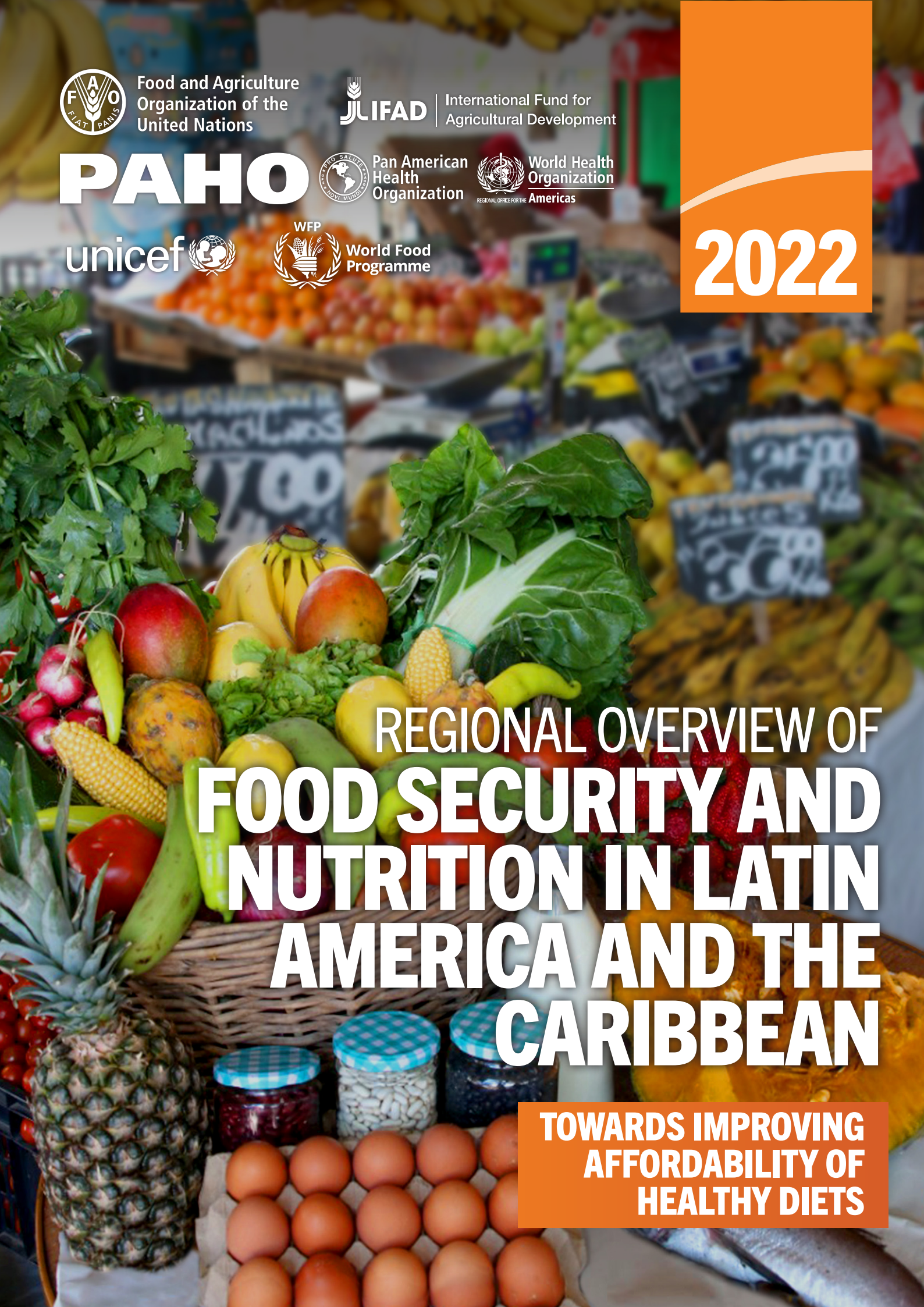

Food and Agriculture Organization of the United Nations

IFAD International Fund for Agricultural Development

PAHO Pan American Health Organization

World Health Organization Americas

unicef

WFP World Food Programme

2022

REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION IN LATIN AMERICA AND THE CARIBBEAN

TOWARDS IMPROVING AFFORDABILITY OF HEALTHY DIETS

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FOREWORD

In a global context of adverse humanitarian conditions, the region of Latin America and the Caribbean faces important challenges in eradicating hunger and malnutrition in all its forms. Despite progress made in the region to reduce child undernutrition in the past decades, hunger and food insecurity have been on the rise since 2014, reaching their highest levels during the COVID-19 pandemic. Other forms of malnutrition such as overweight and obesity have also increased in the region for the past two decades.

Statistics show that the prevalence of hunger in the region rose from 5.8 percent in 2015 to 8.6 percent in 2021. This prevalence is below the global average of 9.8 percent in 2021. However, the increase in the proportion of persons experiencing hunger during the pandemic was greater in the region than at the global level. Between 2019 and 2021 the regional prevalence of hunger increased by 28 percent, compared to a global increase of 23 percent.

