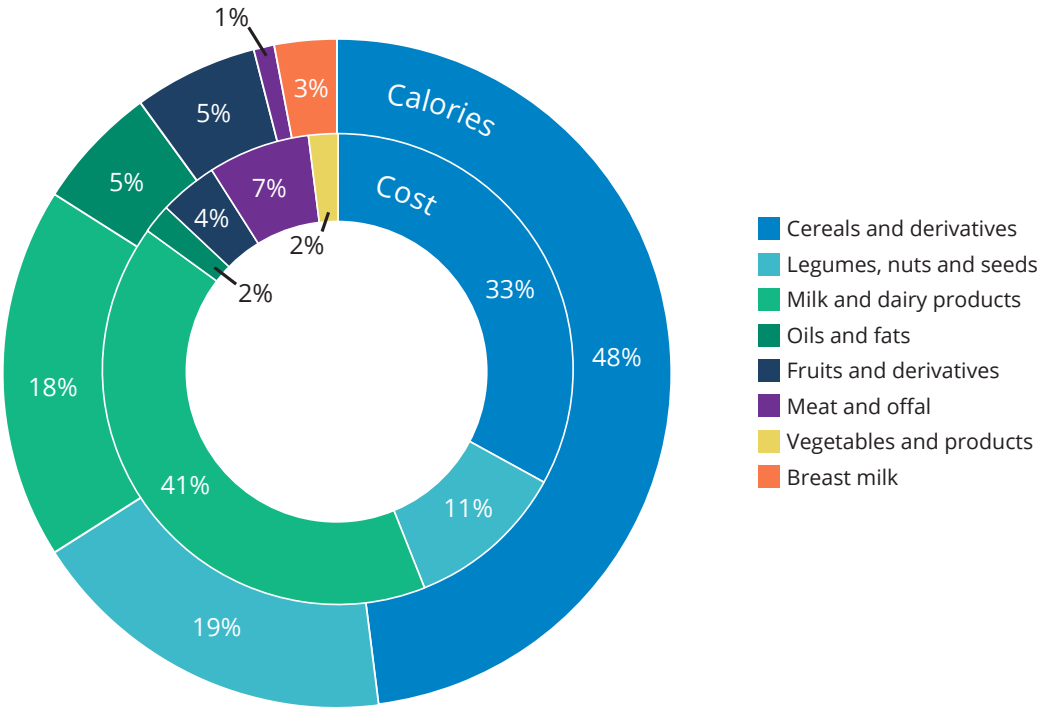
For comparison purposes, according to DANE data, the minimum wage in 2022 was COP 1,000,000 a month, or COP 33,333 a day (18).

Figure 5: Cost of the energy-only diet and the nutritious diet for the modelled household (5 people) in December 2022 (000s of COP/household/day).



As can be seen in Figure 5, the cost of the nutritious diet varies widely between regions. It is two to three times higher than the cost of the energy-only diet as it includes a greater diversity of foods with higher nutritional value, such as fresh foods and foods of animal origin, which often cost more. This is exemplified in the distribution of the cost and calories in the nutritious diet for the city of Cucutá (Figure 6). The energy-only diet, on the other hand, is made up of cereals, oils and other foods that provide a higher energy density at a lower cost.

Figure 6: Composition of the nutritious diet for the modelled household (5 people) by food group in Cúcuta, December 2022.



Limiting nutrients were identified from an analysis of the most difficult micronutrient requirements to meet within the diet cost modelling. Based on local food prices and availability and the nutritional requirements of the members of the modelled household, limiting nutrients would be those for which there is a greater risk of having a consumption deficit.

In the case of Colombia, calcium was a limiting nutrient for all members of the modelled household in all the capital cities. In addition, for the 12-24-month-old baby, the adolescent girl and the breastfeeding woman, iron was a limiting nutrient in nearly all the capital cities. These two micronutrients have been identified as problematic in other recent studies (19). In the case of calcium, the evidence regarding consumption levels and potential deficiencies is insufficiently representative or up to date (20,21), so this is an area that requires further exploration. This evidence could be supplemented with studies on potential deficiencies of vitamin D, which is an essential micronutrient for calcium absorption.

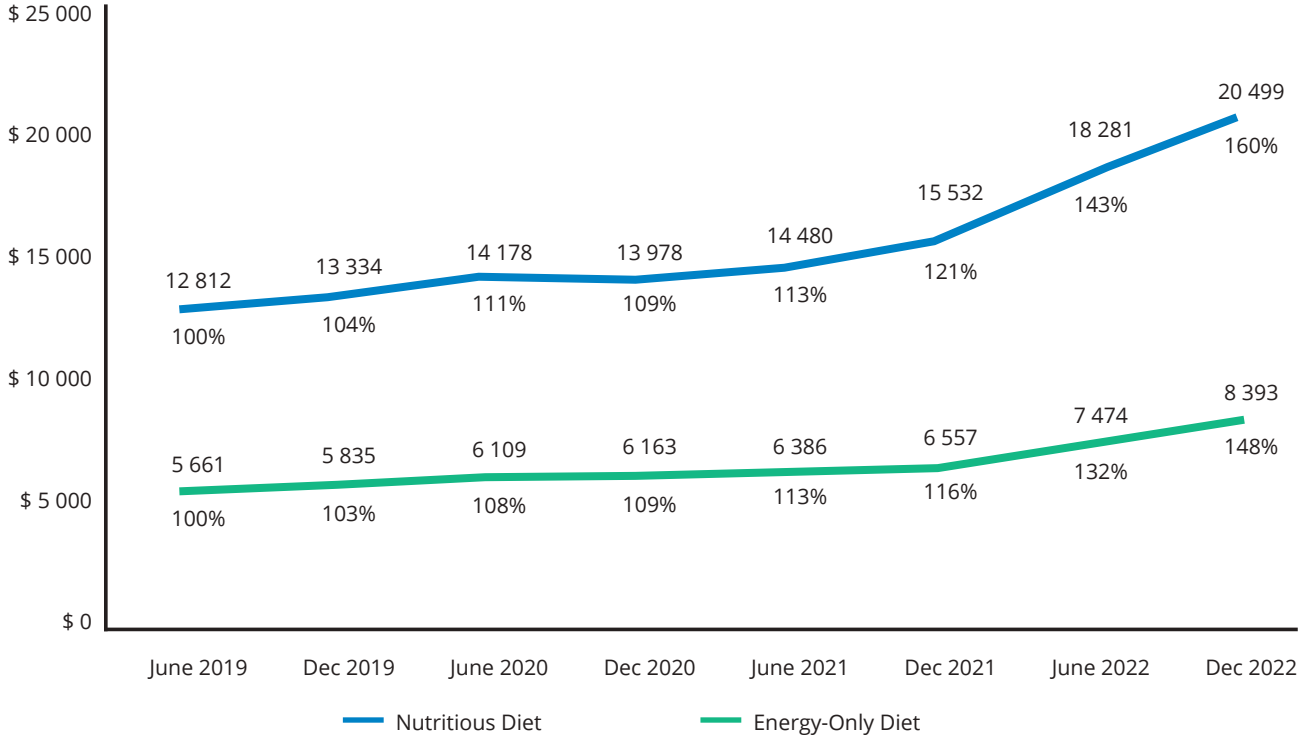
According to the ENSIN of 2015, one in three women had a vitamin D deficiency (22).

3.

The cost of the nutritious diet increased by 11 percent from December 2020 to December 2021, and by more than 30 percent from December 2021 to December 2022. Vulnerable households have had to implement coping strategies in the face of rising food prices, increasing their risk of food and nutrition insecurity.

Between June 2019 and December 2022, the cost of the nutritious diet for the five-person modelled household increased by more than 60 percent, from COP 12,812 to COP 20,499 a day. The sharpest increase was from December 2021 to December 2022, when there was an increase of 32 percent that year alone. The cost of the energy-only diet has risen to a lesser extent, with an increase of less than 50 percent from June 2019 to December 2022.

Figure 7: Average among capital cities of the cost of the nutritious diet and the energy-only diet for the modelled household (5 people) and percentage increase from June 2019 to December 2022 (COP/household/day).



In the face of the inflation crisis in 2021-2022, households have had to implement various coping and survival strategies. The Food and Nutrition Security Assessment for the Colombian Population conducted by WFP during 2022 (1) indicates that 68 percent of the households surveyed consumed less preferred foods. In addition, more than half (51 percent) were forced to reduce the size of the portions consumed and four in 10 households had to reduce the number of meals eaten per day. Moreover, seven in 10 of the households surveyed had to implement one or more survival strategies, which are classified as stress, crisis or emergency strategies. Stress strategies, such as spending savings or selling assets to buy food, or buying food on credit, were implemented by 31 percent of the households surveyed. Crisis strategies, such as reducing spending on health or education, or even taking children out of school, were implemented by 20 percent of the households surveyed. Emergency strategies, such as begging on the street or engaging in risky activities, were implemented by 16 percent of the households surveyed.

Since April 2023, food inflation has stabilized and there has even been a slight monthly decrease in this expenditure division (23). However, cumulative overall inflation in 2023 is already higher than the average in previous years (23), which adds to the cumulative inflation during 2022. Furthermore, there are global factors that could continue to affect food prices in international markets, such as the war in Ukraine and extreme weather events, such as erratic rains and unusually high temperatures, which could be unfavourable for national and regional food production and could subsequently impact food prices (1.24).

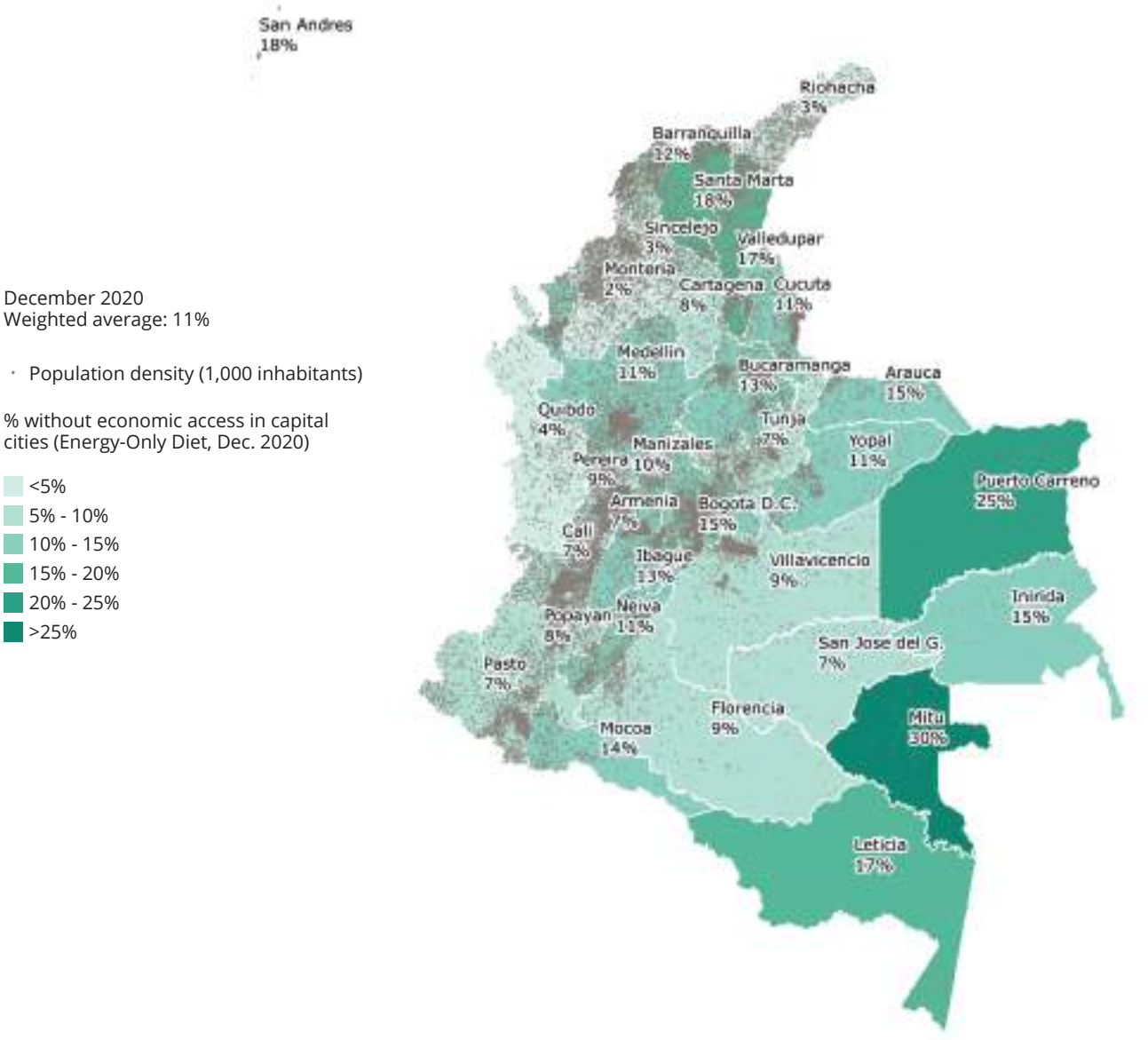
4.

As of December 2022, it was estimated that four in 10 households did not have economic access to a nutritious diet and one in 10 did not have access to an energy-only diet. Lack of economic access indicates an increased risk of malnutrition, especially for individuals in vulnerable situations.

The unaffordability of both an energy-only diet and a nutritious diet limits food and nutrition security in Colombia. As of December 2022, it was estimated that 13 percent of households did not have access to a diet that would meet their energy requirements (kilocalories) at the lowest possible cost. Similarly, it was estimated that 39 percent of households did not have economic access to a nutritious diet.

In order to understand how the unaffordability of diets has evolved, and based on the availability of data on household food expenditure, the FNG analysis included a calculation of the unaffordability of the cost of the energy-only diet and of the nutritious diet in the years 2020, 2021 and 2022. The unaffordability of the energy-only diet remained relatively stable during that period, rising from 11 percent of households in December 2020 to 13 percent of households in December 2022, with an increase of one percentage point per year. As shown in Figure 8, both the level of unaffordability of the energy-only diet and the difference between December 2020 and December 2022 varies depending on the capital city. In December 2022, the unaffordability of the energy-only diet ranged from four percent in Sincelejo to 38 percent in Mitú.