In 2021, food insecurity affected 40 percent of the people in Latin America and the Caribbean, compared to a global prevalence of 29.3 percent. There are gender-specific disparities in food insecurity, with more women adversely impacted than men, reaching higher levels in the region than in the world. These worrying trends in food insecurity can be partially explained by the fact that the region has the highest level of inequality in the world and was strongly affected by the pandemic, which disproportionately affected women.

Overweight and obesity are of particular concern in Latin America and the Caribbean. The prevalence of overweight in children aged less than 5 years, and obesity in adults, are both well above the global averages, affecting people from all income levels in both rural and urban areas, including Indigenous Peoples. If this problem is not addressed by effective policies, far-reaching effects could be experienced throughout their lifetimes, which would amount to leaving behind a large group of the population.

Latin America and the Caribbean not only registers high levels of inequality, it also records the highest cost of a healthy diet. This indicator, calculated by FAO, identifies the least-cost healthy diet available at each given time and place that meets recommendations from food-based dietary guidelines (FBDGs). Across the region in 2020, 131 million people could not afford a healthy diet. The unaffordability of healthy diets strongly affects the nutrition and health of the most vulnerable populations, including children and women. Inequality in access to nutritious food is associated with hunger, stunting in children under 5 years, and anaemia in women aged 15 to 49 years.

It is important to note that these trends do not include the effects of the ongoing conflict in Ukraine, which has influenced energy and fertilizer prices, particularly affecting family farmers, as well as food prices. This situation disproportionately affects those living in the most vulnerable situations, and could lead to a deterioration in food security and nutrition of the people of Latin America and the Caribbean, especially in lower-income countries with higher levels of inequality and conflicts. It is particularly risky for vulnerable populations such as rural people, women, Indigenous Peoples and Afro-descendants.

The first part of this edition of the Regional Overview of Food Security and Nutrition in Latin America and the Caribbean 2022 presents up-to-date data on the cost and affordability of healthy diets in the region. It examines the relationship of these data with socioeconomic factors such as poverty and income inequality and nutrition indicators, to support decision-making concerning food and agriculture policies. In the second part, an agrifood system approach is presented to implement and repurpose three categories of policies: (i) producer-oriented, to support and promote the diversification of the production of nutritious foods; (ii) trade- and food market-oriented for price transparency and efficiency through digitalization; and (iii) consumer-oriented, to support the income and promote healthy diets of the most vulnerable populations. Finally, examples of policies that have been implemented in the region and have contributed towards making healthy diets more affordable are presented.

Certainly, no single policy can provide the solution on its own; what is needed is a combination of multisectoral actions, international cooperation and regional integration, involving all stakeholders of the agrifood system. National governments must take the lead in transforming the region's agrifood systems to promote and ensure access to healthy diets for the whole population. To advance in this effort, the United Nations Decade of Action on Nutrition and the Food Systems Summit have been important forums for the global and regional integration of Member States, ratifying their commitments and showing the urgent need for this transformation.

We acknowledge the social, economic and environmental difficulties affecting the countries of Latin America and the Caribbean, as well as the constraints of scarce public resources and limited international funding. We reiterate our commitment to support governmental and non-governmental actors in implementing policies and investments that foster efficient, inclusive, resilient and sustainable agrifood systems to reduce the cost and improve the affordability of healthy diets.

Through this publication, we invite governmental and non-governmental actors to put theory into practice that is supported by evidence to guarantee the right to adequate food for all the people of Latin America and the Caribbean and to accelerate, with more commitment than ever, the achievement of the Sustainable Development Goal (SDG) targets.

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The process of publication was carried out under the direction of Daniela Godoy Gabler with the overall guidance of Maya Takagi, both of the FAO Regional Office for Latin America and the Caribbean. The report's development was guided by a steering committee consisting of agency representatives from the five co-publishing partners: Daniela Godoy Gabler (FAO), Isabel de la Peña (IFAD), Leo Nederveen (PAHO/WHO), Paula Veliz (UNICEF) and Carla Mejía (WFP). Israel Ríos (FAO), Yvette Fautsch (UNICEF), Maaike Arts (UNICEF), María Alejandra Martínez (PAHO/WHO), Isabela Sattamini (PAHO/WHO) and Fabio da Silva Gomes (PAHO/WHO) contributed to the coordination and provided technical support. Valuable comments and final approval of the report were provided by the executive heads and senior staff of the five co-authoring agencies.

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ACRONYMS AND ABBREVIATIONS

ABC/MRE	Brazilian Cooperation Agency
AECID	International Cooperation Agencies from Spain
CBT	Basic tax basket
COICOP	Classification of individual consumption by purpose
CONAB	National Supply Company (Brazil)
CPI	Consumer price index
ECLAC	Economic Commission for Latin America and the Caribbean
ENIGH	National Household Income and Expenditure Survey
FAGRAN	Argentinean Federation of Nutrition Graduates
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FBDG	Food-based dietary guidelines
FIES	Food Insecurity Experience Scale
FNDE/MEC	National Fund for the Development of Education (Brazil)
FOPNL	Front-of-pack nutrition labelling
IFAD	International Fund for Agricultural Development
IPC	Integrated Food Security Phase Classification
NCD	Non-communicable disease
NUCS	Neglected and Underutilized Crop Species
PAA	Food Acquisition Programme (Brazil)
PAHO	Pan American Health Organization
PFH	Parliamentary Front Against Hunger

ACRONYMS AND ABBREVIATIONS

PoU	Prevalence of undernourishment
PPP	Purchasing power parity
PROHORT	Support Programme for the Production and Commercialization of Horticultural Products (Brazil)
RAES	Sustainable School Feeding Network
SDG	Sustainable Development Goal
SECAC	Executive Secretariat of the Central American Agricultural Council
SICA	Regional Market Information Network of Central American Integration System
SIECA	Central American Economic Integration Secretariat
SIMMAGRO	Regional System for Intelligence and Monitoring of Agricultural Markets
SOFI	The State of Food Security and Nutrition in the World
UNICEF	United Nations Children's Fund
VAT	Value-added tax
WFP	World Food Programme
WHA	World Health Assembly
WHO	World Health Organization

INTRODUCTION

Hunger and food insecurity are rising in Latin America and the Caribbean

The world is moving in the wrong direction in the mission to end hunger by 2030. Consequences of the COVID-19 pandemic, climate crisis and the ongoing conflict in Ukraine continue to impede progress towards achieving SDG 2 by 2030. Latin America and the Caribbean is no exception: hunger, food insecurity, child overweight and adult obesity are all getting worse. The only recent progress made at regional level towards the 2030 nutrition targets has been for exclusive breastfeeding for infants under six months of age, and in child stunting.

The 2022 socioeconomic outlook for Latin America and the Caribbean was not encouraging. Unfortunately, the increase in the poverty rate in the context of the pandemic, the high level of income inequality, the increase in international food prices and in the food consumer price index (CPI) have worsened the food security situation. These factors, often occurring in combination, have contributed to the increase in the prevalence of food insecurity and in the cost of a healthy diet.

In the region, the prevalence of moderate or severe food insecurity, of overweight in children under 5 years of age and of adult obesity are higher than the global averages. Additionally, the region has the costliest healthy diet compared to other regions of the world. Diet quality is a critical link between food security and nutrition because poor diet quality can lead to different forms of malnutrition, including undernutrition, micronutrient deficiencies, overweight and obesity. To achieve SDG 2, everyone must have access to a healthy diet. Updated estimates indicate, however, that a healthy diet is unaffordable for 131 million people in Latin America and the Caribbean. Indicators on the cost and affordability of a healthy diet show the population's economic access to the least-cost healthy diet available in each country that allows them to meet nutritional requirements set by food-based dietary guidelines for an active and healthy life.

A healthy diet consists of adequate calories as well as essential nutrients and diverse foods from several different food groups needed for an active and healthy life. According to WHO and FAO, healthy diets consist on a wide variety of unprocessed or minimally processed foods and are balanced among all food groups, including a minimum of 5 servings of fruits and vegetables per day. In terms of nutrients, a diet is considered healthy when total fat intake does not exceed 30 percent of calories consumed, saturated fat intake does not exceed 10 percent and sodium intake is less than two grams per day (equivalent to 5 grams of salt). Likewise, for a diet to be healthy, it is suggested to reduce the intake of highly processed foods and beverages, trans fats and added sugars, while preferring the consumption of unsaturated fats and dietary fibre.

A healthy diet protects against malnutrition in all its forms as well as non-communicable diseases (NCDs) such as diabetes, heart disease, stroke and cancer. It ensures a person's needs for macronutrients (proteins, fats and

carbohydrates including dietary fibre) and essential micronutrients (vitamins and minerals) specific to their gender, age, physical activity level and physiological state are met in accordance with their cultural context, dietary customs and locally available foods.

The rise in international food prices and the effects of food inflation, however, have increased the costs and the unaffordability of a healthy diet. To meet the targets of SDG 2 by 2030, agrifood systems in the region must be transformed in ways that ensure lower cost of nutritious foods to make healthy diets more affordable for all. Although the fiscal situation of many countries in the region poses significant challenges for governments, tackling the cost and affordability of healthy diets through policies is imperative. This report outlines evidence-based policy solutions to accomplish this goal.

Rising food prices and the socioeconomic situation affect affordability of healthy diets

Latin America and the Caribbean faces a complex scenario of high and rising food inflation, increasing poverty in the context of the COVID-19 pandemic, high levels of income inequality and increasing levels of hunger, food insecurity and obesity.

Food inflation in the region has been on the rise since 2019, and was subsequently worsened by the COVID-19 pandemic, and then by the effects of the ongoing conflict in Ukraine. High inflation rates reduce the purchasing power of households, putting their food security at risk and limiting their access to nutritious foods, especially in lower-income quintiles, who use a considerable portion of their budget to purchase foods.