Figure 8: Unaffordability of the energy-only diet by capital cities, December 2020 to December 2022.

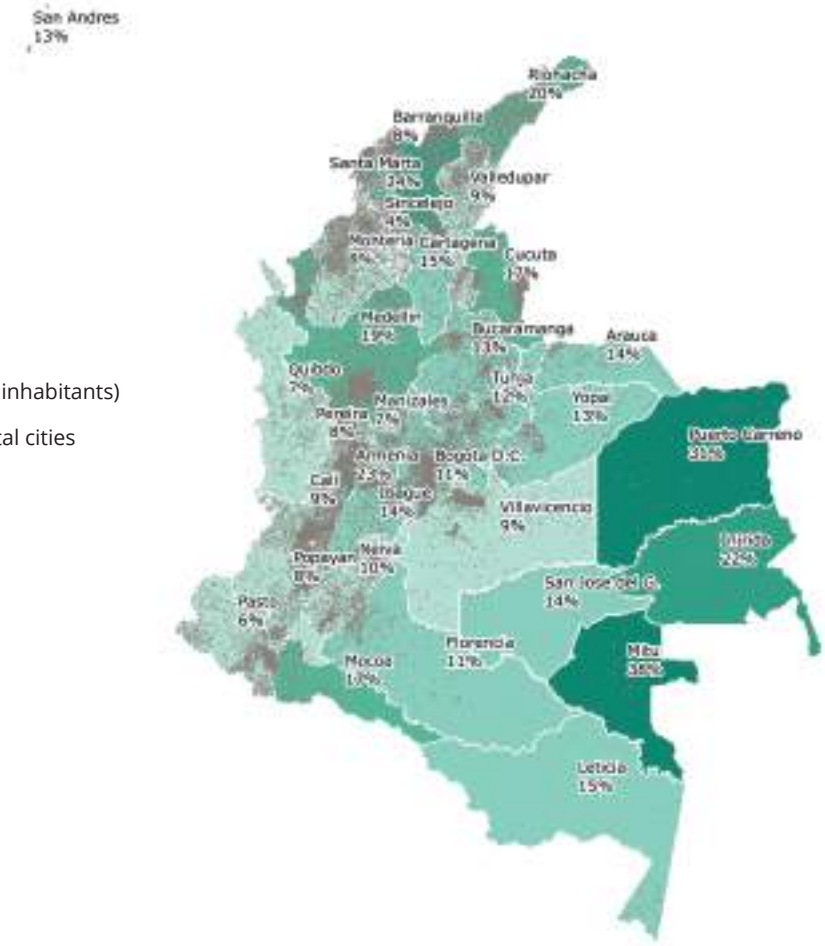


December 2021
Weighted average: 12%

- ShapePopulation density (1,000 inhabitants)

% without economic access in capital cities (Energy-Only Diet, Dec. 2021)

- <5%
- 5% - 10%
- 10% - 15%
- 15% - 20%
- 20% - 25%
- >25%

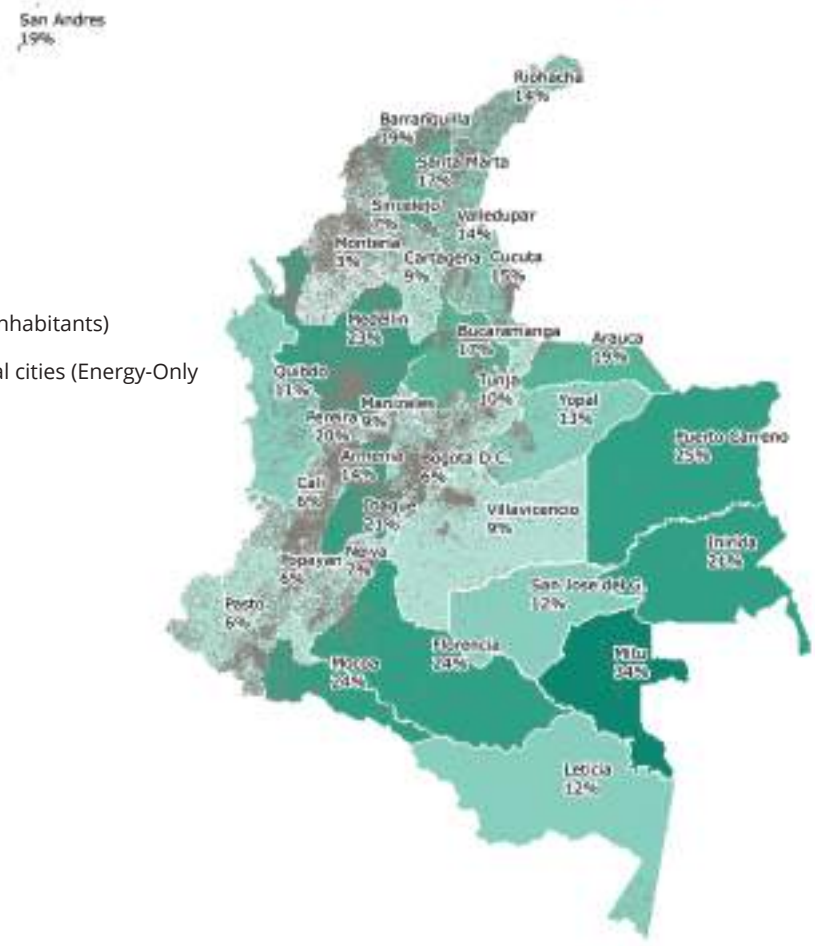


December 2022
Weighted average: 13%

- ShapePopulation density (1,000 inhabitants)

% without economic access in capital cities (Energy-Only Diet, Dec. 2022)

- <5%
- 5% - 10%
- 10% - 15%
- 15% - 20%
- 20% - 25%
- >25%



In December 2022, the cost of the nutritious diet, meanwhile, would have been unaffordable on average for 39 percent of households in capital cities (Figure 9), ranging from 15 percent of households in Pasto to 69 percent of households in Mitú. As shown in Figure 10, the cost of the nutritious diet is not the only factor determining the unaffordability of the diet. Capital cities such as Mocoa or Quibdó have a close to average cost; however, the unaffordability of this diet is high, which indicates the need to take measures to improve household income and, therefore, purchasing capacity to buy food.

Figure 9: Unaffordability of the energy-only diet and the nutritious diet, average between capital cities.

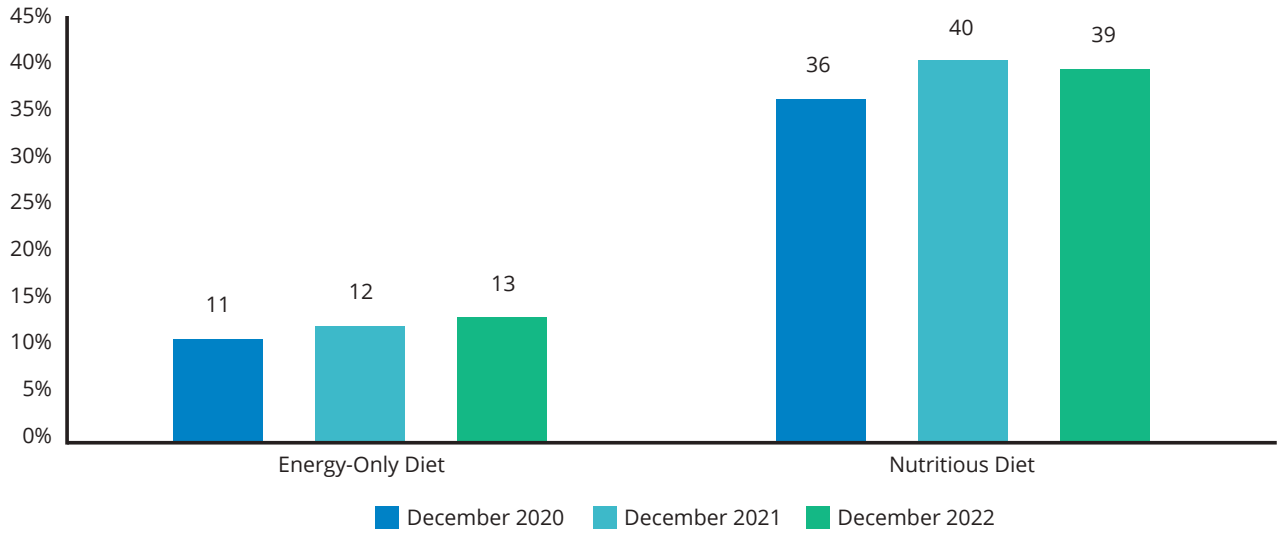
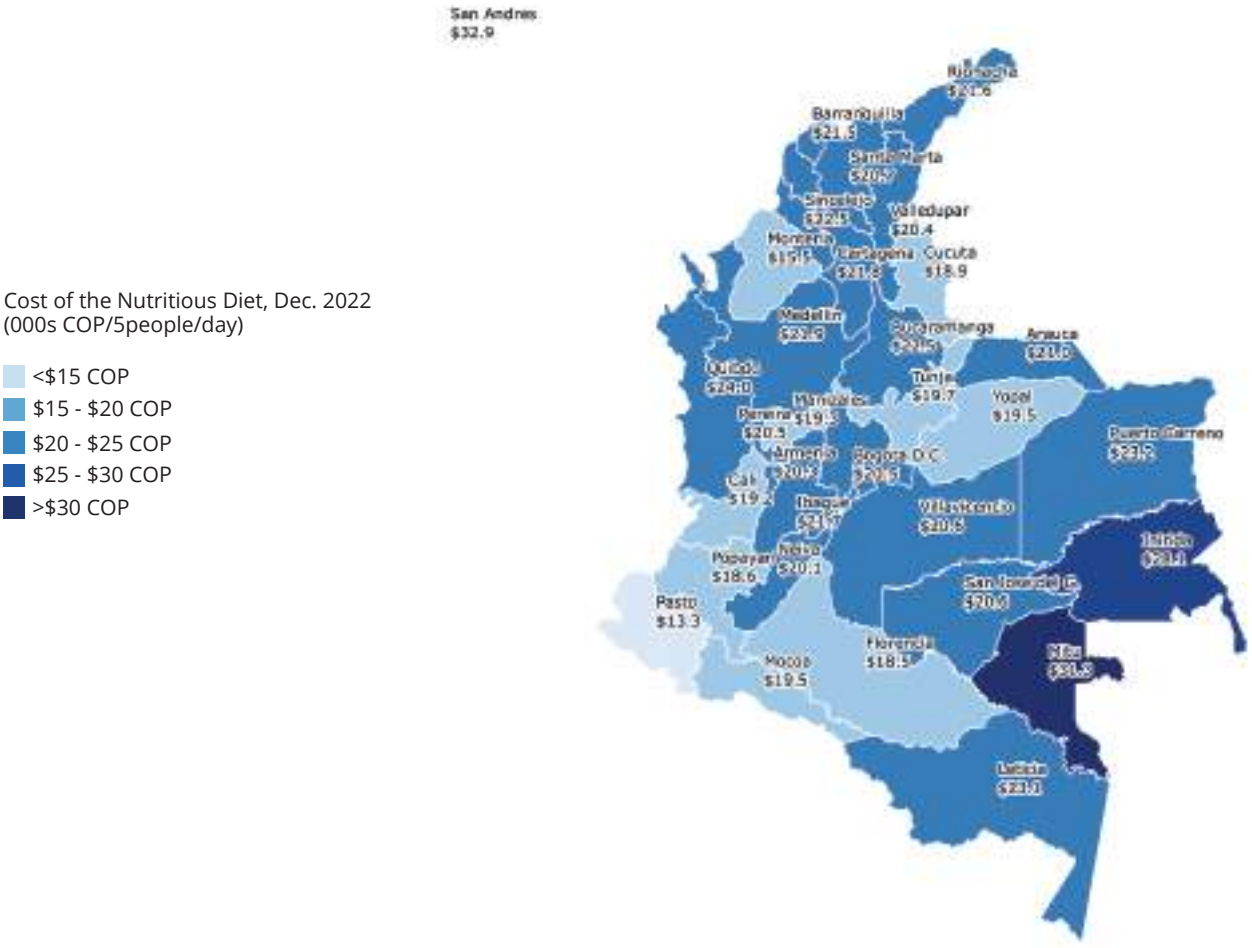
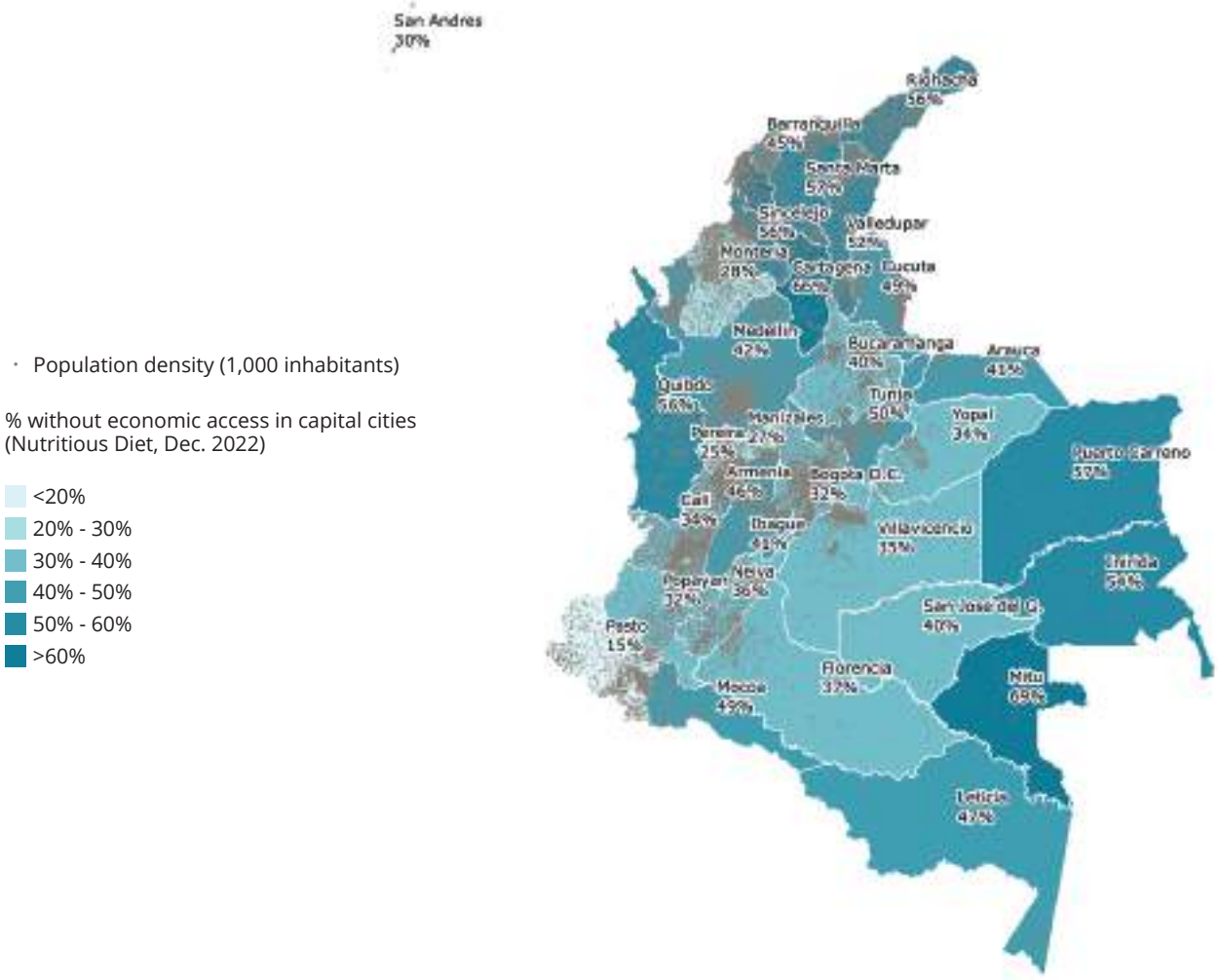