Latin America and the Caribbean is the region with the highest average level of income inequality in the world. In highly unequal countries, economic slowdowns and downturns disproportionately affect the food security and nutrition of low-income groups. The region has faced several years of economic stagnation and contraction since 2015. Poverty already affected 186 million people in the region by 2019. In 2020, when the COVID-19 pandemic struck the world, the gross domestic product (GDP) in the region decreased by 6.8 percent, and 17 million more people fell into poverty.

This region has the highest cost of a healthy diet compared to other world's regions, and the current context is making it even harder for people to afford a healthy diet. Also, the ongoing conflict in Ukraine is putting pressure on food prices and fertilizer costs, as it affects production, trade, logistics, and energy markets around the world.

While the region in general is going through this deteriorating situation subregions and countries have different realities. Their cost and affordability of healthy diets differ widely by subregion and country. These differences are related to poverty, income levels and inequality, as well as to production, exports and import dependency on specific food groups. To find solutions that are tailored to specific contexts, it is necessary to fully examine and understand these differences and their various causes. Given the current trends, urgent actions are needed to improve the affordability of healthy diets, especially for the most vulnerable population.

Food and agricultural policies can contribute to making healthy diets affordable for all in the region

Transforming agrifood systems is essential to reducing the cost and improving the affordability of healthy diets. Food and agricultural policies formulated towards this objective are required to make healthy diets affordable for all.

Producer-oriented policies formulated to increase the diversity of food production could be an effective way of increase the supply and reduce the cost of nutritious foods. The transparency to trade and markets can also be crucial to reducing consumer food prices and making healthy diets more affordable. Social protection programmes within consumer-oriented policies are critical components of poverty reduction strategies that can help make healthy diets affordable and, in turn, contribute to improved food security and nutrition. The delivery of in-kind food transfers, such as school feeding programmes, food vouchers and cash transfers designed with nutrition-sensitive considerations, can improve the affordability of healthy diets for the most vulnerable population.

Many countries in the region have the capacity to ensure the implementation of producer-oriented, market and trade and consumer-oriented policies to reduce the cost and improve the affordability of healthy diets. So far, few food and agricultural policies have been designed to improve the affordability of healthy diets. As a result, foods of high energy density and minimal nutritional value are available at very low cost.

By sharing evidence about policies implemented in Latin America and the Caribbean to make healthy diets more affordable, and documenting the experiences implementing these policies, this report provides evidence that can encourage the exchange of experiences, cooperation and integration among countries of the region.

This year's report presents an overview of the current food security and nutrition situation in Latin America and the Caribbean, including updated estimates on the cost and affordability of a healthy diet (Part 1). The publication then looks at the challenging social and economic scenario of the region that is driving up the cost of healthy diets, followed by an examination of the cost and affordability of healthy diets at subregional and country levels, including the associations between the unaffordability of a healthy diet and socioeconomic and nutritional indicators (Part 2). Finally, this Regional Overview presents an analysis of some food and agricultural policies that are being implemented in the region, and the ways in which these policies contribute to reducing the cost and increasing the affordability of healthy diets.

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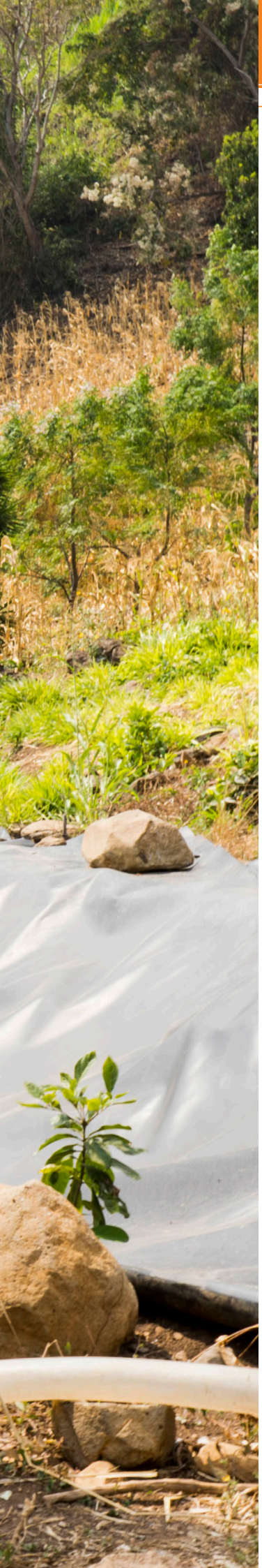

PART 1

FOOD SECURITY AND NUTRITION AROUND LATIN AMERICA AND THE CARIBBEAN

The COVID-19 pandemic brought economies to a standstill in Latin America and the Caribbean, prompting profound changes that have deepened the already huge structural and social inequalities. The region, which is an important food supplier, exporting 40 percent of its food production and representing 17 percent of the total world food exports, has been one of the most deeply affected by the pandemic. While it has only. 8.4 percent of the world's total population, it accounted for more than a quarter of the deaths (28 percent) attributed to COVID-19 (OECD and FAO, 2022; ECLAC, 2022a).

In 2021, the world continued to face the effects of the COVID-19 pandemic. New viral variants of concern, worldwide disparities in access to vaccines, supply shortages, high commodity prices, and declining public response capacity due to rising public debt were among some of the challenges the world faced in 2021 (ECLAC, 2021a). Extreme poverty in the region rose from 11.4 percent in 2019 to 13.8 percent in 2021 and employment recovery has been slow. In addition, the response capacity of most of the region's countries is limited. This hindered recovery in the region even before the beginning of the conflict in Ukraine (ECLAC, 2021a; ECLAC, 2022b).

This report profiles the state of food security and nutrition in Latin America and the Caribbean through 2021. The persistence of the COVID-19 pandemic and the uncertain consequences of the ongoing conflict in Ukraine on food security in the world and in the region pose additional challenges for achieving the Sustainable Development Goal (SDG) 2 targets for ending hunger and malnutrition in all its forms by 2030.

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CHAPTER 1

FOOD SECURITY INDICATORS – LATEST UPDATES AND PROGRESS TOWARDS ENDING HUNGER AND ENSURING FOOD SECURITY

Key messages

- World hunger rose in 2021, affecting 9.8 percent of the population at the global level. Latin America and the Caribbean reached its highest prevalence since 2006, with 8.6 percent of people suffering from hunger in 2021. Between 2015 and 2021, the prevalence of hunger increased more in Latin America and the Caribbean than in the rest of the world.
- In 2021, 56.5 million people in the region were affected by hunger. The number has grown by 13.2 million since the outbreak of the COVID-19 pandemic in 2019.
- Between 2019 and 2021, hunger increased the most in South America (11 million additional people), reaching a prevalence of 7.9 percent. In Mesoamerica the prevalence was 8.4 percent (1.6 million additional people), and in the Caribbean 16.4 percent (0.6 million additional people).
- The prevalence of food insecurity is higher in Latin America and the Caribbean than the world average. In 2021, 40.6 percent of the region's population faced moderate or severe food insecurity, while 29.3 percent of the world's population was affected by moderate or severe food insecurity.
- The increase in the prevalence of moderate or severe food insecurity between 2019 and 2021 was greater in Latin America and the Caribbean than in the world. This can be explained by the economic effects of the pandemic on the countries, because the region was one of the hardest hit by the pandemic and has the highest level of income inequality compared to other regions.
- The number of people experiencing moderate or severe food insecurity in Latin America and the Caribbean increased from 205.2 million in 2019 to 267.7 million in 2021. This is mainly due to the increase in South America, and provides additional evidence of a deteriorating situation there, especially for people already facing serious hardship. Moderate or severe food insecurity in 2021 affected 177.7 million people in South America, 61.9 million in Mesoamerica, and 28 million in the Caribbean.
- In 2021, 93.5 million people experienced severe food insecurity in Latin America and the Caribbean, a 29.5 million increase compared to 2019. Severe food insecurity has been rising at a faster pace in South America, where it has tripled since 2014, from 22 million to 65.6 million people.
- In the world, food insecurity affected more women than men. The disparity in the region is 11.3 percentage points and is larger relative to the world, where the gap is 4.3 percentage points.

1.1 SDG INDICATOR 2.1.1 PREVALENCE OF UNDERNOURISHMENT

The Food and Agriculture Organization of the United Nations (FAO) prevalence of undernourishment (PoU) indicator is derived from country data on food supply, food consumption and energy needs, taking into consideration demographic characteristics such as age, sex, and levels of physical activity. Designed to capture a state of energy deprivation lasting over a year, this indicator does not reflect short-lived effects of temporary crises or inadequate intake of essential nutrients. FAO strives continuously to improve the accuracy of the PoU estimates by taking into account new information, and the entire historical series is updated for each report. Hence, only the current series of estimates should be used.

World hunger is on the rise (TABLE 1). FAO estimates place the global prevalence of hunger between 8.9 and 10.5 percent in 2021. Considering the middle point of this projected range, 9.8 percent of the population was undernourished in 2021. In other words, roughly one out of ten of the world's inhabitants regularly go to bed hungry. Undernourishment in Latin America and the Caribbean now sits between 7.5 and 9.7 percent. Considering the middle point, in 2021 hunger affected 8.6 percent of the region's population, the highest since 2006.