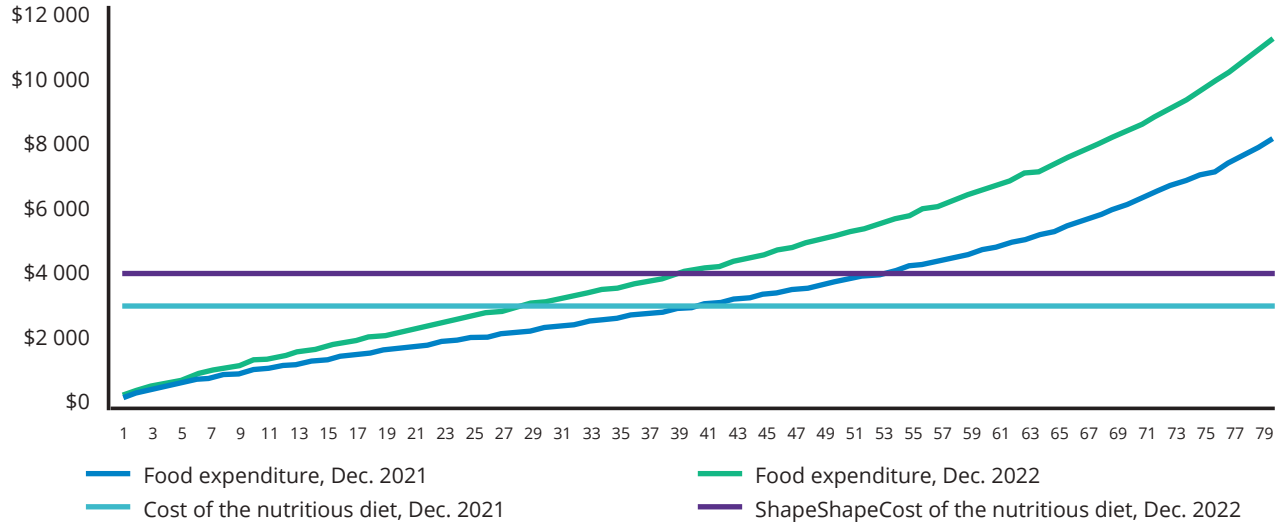
Figure 10: Cost and unaffordability of the nutritious diet by capital city, December 2022.





On average, the unaffordability of the nutritious diet was 36 percent in 2020, 40 percent in 2021 and 39 percent in 2022 (Figure 9). Since 2020, the cost of the diet has increased more than the unaffordability of the diet. This could indicate an economic recovery after the recession caused by the COVID-19 pandemic. However, this economic recovery has gone hand in hand with an increase in food prices, limiting access to the nutritious diet. Also, by studying the affordability gap, it is observed that the economic recovery was apparently smaller in the lowest spending percentiles (Figure 11). This indicates that, in the face of rising food prices between 2021 and 2022, the affordability gap for the most vulnerable households has become even larger, despite the fact that on average the affordability of the nutritious diet has decreased by one percentage point.

Figure 11: Expenditure on food per percentile (capital cities only) and cost of the nutritious diet, December 2021 and December 2022 (COP/person/day).

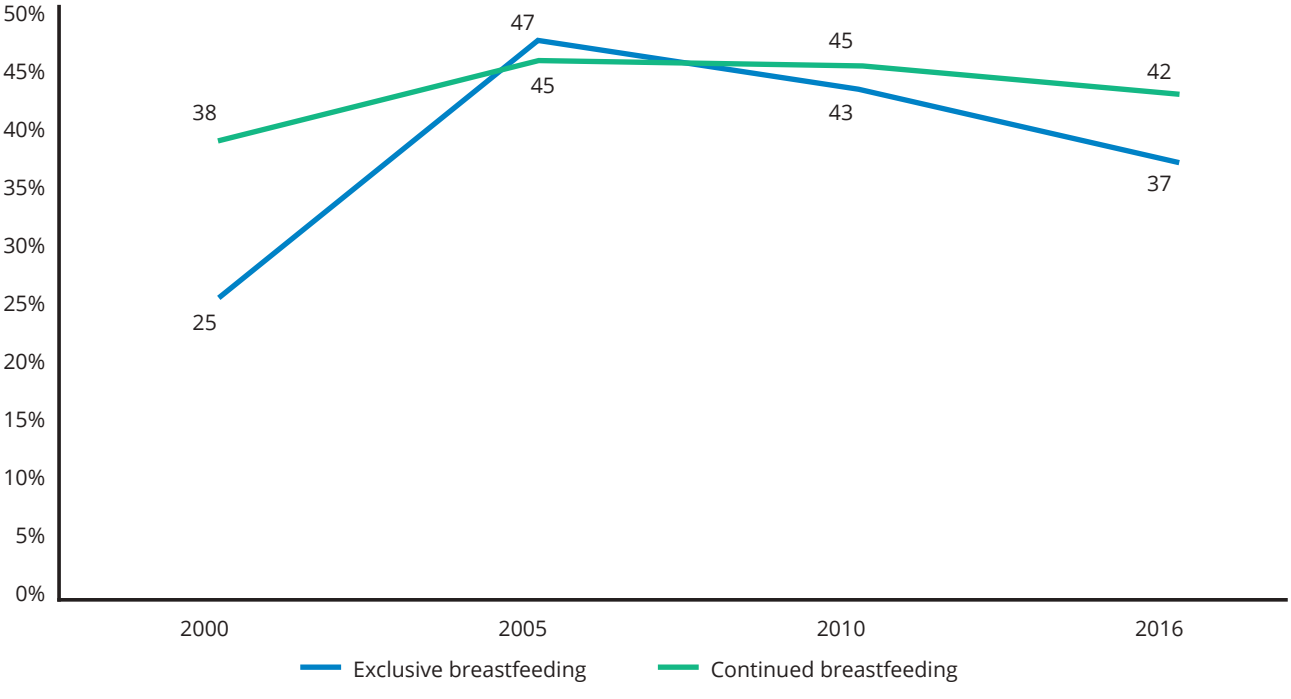


5.

Exclusive breastfeeding decreased from 43 percent in 2010 to 37 percent in 2016, and continued breastfeeding from 45 percent to 42 percent respectively. Without the inclusion of breast milk, the cost of a nutritious diet for a child aged between 12 and 24 months would increase by more than 50 percent. There are also opportunities to improve the indicators for infant and young child feeding practices.

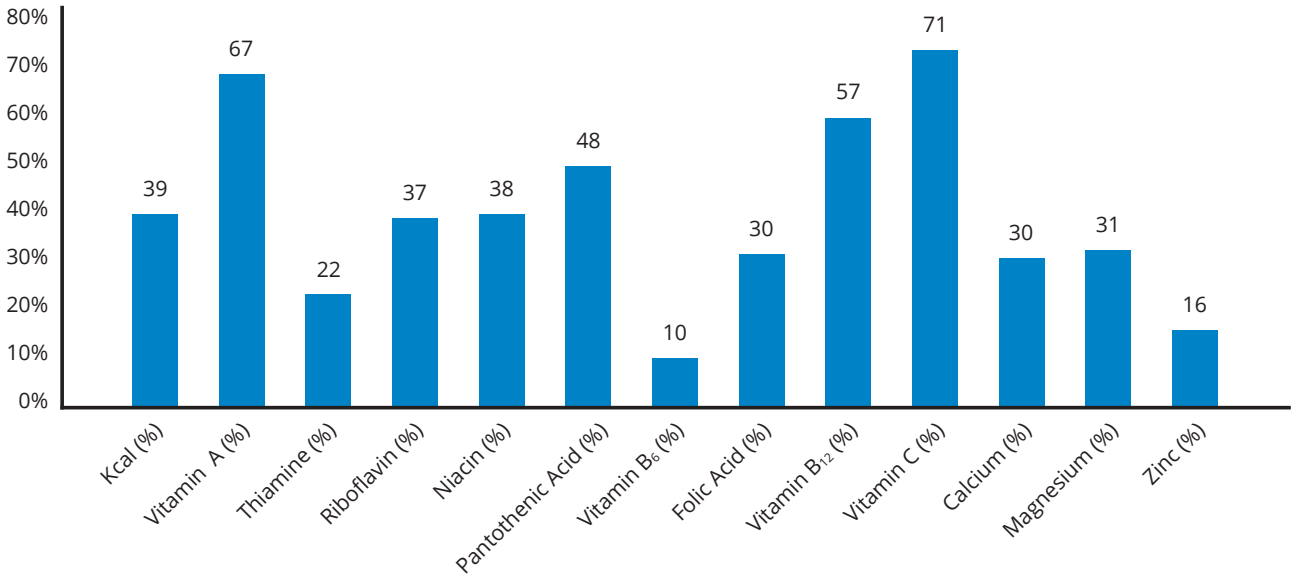
Breastfeeding is an essential element in the feeding of children under 2 years of age. Globally, efforts have been made to improve breastfeeding practices, based on evidence that reflects the benefits of breastfeeding for infant health and nutrition. However, in Colombia the latest available data indicate that, since 2005, breastfeeding practices have deteriorated (Figure 12). From 2005 to 2015, the percentage of infants under six months of age being exclusively breastfed fell by 10 percent and, according to the ENSIN of 2015, the median duration of exclusive breastfeeding was just one month (22).

Figure 12: Percentage of infants under 6 months of age being exclusively breastfed, and children between 6 and 24 months of age having continued breastfeeding between 2000 and 2016 (Source: UNICEF, 2022).



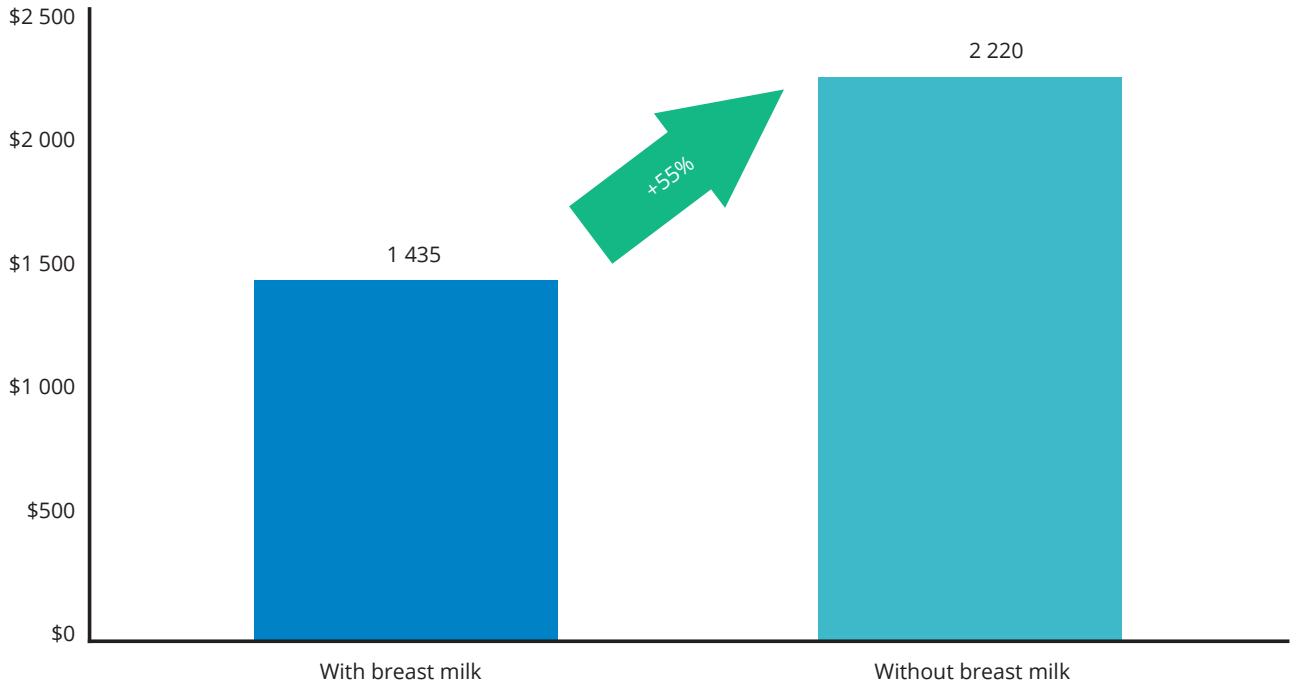
On average, the cost of the nutritious diet for a child aged between 12 and 24 months, assuming continued breastfeeding, would be COP 1,435 per day as of December 2022. This cost is comparatively lower than that for other members of the modelled household given the portions of food that are consumed at that age and because, in addition, the analysis was carried out on the premise that the child aged between 12 and 24 months is given breast milk (not quantified in economic terms) in line with the WHO recommendations. This helps cover their energy and nutrient requirements (Figure 13).

Figure 13: Percentage of the contribution of breast milk to meeting the nutritional requirements of a child between 12 and 24 months of age.



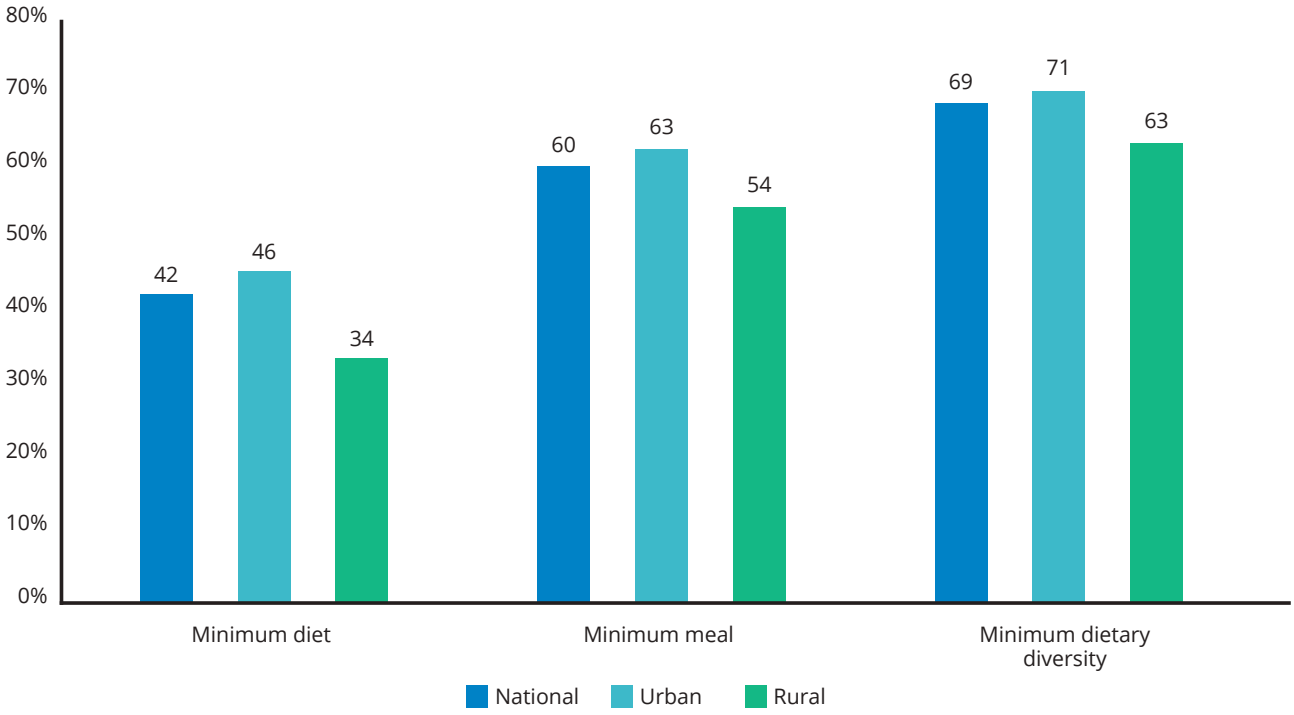
If breast milk is not included in the nutritious diet for the child between 12 and 24 months of age, the cost would increase by more than 50 percent, and there would be a greater risk that the child would not receive the macro and micronutrients needed at that key stage of growth and development (Figure 14).

Figure 14: Cost of the nutritious diet for a child between 12 and 24 months of age, average between capital cities, December 2022 (COP/person/day).



Complementary feeding for children aged 6 to 23 months should be composed of foods with high nutritional density, since in that age range only small portions can be consumed. However, indicators of infant and young child feeding practices also show areas of improvement in Colombia (Figure 15). Nationally, only 42 percent of children between 6 and 23 months of age received a minimum acceptable diet, while in rural areas, this percentage is even lower (34 percent) (22).

Figure 1: Infant and young child feeding practices (Source: ENSIN, 2015).



The determinants of infant and young child feeding practices are diverse, including the social, cultural, food and health systems in which children and their caregivers develop (25). For example, although Colombia adopted the International Code of Marketing of Breast-milk Substitutes by means of Decree 1397 of 1992, the latest monitoring carried out in 2015 by the Ministry of Health (26) found that practices prohibited by the Code are still carried out, such as gifts and free samples of substitutes being given to pregnant and breastfeeding mothers by medical staff and representatives of companies producing substitutes. There is evidence that structural issues, such as the length of maternity leave, may also have an effect on breastfeeding practices (27). In Colombia, according to Act No. 1468 of 2011, working mothers are entitled to 14 weeks of maternity leave, including the pre-birth period (28), and although efforts are being made to provide physical spaces for breastfeeding in work settings, women returning to work is one of the main reasons for not breastfeeding or ending breastfeeding prematurely (25).

In 2023, the national government passed Act 2306, which recognizes the right of women to breastfeed without restrictions, underlining the importance of creating an environment conducive to breastfeeding in public spaces. The regulations establish parameters for the creation of breastfeeding areas, by both government entities and private establishments, highlighting the need to guarantee sanitary conditions (29).

The law not only focuses on physical infrastructure but also addresses cultural and social aspects of breastfeeding. The incorporation of awareness-raising and education campaigns seeks to transform the cultural perception of breastfeeding as something natural and essential for children's health. In addition, the change in paid rest time during breastfeeding in the workplace reflects a holistic approach that acknowledges the importance of providing adequate time and conditions for mothers to continue breastfeeding during the first years of their children's lives.


WFP
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6.

Early childhood care programmes substantially reduce the cost of the nutritious diet, thus decreasing the risk of stunting, acute malnutrition and micronutrient deficiencies, although there is little information about their efficacy and effectiveness in preventing malnutrition in the medium and long term.

Until a few years ago, the Colombian government's main focus in fighting malnutrition had been on moderate and severe acute malnutrition (30). Those efforts have been essential to avoid the consequences of acute malnutrition in children under 5 years of age, as the epidemiological surveillance carried out by the National Institute of Health (INS) shows a reduction in mortality associated with malnutrition in this age group (31). However, according to DANE data, the mortality rate due to malnutrition among children under 5 years of age decreased until 2020, when the indicator stood at 6.7 deaths per 100,000 children under 5 years of age, but increased in 2021 and 2022, when it reached 9.1 deaths per 100,000 children under 5 years of age.

In view of the national average prevalence of stunting, the prevalence of anaemia and vitamin A deficiency in one in four children, and zinc deficiency in one in three children under 5 years of age (22,30), the policy to combat malnutrition implemented by the Colombian Government was expanded to include programmes to combat chronic malnutrition and micronutrient deficiencies.

The General Health and Social Security System, through the operationalization of the Comprehensive Healthcare Roadmaps (RIAS), is addressing the implementation of interventions for supplementation and home fortification for children between 6 and 24 months of age to prevent and reduce nutritional anaemia and micronutrient deficiencies (32).

Likewise, the 1,000 Days to Change and World and Early Childhood Care programmes implemented by the Colombian Institute of Family Welfare (ICBF) are considered tools for the prevention of both acute and chronic malnutrition during key stages of development, in households with high food insecurity (31).

The 1,000 Days to Change the World programme lasts four months, with participants rotating three times a year. The first 30 days of the programme include one packet per day of ready-to-eat food.

For the remaining three months, participants receive a ration of food to prepare at home that includes a portion of Bienestarina, a specialized nutritious food (33). The family and institutional modalities of the Early Childhood Care programme also consist of a ration of food and a portion of Bienestarina. The foods included in both programmes are from different food groups, thus contributing to the food diversity of the participants.

As part of the FNG analysis, the distribution of a medium quantity (50g) of specialized nutritious food in the 1,000 Days to Change the World programme, and the ration distributed in the family and institutional modalities of the Early Childhood Care programmes, was modelled for the different age groups covered by the programme. For the modelling of the food ration, examples were taken from the programmatic dietary guidelines.

As shown in Figures 16 and 17, these rations effectively cover most of the cost of the diet of children participating in the programme, which significantly reduces their risk of malnutrition. However, in addition to monitoring the weight and nutritional status of children while they are part of the programme, they should continue to be monitored to understand the capacity of households to maintain good nutritional status of children after they have left the programme. Also, given the high unaffordability of the nutritious diet, the scope and coverage of these programmes may not be sufficient to cover all children under 5 years of age who are vulnerable to malnutrition.

Figure 16: Cost of the nutritious diet, with specialized nutritious foods (LNS-MQ, 50g per person per day) vs. baseline without specialized nutritious foods, average between capital cities, December 2022 (COP/ person/day).

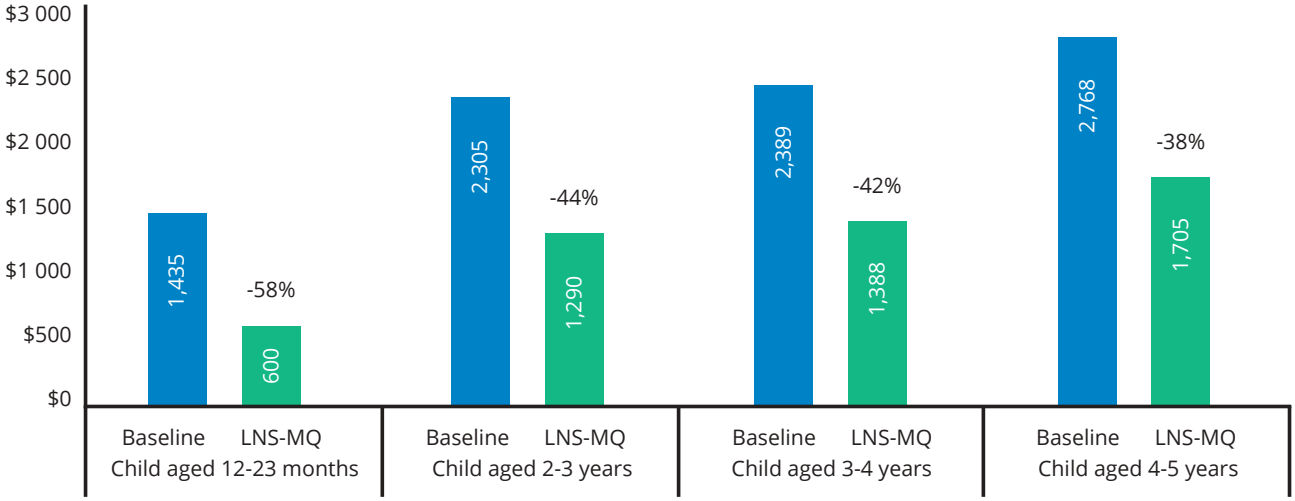
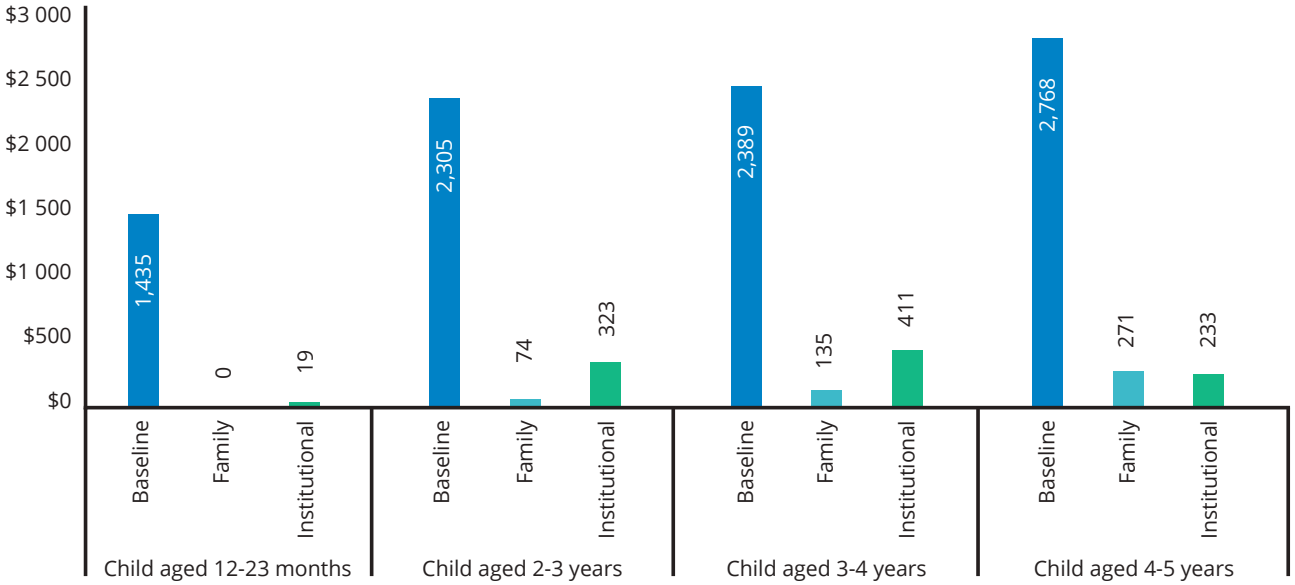


Figure 17: Cost of the nutritious diet, with Early Childhood Care programme ration vs. baseline without the ration, average between capital cities, December 2022.