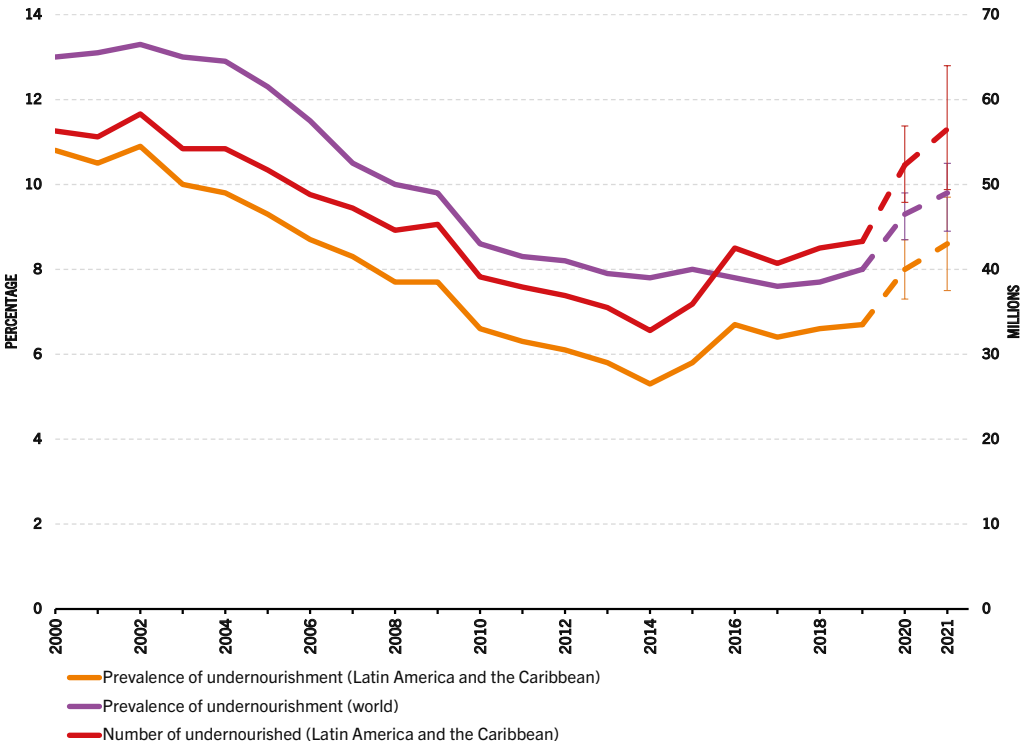
Hunger in the region had been growing steadily even before the COVID-19 pandemic. The prevalence of hunger increased by 22.5 percent in the world between 2015 and 2021 – 1.8 percentage points – while the prevalence rose in Latin America and the Caribbean by 48.3 percent in the same period – 2.8 percentage points (TABLE 1). Since 2014, when it was at its lowest rate, hunger in Latin America and the Caribbean has been increasing at a faster pace, in particular between 2019 and 2021, getting closer to the world's average (FIGURE 1).

TABLE 1
Prevalence of undernourishment (percent)

	2000	2010	2015	2019	2020	2021
World	**13.0**	**8.6**	**8.0**	**8.0**	**9.3**	**9.8**
Latin America and the Caribbean	10.8	6.6	5.8	6.7	8.0	8.6
Caribbean	18.2	15.2	14.2	15.2	16.5	16.4
Mesoamerica	8.0	7.3	7.5	7.6	8.0	8.4
South America	11.1	5.5	4.2	5.4	7.1	7.9

NOTE: Projected values based on the middle of the projected range for 2020 and 2021.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

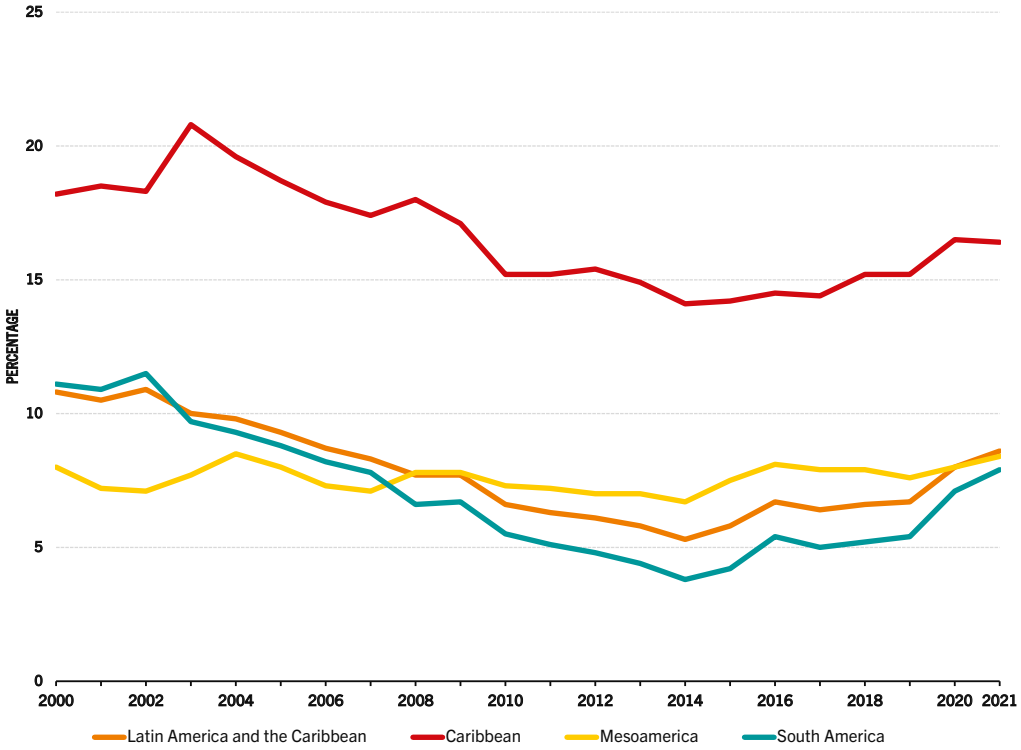
FIGURE 1
Prevalence of undernourishment in the world and Latin America and the Caribbean, and the number of undernourished people in Latin America and the Caribbean