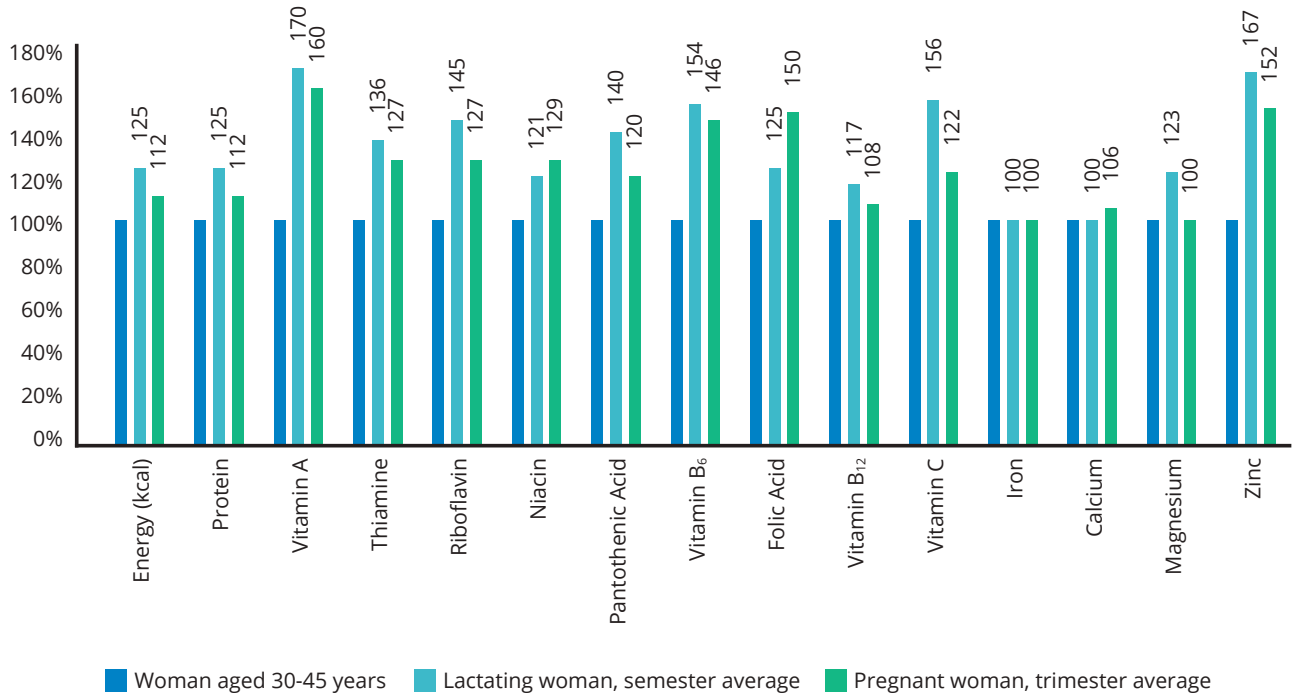


7.

Micronutrient supplementation and comprehensive early childhood care programmes that include maternal and child care can effectively help reduce the risk of malnutrition for pregnant and breastfeeding women. However, strengthening and increasing coverage remains a challenge.

Prevention of malnutrition in pregnant and breastfeeding women serves a dual purpose, since it not only reduces a woman's risk of disorders during and after pregnancy, such as diabetes or pregnancy-induced hypertension, but that period is also a critical window for forecasting the risk of chronic diseases in the lives of their children. Therefore, adequate nutrition before and during pregnancy, as well as during the breastfeeding period, it is of vital importance for the adequate health and development of human capital in both the mother and her children (34). As shown in Figure 18, during pregnancy and lactation, there is an increase in the nutritional requirements of women and, therefore, an increase in the risk of malnutrition and the negative consequences that it entails for them and their children.

Figure 18 : Increase (%) in nutritional requirements for an adult woman during pregnancy and lactation (Source: FAO/WHO).

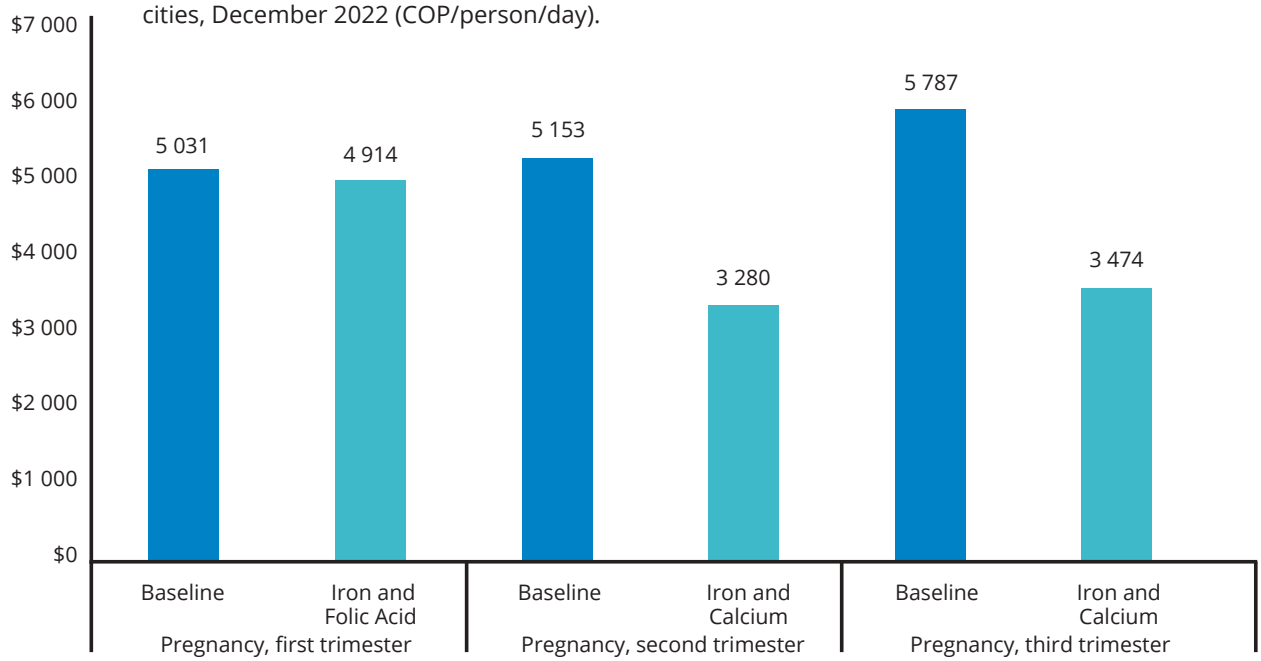


With the aim of reducing this risk, the Colombian Government has implemented micronutrient supplementation during pregnancy as part of the perinatal care provided by health services. The evidence, although limited, indicates that in Colombia there is good adherence to supplementation programmes, although there is potential for improvement, since approximately 70 percent of pregnant women used prenatal supplements for calcium, iron and folic acid (35,36). However, this adherence could be correlated with socioeconomic or educational level, geographical region or ethnicity, which indicates that access to these services is not equitable, potentially leaving out more socioeconomically vulnerable women (36).

As part of the FNG analysis, reducing the cost of the nutritious diet for pregnant women was modelled with supplementation according to the guidelines established by the Ministry of Health and Social Protection (32).

As can be seen in Figure 19, that could potentially reduce the cost of the diet by about 40 percent during the second and third trimesters by including calcium, one of the limiting nutrients, in the cost of the diet in all regions.

Figure 19 : Cost of the nutritious diet for pregnant women per trimester of pregnancy, with micronutrient supplementation vs. the baseline without micronutrient supplementation, average between capital cities, December 2022 (COP/person/day).

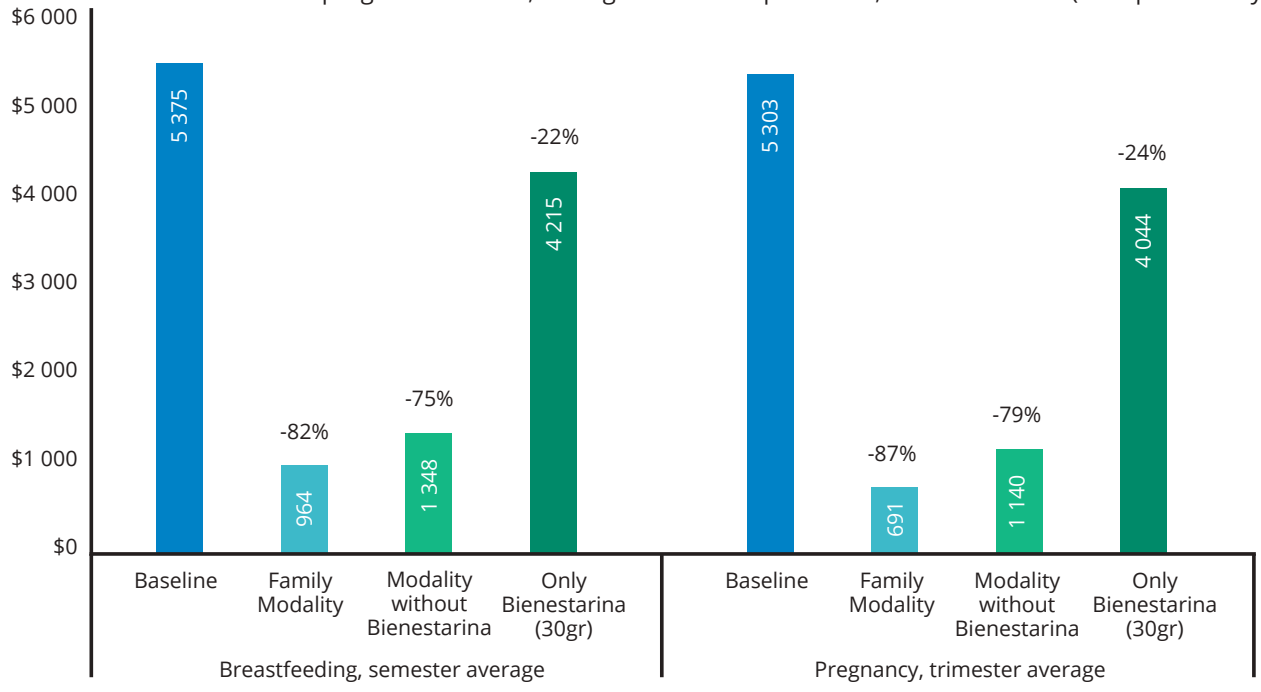


As part of the ICBF's Early Childhood Care Programmes, and in order to protect children during pregnancy and breastfeeding, the family modality includes a food ration for the mother.

This ration covers different food groups, including some of animal origin, and a portion of Bienestarina Mamá, a specialized nutritional food designed specifically for pregnant and breastfeeding women. Within the framework of the FNG analysis, this ration was modelled and, at the request of the interested parties, the ration was modelled without including the Bienestarina Mamá portion as well as with only the Bienestarina Mama portion, in order to ascertain the contribution of this specialized nutritious food.

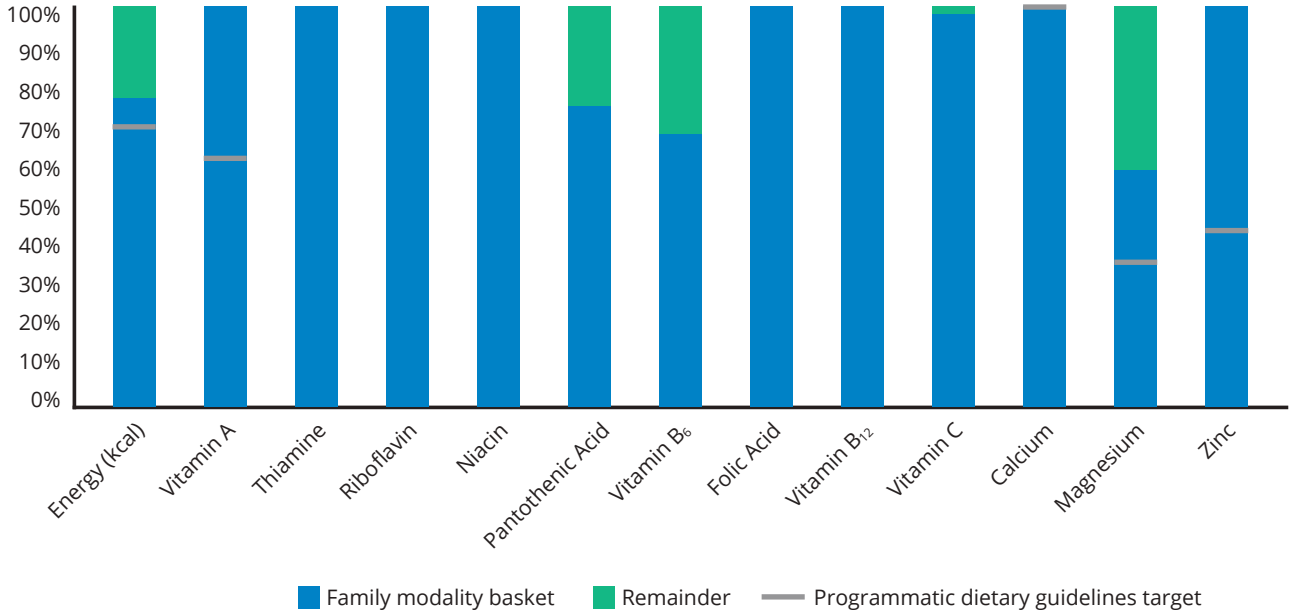
The ration in the family modality reduces the cost of the nutritious diet by more than 80 percent, both in the breastfeeding period and during pregnancy, as can be seen in Figure 20. On its own, the portion of Bienestarina Mama could reduce the cost of the nutritious diet by 20 to 25 percent.

Figura 20 : Cost of the nutritious diet for pregnant or breastfeeding women, including the ration of the Early Childhood Care programme and 30g of Bienestarina Mamá vs. the baseline without the Early Childhood Care programme ration, average between capital cities, December 2022 (COP/person/day).



According to the programmatic dietary guidelines, the ration seeks to cover 70 percent of energy requirements and a percentage of the requirements of vitamin A (62 percent), calcium (100 percent), iron (36 percent) and zinc (44 percent). The modelling carried out in the FNG analysis shows that the ration meets and exceeds the target set in the programmatic dietary guidelines, as well as providing a high percentage of the requirements of other micronutrients for pregnant women (Figure 21).

Figure 21 : Percentage of the nutritional requirements of pregnant women covered by the ration in the family modality of the Early Childhood Care programme.



8.

Adolescents are at higher risk of malnutrition, because they have high requirements for limiting nutrients, such as calcium. Adolescent girls also have high iron requirements. More evidence is needed regarding programmes that specifically target adolescent nutrition.

Adolescence is a key stage of physical and cognitive development, since it is the transition period between childhood and adulthood. Nutrition is one of the most important factors affecting this development (37).

Accelerated physical growth increases the macronutrient and micronutrient requirements for both adolescent boys and adolescent girls. The foods that should be consumed during this stage to ensure adequate nutrition must have a nutritional density high in calcium for both. Adolescent girls specifically require a higher density of iron, because this is the stage when menstruation begins.

As shown in Figure 22 and Figure 23, although adolescent boys have higher energy requirements, the diet cost is similar for both boys and girls. In the modelling of the cost of the diet for this age group, it was found that calcium is a limiting nutrient as it is for the other groups, which increases the cost of the nutritious diet.

Figure 22 : Energy requirements of an adolescent boy and adolescent girl between 14 and 15 years of age (kcal/person/day).

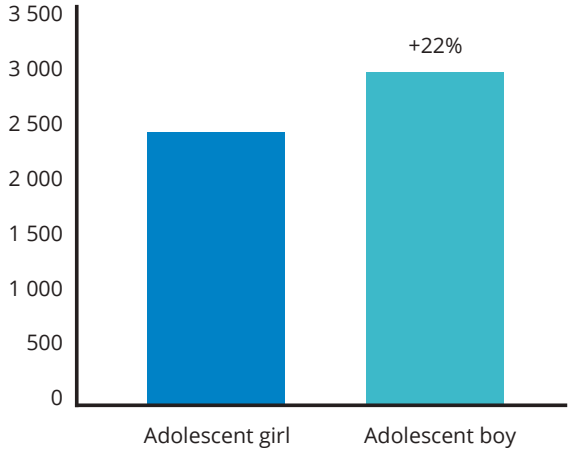
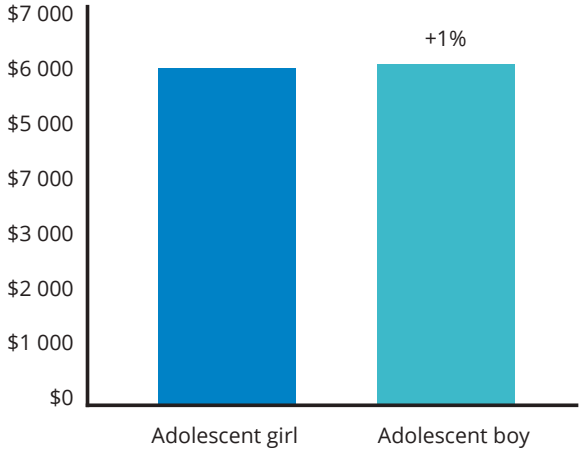


Figure 23 : Cost of the nutritious diet for an adolescent boy and an adolescent girl between 14 and 15 years of age, average between capital cities, December 2022 (COP/person/day).



There is little evidence regarding the diets and consumption patterns of adolescents. However, a study conducted jointly by WFP and the University of Antioquia on the consumption patterns of adolescent girls in three communities in Medellín suggests that their diets are unlikely meet their nutritional requirements (19). The evidence indicates that their diets are high in ultra-processed foods of little nutritional value, while consumption of foods such as fruits, vegetables, meats and dairy is insufficient. Taking into account the foods available locally, it is especially difficult to meet the iron and calcium requirements, unless supplementation with micronutrients, or underconsumed foods, is included in the diet.

The food environment plays an extremely important role in the adolescent diet given that during this stage adolescents start to have autonomy in making decisions about what foods they choose, buy and consume, and adolescents are susceptible to external factors such as advertising and sociocultural pressure (38). With this in mind, more information and understanding of potential entry points and effective mechanisms for the implementation of interventions focused on adolescents in Colombia is required (19).

National policies in Colombia recognize adolescents as a specific target group. The National Policy for Children and Adolescents acknowledges that adolescents must have "optimal conditions of food and nutrition" (39), while the Comprehensive Roadmap of Actions of this policy recognizes that the State should promote adequate availability, access and consumption of food in line with the needs of adolescents (40). However, the lines of action for adolescents do not focus on promoting adequate food or nutrition, which means that nutrition services do not specifically address the needs of adolescents (41).

9.

Food fortification has the potential to facilitate access to nutrients that households need for adequate nutrition. Its impact is greatest among the most vulnerable households, with diets based primarily on basic staple foods.

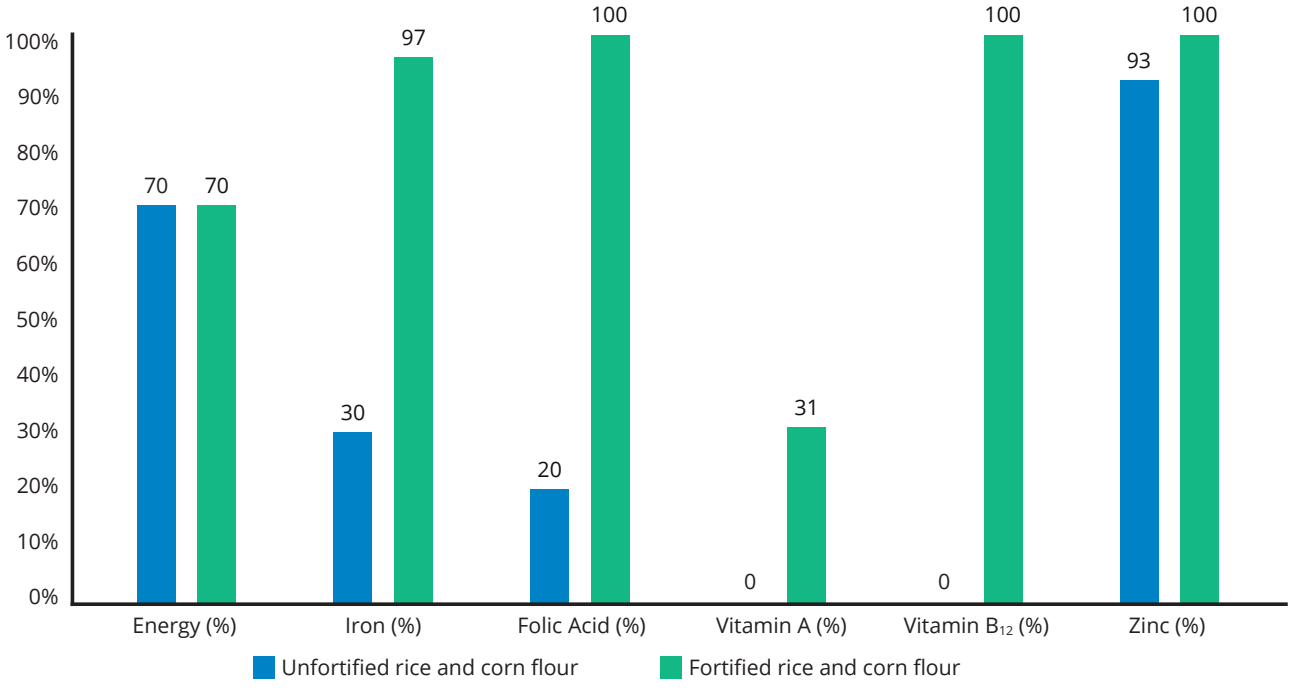
Food fortification is recognized as one of the most cost-effective, acceptable and scalable interventions to improve consumption and prevent deficiencies of micronutrients among the population (42). In Colombia, salt has been fortified with iodine since 1947, and it is currently mandatory under Decree 547 of 1996 (43). Also, since 1996, wheat flour must be fortified with vitamin B1, vitamin B2, niacin, folic acid and iron, and may optionally be fortified with calcium (44).

In addition to wheat flour, in Colombia there is the potential for mass mandatory fortification of other staple foods, such as rice. Almost 100 percent of rice in Colombia is domestically produced, and more than 80 percent is processed in industrial mills (45, 46). Corn, on the other hand, is imported mostly as grain, although there is little data on its processing and industrial milling so it is difficult to ascertain the potential for fortification of corn flour in Colombia (45,46).

As part of the strategy to prevent micronutrient deficiencies, the Ministry of Health and Social Protection has developed draft standards for the mandatory fortification of rice and corn flour, which have yet to be approved. These include the addition of vitamin A, iron and zinc to corn flour, and folic acid, vitamin B12, iron and zinc to rice. The approval of these standards will be an important first step towards the fortification of these products. However, proper implementation, monitoring and compliance with the regulations requires coordination and joint work between the different actors within the value chain, and political capital of the agencies implementing the policy (47). Even in the case of wheat flour, for example, there are areas for improvement with respect to compliance with fortification regulations, since it is estimated that only 81 percent of the flour produced in Colombia is fortified, even though almost 100 percent of wheat flour is industrially processed (45).

Fortification has the potential to especially benefit households with diets lacking in diversity and which are highly dependent on basic staple foods, and global evidence points to its social and economic benefits for vulnerable populations. As part of the FNG analysis, the impact that rice and corn fortification could have on micronutrient coverage was modelled, simulating a diet where 70 percent of the energy comes from just these two foods (Figure 24). Compared to the same amount of energy from unfortified rice and corn, fortification of these foods would significantly improve access to essential micronutrients such as vitamin A, folic acid, vitamin B12, iron and zinc, which are the micronutrients covered by the draft regulations.

Figure 24 : Percentage coverage for the modelled household of energy and micronutrients from rice and corn flour, with and without fortification according to the draft regulations of the Ministry of Health.



The impact of fortification could be strengthened if a wider diversity of micronutrients is added. The results of the FNG analysis indicate that calcium is a limiting nutrient in all the analysis regions for all members of the modelled household. There is little data on the prevalence of calcium deficiencies in the country, but the evidence available points to deficient consumption of foods that are a source of this micronutrient (20,21). Therefore, it could be worth exploring how fortification could contribute to improving the intake of calcium and other micronutrients for which deficient consumption is estimated or for which there is evidence of a deficiency in the population, such as vitamin D (22).

10.

Cash transfers, as part of social protection or humanitarian programmes, have the potential to improve economic access to nutritious diets and help close affordability gaps. To fulfil their objective, transfer values must be adjusted to the inflationary reality in the country.

Social protection programmes involving cash transfers are designed to supplement the economic income of poor and vulnerable households. A nutrition-sensitive social protection intervention must be adequately designed, be properly targeted and include diversified delivery mechanisms that improve physical and economic access to nutritious food and nutritionally adequate diets. In this way, and by promoting the use of the services of social security systems such as health, education and other essential services, cash transfers can play a catalyzing role in the prevention of malnutrition and the development of human capital.

The evidence generated by the FNG analysis can serve as an input into social protection interventions involving cash transfers, to ensure that such interventions take into account other aspects that might affect access to nutritious diets, like specific nutritional needs and the cost of nutritionally adequate food throughout people's lifetime, the effects of inflation and/or the availability of different foods in each region.

Regarding connecting interventions with other relevant sectors that contribute to the development of human capital in the particular case of Colombia, Families in Action (Familias en Acción) stands out. This programme included an economic incentive in relation to health, to encourage people to adhere to the Comprehensive Care Roadmap for the promotion and maintenance of health in early childhood, and an economic incentive in relation to education, to encourage school attendance and discourage dropping out. Both incentives were conditional on certain joint responsibilities of households, in order to encourage their use for the intended objective (48, 49).

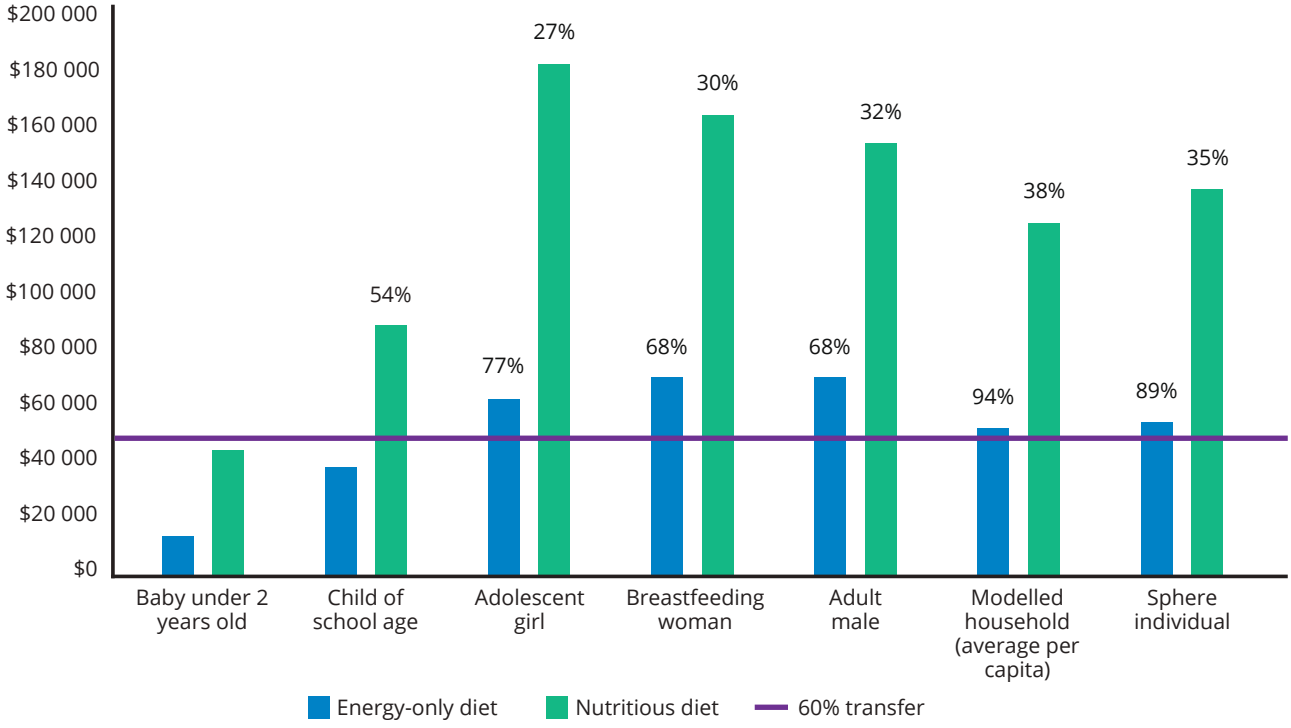
In April 2023, the national government began implementation of the "Transition to Citizen's Income" programme, which entailed a vertical and horizontal expansion of the Families in Action programme. From 2024, the national government will commence the Citizen's Income programme of the Administrative Department for Social Prosperity. As indicated in Article 65 of the National Development Plan, in the coming years the National Transfers System will be regulated to ensure the coordination and harmonization of the various cash and in-kind transfer programmes. Citizen's Income, therefore, will be harmonized within this National Transfers System (9).