NOTE: Values for 2020 and 2021 are projections. The bars indicate the lower and upper bounds of the estimated range.
SOURCE: FAO. FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

Among the subregions of Latin America and the Caribbean, as shown in FIGURE 2, undernourishment increased the most in South America (2.5 percentage points) between 2019 and 2021, reaching a prevalence of 7.9 percent, the lowest in the region, followed closely by Mesoamerica (8.4 percent). Undernourishment did not grow as much in Mesoamerica and the Caribbean, but the latter still shows the highest prevalence of undernourishment in Latin America and the Caribbean (16.4 percent).

FIGURE 2
Prevalence of undernourishment in Latin America and the Caribbean by subregion



NOTE: Projected values based on the middle of the projected range for 2020 and 2021.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

Undernourishment varies within each subregion and country (FIGURE 3). Most of the people affected by hunger in the Caribbean are in Haiti. In the period between 2019 and 2021, nearly half its population (47.2 percent) – around 5.4 million people – were undernourished. By comparison, the prevalence of undernourishment on the other end of the spectrum was around 7 percent in Dominica, the Dominican Republic, Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago.

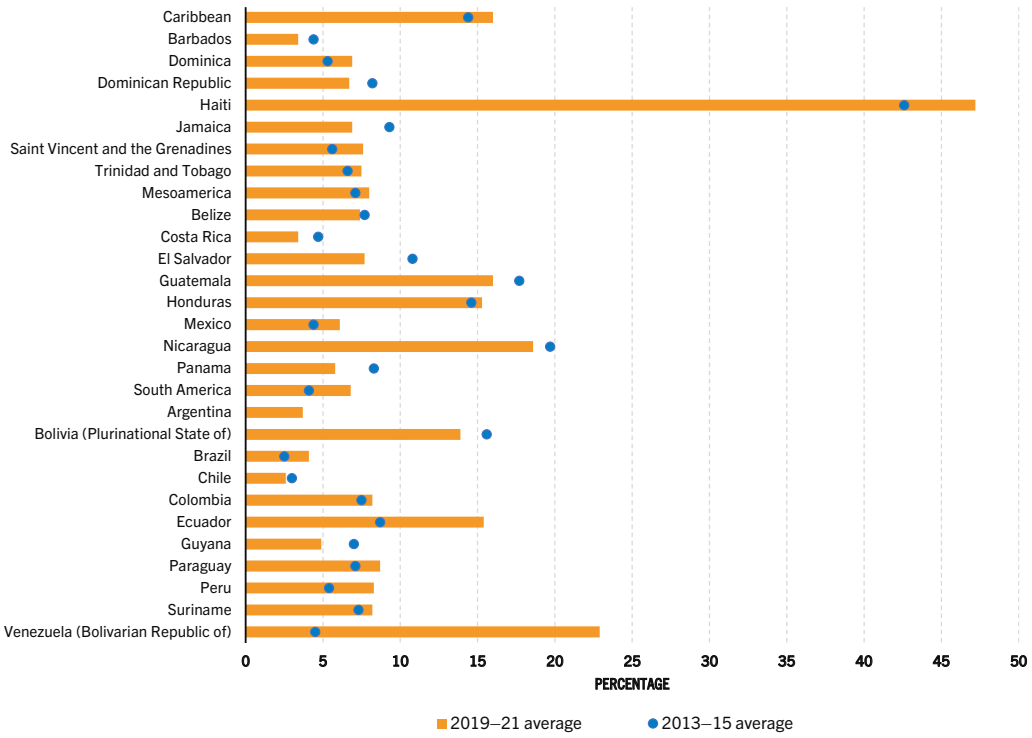
In Mesoamerica, Nicaragua was the country with the highest prevalence of undernourishment (18.6 percent) in the 2019–2021 period, followed by Guatemala (16 percent), and Honduras (15.3 percent). Which amounts to almost 5 million hungry people in these three countries (1.2, 2.9, and 1.5, respectively). In Mexico, the largest country of the subregion, the prevalence of undernourishment was 6.1 percent (7.8 million people).

In South America, the Bolivarian Republic of Venezuela had the highest prevalence of undernourishment (22.9 percent), which in absolute numbers equals 6.5 million people, followed by Ecuador with 15.4 percent (2.7 million), and the Plurinational State of Bolivia with 13.9 percent (1.6 million). In Colombia, Paraguay, Peru, and

Suriname the prevalence is over 8 percent. It is worth noting that Brazil has one of the lowest rates in the region (4.1 percent), but the highest number of undernourished people (8.6 million).