The Citizen's Income programme aims to contribute to overcoming poverty, promoting social mobility and strengthening the popular and community economy in line with the principles of integrality, effectiveness and efficiency through the delivery of conditional and unconditional transfers (50). It is planned that it will have nationwide coverage and reach more than three million households (40 percent more than the number of households included in the Families in Action programme). The amount of the transfer will be differentiated depending on the composition of the household, the SISBÉN beneficiary identification system group or population group to which they belong, and the department and municipality in which they reside, but it could be as much as COP 500,000 a month per household (51). Articulating the households covered by the Citizen's Income programme with complementary programmes in the areas of health, education and so on, such as micronutrient supplementation, early childhood programmes, school feeding programmes or access to fortified foods, could increase the scope of the Citizen's Income programme to fulfil the objectives of the human right to food established in the Colombian Government's National Development Plan.

For its part, the humanitarian sector also plays an important role in caring for the most vulnerable people in Colombia, which is why the transfers must be designed in a nutrition-sensitive way. Currently, for WFP in Colombia, there are four main care categories for this sector: 1. Colombians affected by violence, disasters and non-migratory crises; 2. migrants; 3. people receiving care through mobile units; and 4. the project to provide care for people with HIV.

In the first category, supporting Colombians affected by violence, disasters and non-migratory crises, the transfer seeks to provide the equivalent of 50 percent of the participants' energy requirements. The transfer amount is COP 80,000 for each member of the households covered by the programme. Comparing this amount with the cost of the energy-only diet and the cost of the nutritious diet of the different members of the modelled household, and considering that only 60 percent of the transfer is spent on food, the extent of coverage provided by the transfer depends on the sex, age and physical condition of the beneficiary. In all cases, 60 percent of the transfer (COP 48,000) would cover more than 50 percent of the cost of the energy-only diet. However, the transfer would only cover more than 50 percent of the cost of the nutritious diet for the 12-24-month-old baby and the child of school age (Figure 25).

Figure 25: Cost of the energy-only diet and the nutritious diet vs. 60 percent of a cash transfer with a total value of COP 80,000 per person per month, average between capital cities, December 2022 (COP/person/month).



11.

Given the current global food crisis and the triple burden of malnutrition that Colombia is facing, coordinated multisectoral actions are needed to enable vulnerable households to access a package of interventions to ensure their human right to healthy food.

The level of unaffordability of the nutritious diet and the energy-only diet clearly indicates how low-income households may face economic barriers to adequate nutrition. In the context of the global food crisis and the triple burden of malnutrition that Colombia is facing, the different sectors must work in a joint and coordinated manner to improve the availability, accessibility and adequacy of nutritious diets for the whole population. The aim is to progressively achieve the human right to food, which is provided for in the National Development Plan 2022-2026 (9).

Colombia is at a transition stage. Institutions, bodies, coordination spaces and key platforms for the food and nutrition security agenda have been transformed. A new Ministry of Equality is being created and will play a leading role in guaranteeing the human right to food of the most vulnerable segments of the population. At the same time, the national government has pushed ahead with the design of the Citizen's Income programme with a focus on overcoming the hunger of poor and vulnerable households. Sectorally, there are draft regulations for the fortification of basic staple foods, and the country is looking to implement programmes to improve healthy eating by boosting local food systems.

The various relevant institutions and organizations must take advantage of this moment to improve

the availability and accessibility of the foods that are required at the different stages of life to ensure adequate nutrition. The generation and use of evidence is key to understanding whether the interventions adopted are meeting the objectives set in the best way possible. The findings of the FNG analysis reveal areas where there are opportunities for improvement, in both existing and potential programmes. Furthermore, the analysis highlights that the lack of up-to-date evidence regarding the nutritional situation at the national level has been an impediment to properly understanding specific problems and areas of action.

Efforts such as the National Follow-up and Monitoring System for Overcoming Malnutrition (SNSM) may be able to help understand how efforts are progressively contributing to the realization of the human right to food. In this way, they will serve to point out areas of opportunity and spaces for improvement, so that all Colombians can reach their potential.

Focus on migrant households

In 2021, the Colombian Government adopted the Temporary Protection Status for Venezuelan Migrants (ETPV). This mechanism offers new flexibility in relation to migration, reflecting the government's commitment to protecting the human rights of this population, facilitating its integration into the productive life of the country by regularizing their immigration status (52). This status gives migrants a guarantee of fundamental rights and access to basic services such as health and education. In addition, it establishes conditions of equality for work and opens the possibility of moving towards an ordinary immigration regime (6). As of October of 2022, six in 10 Venezuelan migrants had regular immigration status thanks to the ETPV (5). However, despite the Colombian Government's commitment, the migrant population continues to find itself in a situation of greater vulnerability, facing specific challenges to achieve its food and nutrition security, beyond the limitations related to the food environment in the host regions.

In the context of this migration phenomenon and the national government's commitment to protect human rights, WFP has worked together with technical partners and experts in Colombia to include in the FNG analysis a focus on Venezuelan migrants in Colombia. It uses the same data sources used in the main analysis, calculating the specific unaffordability faced by Venezuelan migrant households nationwide.

Key messages

More than half of Venezuelan migrant households do not have economic access to a nutritious diet and nearly two in 10 do not have economic access to an energy-only diet. The food and nutrition insecurity faced by migrants from Venezuela is precarious.

Migrant households face multiple simultaneous challenges and vulnerabilities (4.6):

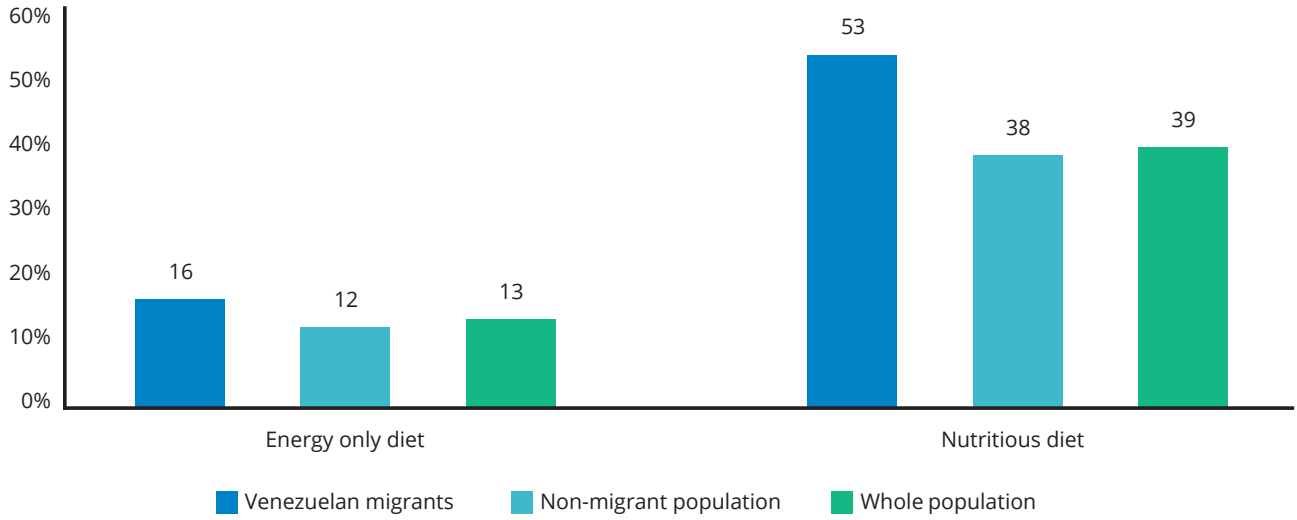
- Six in 10 Venezuelan households intending to settle permanently in Colombia are living in poverty, and three in 10 are living in extreme poverty.
- One in 10 households do not have access to safe drinking water and 30 percent are living in overcrowded conditions.
- The unemployment rate for Venezuelan migrants is 18 percent (compared to the national average of 10.5 percent).
- Fourteen percent of girls aged 6 to 11 and 29 percent of girls aged 12 to 17 do not attend school and do not have access to school feeding programmes.
- Thirty-one percent of the migrant population is not registered with the health system and 33 percent of children did not have access to food assistance programmes.
- Thirty-seven percent of Venezuelan migrants report discrimination on grounds of nationality.

Migrants intending to settle permanently face high levels of food and nutrition insecurity. Fifty-two percent are food insecure. Nearly three percent of children under 5 years of age had acute malnutrition, 17.5 percent were stunted and 44 percent had anaemia (5). Taken together, this reflects how the triple burden of malnutrition is affecting the migrant population. Linked to this, 42.5 percent of infants under 6 months of age were exclusively breastfed during the recommended time and only one in four children between 6 and 23 months of age have a minimum acceptable diet (5).

One third of pregnant migrant women intending to settle permanently in Colombia and pregnant women in host communities suffer from anaemia, 20 percent were underweight and 53 percent were overweight (4), which increases vulnerability and risk factors in maternal and child health.

The findings of the FNG analysis indicate that Venezuelan migrant households face greater diet unaffordability than the rest of the population in the country, as shown in Figure 26. The energy-only diet and the nutritious diet would not be affordable for 16 and 53 percent, respectively, of migrant households. These percentages are higher than for the non-migrant population, where unaffordability is 12 percent in the case of the energy-only diet and 38 percent for the nutritious diet.

Figure 26: Percentage of households without economic access to the energy-only diet and the nutritious diet, national total, December 2022.



The Temporary Protection Status for Venezuelan Migrants (ETPV) reflects the government's commitment to protecting human rights in a humanitarian crisis. Migrants' integration should be promoted to help facilitate their access to social protection schemes and basic services.

Six in 10 Venezuelan migrants have regular status thanks to the ETPV. This mechanism offers new flexibility in relation to migration, reflecting the government's commitment to protecting the human rights of the migrant population, facilitating the integration of Venezuelan migrants into the productive life of the country by regularizing their immigration status. Although the Colombian Government has made great efforts to grant temporary protection status to Venezuelan migrants, certain barriers have prevented access to this temporary protection. Households have reported not having sufficient information about the registration processes and the documentation they must present. Moreover, some households do not have the necessary infrastructure to access the internet, and online platform failures and excessive demand for biometric registration appointments were reported (5).

Once the ETPV has been obtained, other difficulties persist for migrants in the country. For example, revalidation of professional qualifications or low levels of education (half of the heads of household have not completed secondary school) limit access to job opportunities, xenophobia and discrimination hinder access to formal employment and housing opportunities, and the low level of financial inclusion limits hiring and entrepreneurship (4.5). Many migrants slip through the official social security nets and cannot access employment due to a lack of documentation (4). It is therefore important to promote the access of the Venezuelan migrant population to social protection information systems, such as SISBÉN, since that is the tool for targeting the most vulnerable members of the population. This is the first step towards facilitating access to social security, as a safety net or form of support for socioeconomic inclusion, in relation to the mass regularization process made possible by the Temporary Protection Status and the issuing of Temporary Protection Permits.

Humanitarian assistance programmes can be an opportunity for the socioeconomic integration of the migrant population. Both registration requirements and transfer amounts should take into account the gaps faced by this population.

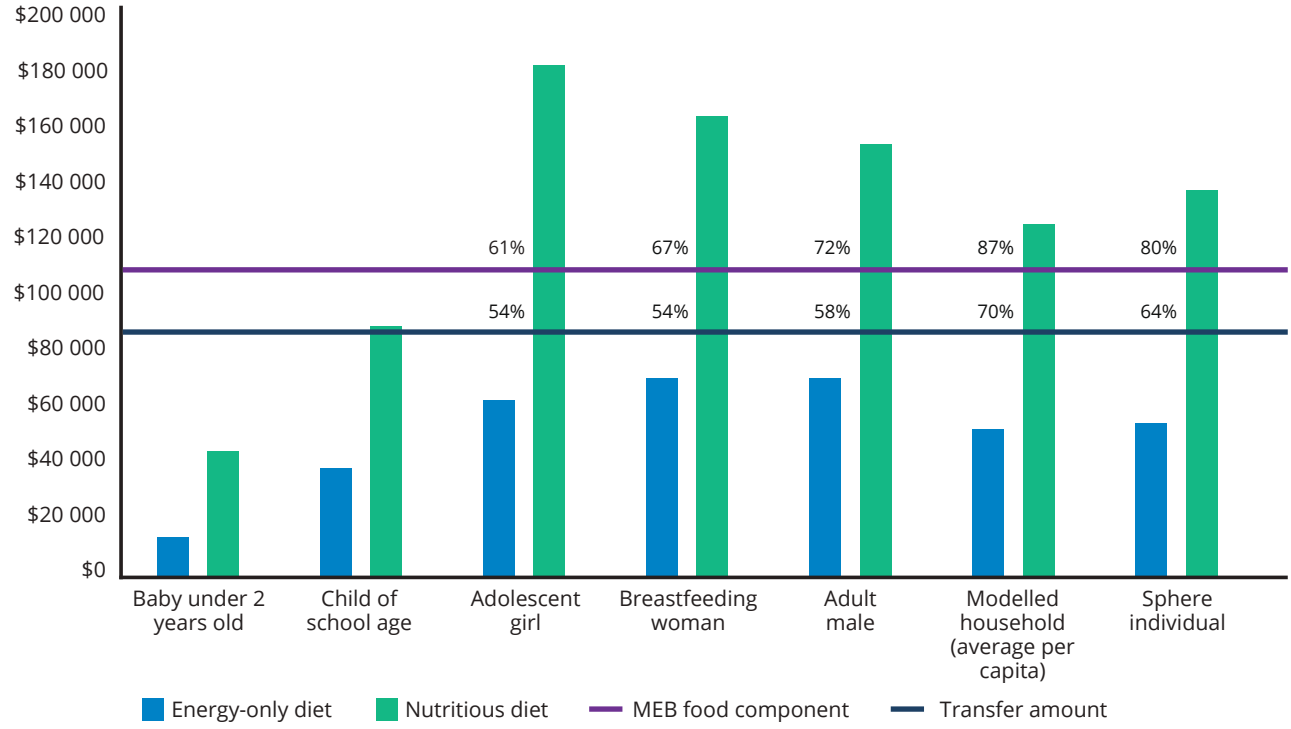
Cash transfers and vouchers are a vital source of income for migrant households. Food, housing and medical care are the main needs mentioned by Venezuelan households. Cash remains the preferred response modality to meet these needs, with two out of three migrants using it to purchase food. One in 10 migrants receiving assistance are not satisfied with what they have received, mainly because the quantity is insufficient (4).

When determining the amount to be provided in cash transfer programmes, an important part is allocated to the purchase of food. In October 2022 , the rights-based food basket was defined together with the transfer amounts, in view of the inflation crisis, with the aim that they would cover 80 percent of the food component and non-food expenditure, and would contribute to food security. The food in the Minimum Expenditure

Basket (MEB) seeks to provide approximately 2,100 calories, as well as the recommended amounts of protein, fat, carbohydrates and certain essential micronutrients (e.g. iron and calcium). These levels were based on the basic requirements for the individual defined in the Sphere Handbook (53), the dietary guidelines for the Colombian population and the food purchasing patterns of the Venezuelan migrant population (54).

Based on a food component value of COP 108,681 and assuming a transfer amount of 80 percent of that value, the transfer amount would cover between 49 and 70 percent of the cost of a nutritious diet, depending on the individual modelled, as illustrated in Figure 27. On the one hand, the transfer amount for migrants covers the cost of the energy-only diet for all modelled individuals. On the other hand, the transfer amount would only cover 49 percent of the nutritious diet for an adolescent girl, 54 percent for a breastfeeding woman, 58 percent for an adult male, and 70 percent of the per-capita average for the modelled household.

Figure 27: Cost of the energy-only diet and nutritious diet vs. amount transferred to migrants, December 2022 (COP/person/month).



Recommendations from technical partners

Methodology for the generation of recommendations

Five workshops were held to discuss and validate the results of the NGF analysis, and to develop the recommendations through dialogue with the various stakeholders:

1. Validation workshop with the TWG.
2. Workshop to discuss the results with members of academia, including the National University of Colombia, Manuela Beltrán University, ACOFANUD and the Agrifood Systems Research Centre at the University of the Andes.
3. Workshop to discuss the results with members of the private sector, including ANDI, DSM, ACODIN, ABACO and Fundación Éxito.
4. Workshop to discuss the results with members of international organizations, including FAO, Save the Children, PAHO and World Vision.
5. Recommendation generation workshop with participants from all the aforementioned sectors.

The first step in the methodology followed during the recommendation generation workshop consisted of grouping together the key messages according to the following three aspects, to facilitate discussion: (a) current situation; (b) interventions for at-risk groups; and (c) interventions for vulnerable households. Next, 40 minutes were allocated to discussing each of these groups of messages, addressing the following guiding questions:

- What data or findings most caught your attention and/or were most useful?
- What actions do you recommend taking in the short, medium and long term to overcome the gaps identified in the key messages?
- What bottlenecks do you think could hinder implementation of these recommendations?
- Identify what resources the country would need and which actors should be involved (what, who and how much).

General recommendations

The participants proposed a number of general recommendations derived from the analysis, including:

- **Work on generating evidence regarding nutrition,** starting with the preparation of a study of food consumption to complement the FNG analysis, identifying the nutrient gaps in current diets.

- **Systematically incorporate the FNG analysis in the ENSIN, as well as in the definition of the country's basic basket,** to more accurately assess gaps in the quality and availability of food in different population segments and regions of the country. This will make it possible to obtain more up-to-date and representative data on the food and nutrition situation of the Colombian population. It is necessary to establish close collaboration between the government agencies responsible for carrying out the ENSIN, the actors involved in the FNG analysis and other relevant entities in the field of nutrition.

- **Undertake a systematic analysis of the gaps identified in the FNG analysis,** especially in relation to the quality and diversity of the foods consumed, **building on the results through concrete actions and evidence-based policies.** This involves designing strategies to close the gaps identified, promoting equitable access to healthy eating and strengthening access to nutritious diets for the population groups that need it most.

- **Take into account the evidence generated by the FNG analysis in implementation of the National Development Plan 2022-2026** and in the information systems that will be created during the period of government, such as the SNSM.

- **Implement coordinated multisectoral actions to guarantee access to a package of interventions that ensures the human right to food for vulnerable households, addressing the components of availability, access and adequacy of food,** such as food and nutrition education, and the promotion of healthy practices. Involve multiple actors, such as the government, non-governmental organizations, the private sector and civil society, to design and implement comprehensive strategies that address the various determinants of malnutrition.

- **Create a coordinating role with the national body responsible for progressively guaranteeing the human right to food** to follow up the recommendations and the work plan for implementation of the recommendations resulting from the analysis.

Specific recommendations

A summary of the specific recommendations was generated for each group of key messages and is included below.

Key messages 1–4: Current situation

- **Promote healthy eating and regulate the advertising of ultra-processed foods for children and adolescents,** developing policies and programmes that focus on promoting healthy eating. It is essential to develop food and nutrition education strategies that promote the importance of eating a variety of locally available nutritious foods that support adequate growth and development in line with the ICBF's Food-Based Dietary Guidelines. In addition, advertising of ultra-processed food products should be regulated, especially advertising aimed at children and adolescents, with the objective of reducing the consumption of such products.

- **Encourage the consumption of calcium-containing foods** and strengthen strategies for the consumption of milk and dairy products. Likewise, strengthen information about the different foods that could be a source of this micronutrient in the diet, including information regarding bioavailability and its contribution to the diet.

- Strengthen food culture by **emphasizing the Food-Based Dietary Guidelines for the Colombian population.** At the local level, promote and strengthen the production and consumption of fresh and minimally processed foods, in accordance with the habits and customs of each region of the country adopting a differentiated regional and ethnic approach.

- Implement strategies to promote a diet that favours **the consumption of foods containing high bioavailability micronutrients,** and combine foods containing micronutrients that help improve absorption. For example, eating foods that are a source of vitamin C to improve the absorption of iron, or eating foods that are a source of vitamin D improve absorption of calcium.

- **Encourage the production of foods containing limiting micronutrients to improve their availability, promoting local production of fresh, natural or minimally processed foods, encouraging sustainable, peasant, family and community farming** through incentives for producers, food and nutrition education programmes or the promotion of marketing strategies. For example, consider alternative ways of using livestock in the country, working with key actors in the industry and establishing policies that promote the production and distribution of food in safe conditions or establish effective coordination with the fisheries sector to take advantage of hydrographic basins as fish farming areas, thus increasing the availability of fish in different areas of the country. Also, incentives and policies could be implemented to reduce food costs, such as the elimination of taxes on fresh produce.

- **Expand the reach of social protection programmes to mitigate the impact of food price increases on vulnerable households, and take advantage of institutional demand for food to promote sustainable agriculture.** Implement measures such as the expansion of social protection programmes (e.g. Citizen's Income, the School Feeding Programme and early childhood care programmes) that provide direct economic support to families to cover the costs of a nutritious diet. For this, it will be crucial for the **values of the transfers be regularly adjusted to the inflationary reality of the country** to ensure that they remain adequate and sufficient to cover the cost of fresh and healthy foods.

Key messages 5–8: Interventions for at-risk groups

- **Expansion of child care programmes to include their household and community,** adopting a comprehensive approach that involves aspects such as access to job opportunities for households and the promotion of productive projects to generate income. This will involve the articulation of existing programmes and the creation of new projects that address the specific needs of each community.

- **and impact evaluations of programmes and projects focused on at-risk groups.** This will allow for ongoing adjustments and improvements to be made in the implementation of programmes to ensure that they are generating positive and sustainable results for households and communities. In addition, it is recommended to promote the active participation of the community in identifying needs, designing interventions and making decisions through the use of formative research or other strategies to strengthen the community approach and encourage greater ownership of proposed solutions.

- **Develop strategies for formulating products of high nutritional value that address the limitations of specific food environments,** considering the diversity and specificity of nutritional needs in different population groups. **Support the research and development of new products of high nutritional value**, using ingredients from the Colombian territory and

taking advantage of Colombia's biodiversity. The design of these prototypes of fortified foods must **take into account, among other factors intrinsic and extrinsic to human beings, bioavailability and acceptability by the population.** Any product developed must be supported by research and development, and must comply with the existing regulations on food safety requirements in the country.

- **Strengthen policies and programmes for the promotion and protection of breastfeeding, and improve education about appropriate complementary feeding practices for young children,** providing support to breastfeeding mothers and strengthening implementation of the International Code of Marketing of Breast-milk Substitutes. Improve the education of the general population in relation to appropriate complementary feeding practices for young children, ensuring understanding of the benefits of exclusive and continued breastfeeding, and the importance of promoting healthy eating from early childhood.

- **Strengthen and expand micronutrient supplementation and comprehensive early childhood care programmes, establishing greater coverage to ensure that they reach vulnerable populations and guarantee healthy eating for young children.** This involves providing micronutrient supplementation within the framework of the health system and delivering comprehensive care services that address not only nutrition but also other aspects of maternal and child health. In addition, the effectiveness of these programmes needs to be monitored continuously and over the long term to ensure that they are meeting their goal of preventing malnutrition.

- **Strengthen the nutritional component of the School Feeding Programme (SFP).** It is crucial to recognize the nutritional contribution that the SFP represents in pupils' daily intake; therefore, it is suggested to implement actions that promote healthy eating in educational institutions, ensuring healthy food environments free of ultra-processed products. This entails including foods that are sources of essential nutrients, paying special attention to the diversity and safety of the foods offered. It is also recommended to **establish monitoring and evaluation mechanisms based on a rigorous framework to measure the impact of the SFP, including healthy food environments, on progressively guaranteeing pupils' human right to food,** making continuous adjustments and improvements to the programme, thus guaranteeing its effectiveness.
- **Promote food and nutrition education in schools, providing information and practical tools to pupils** so that they can make healthy choices in their day-to-day diet. This may include innovative strategies for behavioural changes based on formative research, designed and built with the participation of the community, actions to share information, education and communication, and reducing ultra-processed products in school food environments.

- **Develop and implement specific programmes that address the nutritional needs of adolescents, especially girls at this stage,** taking into account factors such as growth spurts, demand for energy and nutrients, and the risks associated with body image and eating disorders. It is important to invest in formative research and generate evidence regarding facilitators and inhibitors for the adoption of healthy eating habits in adolescent girls and boys, in order to create effective programmes that promote healthy eating and address specific nutritional challenges in adolescence.

Key messages 9–11: Interventions for vulnerable households

- **Implement measures that promote higher calcium intake,** establishing regulations and programmes that promote fortification of different foods with this nutrient. This should include collaborating with the food industry, developing government policies and promoting education campaigns to raise awareness of the benefits of consuming fortified foods.

- **Establish alliances with government institutions, the private sector and other relevant actors to promote the production, distribution and consumption of biofortified foods.** Raise awareness among farmers of the benefits of biofortification, ensure the availability of biofortified seeds and promote demand for these types of crops among consumers. Conduct nutrition education and communication campaigns to inform the population about the benefits of consuming biofortified foods and encourage their inclusion in daily diets. Likewise, establish monitoring and evaluation mechanisms to monitor the coverage and impact of biofortification on the micronutrient intake of the population.

- Maintain and **regularly adjust the values of cash transfers in social protection and humanitarian aid programmes**, to maintain the purchasing power of households in an inflationary context. **Complement the transfers with food and nutrition education programmes** based on formative research, to promote knowledge about healthy eating and help families make healthy decisions when buying and preparing food.

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Acronyms

CIAT	International Centre for Tropical Agriculture (Centro Internacional de Agricultura Tropical)
COICOP	Classification of Individual Consumption by Purpose prepared by the United Nations Statistics Division
COP	Colombian pesos, currency of legal tender in
DANE	Colombia National Administrative Department of Statistics (Departamento Administrativo Nacional de Estadística)
DNP	National Department of Planning (Departamento Nacional de Planeación)
ECV	National Quality of Life Survey
ENPH	National Household Budget Survey (Encuesta Nacional de Presupuesto de los Hogares) National
ENSIN	Nutritional Situation Survey (Encuesta Nacional de la Situación Nutricional)
ETPV	Temporary Protection Status for Venezuelan Migrants (Estatuto de Temporal de Protección para Migrantes Venezolanos)
FNG	Fill the Nutrient Gap
GTT	Technical Working Group
ICBF	Colombian Institute of Family Welfare (Instituto Colombiano de Bienestar Familiar)
IPC	Consumer Price Index
MEB	Minimum Expenditure Basket
MSPS	Ministry of Health and Social Protection (Ministerio de Salud y Protección Social)
OMS	World Health Organization
PAE	School Feeding Programme (Programa de Alimentación Escolar)
SISBÉN	System for the Identification of Potential Beneficiaries of Social Programmes (Sistema de Identificación de Potenciales Beneficiarios de Programas Sociales)
SNSM	National Follow-up and Monitoring System for Overcoming Malnutrition (Sistema Nacional para el Seguimiento y Monitoreo para la Superación de la Malnutrición)
UNICEF	United Nations Children's Fund
VIH	Human immunodeficiency virus
WFP	United Nations World Food Programme

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