A look at hunger trends in the region's countries in FIGURE 3 shows that hunger notably increased, by 18.4 percentage points, in the Bolivarian Republic of Venezuela, or 5 million more hungry people between the 2013–2015 and 2019–2021 periods. And in those periods hunger increased by 6.7 percentage points in Ecuador (1.3 million), by 4.6 percentage points in Haiti (900 thousand), and by 1.6 percentage points in Brazil (3.4 million more people).

FIGURE 3
Prevalence of undernourishment in Latin America and the Caribbean by country



NOTE: The estimates referring to the middle of the projected ranges for the years 2020 and 2021 were used to calculate the three-year averages.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

Comparing the latest hunger data (2019–2021 period) with the three-year period before the COVID-19 pandemic, 2017–2019, shows that the countries in which undernourishment grew the most were Ecuador (3.8 percentage points), Honduras (2.2 percentage points), and Saint Vincent and the Grenadines (2.1 percentage points). In Colombia, the prevalence of undernourishment increased by 2 percentage points (1.1 million more people).

In 2021, 768 million people suffered hunger in the world, taking the middle of the projected range between 702 and 828 million people. This means 150 million more hungry people than in 2019 (+ 24 percent) before the COVID-19 pandemic. In Latin America and the Caribbean 56.5 million people suffered from hunger in 2021, 13.2 million more (+30.5 percent) than before the pandemic in 2019. The majority of hungry people in Latin America and the Caribbean (34 million) live in South America (TABLE 2).

In South America undernourishment increased by 47.2 percent between 2019 and 2021, or 11 million more people, and by 118 percent between 2015 and 2021, doubling the number of hungry people (from 17.2 million to 34.2 million). Between 2019 and 2021 Mesoamerica's undernourishment upturn was not as sharp as South America's: an increase of +11.8 percent (1.6 million people more, totalling 15.2 million). Lastly, in 2021, 7.2 million people were living in hunger in the Caribbean, 600 000 more than in 2019 (TABLE 2).

TABLE 2
Number of people undernourished (millions)

	2000	2010	2015	2019	2020	2021
World	**796.2**	**601.3**	**588.6**	**618.4**	**721.7**	**767.9**
Latin America and the Caribbean	56.3	39.1	35.9	43.3	52.3	56.5
Caribbean	6.9	6.3	6.1	6.6	7.2	7.2
Mesoamerica	10.8	11.4	12.7	13.6	14.4	15.2
South America	38.6	21.4	17.2	23.2	30.7	34.2

NOTE: Projected values based on the middle of the projected range for 2020 and 2021.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

1.2. SDG INDICATOR 2.1.2 PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY BASED ON THE FOOD INSECURITY EXPERIENCE SCALE

The Food Insecurity Experience Scale (FIES) is an estimate of the proportion of the population who face moderate or severe constraints on their ability to obtain sufficient food over the course of a year. Moderate food insecurity refers to the situation where individuals face uncertainties about their ability to obtain food and have been forced to reduce, at times during the year, the quality and/or quantity of food they consume due to lack of money or other resources. Severe food insecurity means individuals have likely run out of food, experienced hunger and, at the most extreme, gone for days without eating, putting their health and well-being at serious risk.[1] The severity of food insecurity is measured using data collected with the Food Insecurity Experience Scale survey module (FIES-SM), a set of eight questions asking respondents to self-report experiences associated with limited access to food.

Various worldwide events with significant effects on food security, such as the COVID-19 pandemic, climate shocks and conflicts, have shown, firstly, how important it is to monitor and measure food insecurity, and secondly, how useful data is for governments and relevant institutions. One of the strengths of FIES is its capacity to capture ongoing events that affect personal and household income and the ability to obtain food in a timely manner and in enough quantity to meet daily requirements.

The prevalence of food insecurity is higher in Latin America and the Caribbean than in the world. That is, 40.6 percent of the region's population faced moderate or severe food insecurity in 2021, compared to the world average of 29.3 percent. The prevalence of severe food insecurity is also higher in the region (14.2 percent) than in the world (11.7 percent) (TABLE 3). At the global level, the prevalence of moderate or severe food insecurity increased 8.1 percentage points between 2014 and 2021, and 3.9 percentage points between 2019 and 2021, while in the region this prevalence increased 16 percentage points and 8.9 percentage points in the same periods respectively.[2]

[1] It is important to note that moderate or severe food insecurity calculated by the FIES is a different measure than the Integrated Food Security Phase Classification (IPC) *acute food insecurity* phases reported by the *Global Report on Food Crises.* Acute food insecurity is sporadic, occurring when sudden crises limit people's access to food in the short term. It refers to a specific time of year, usually the last four weeks, and covers only some areas of the country, generally rural areas considered hotspots of food insecurity in which the food insecurity will not become chronic if assistance is promptly received.

[2] The estimates for Latin America and Caribbean from 2014 to 2019 include Caribbean countries whose combined populations represent only 30 percent of the population of that subregion, while the 2020 and 2021 estimates include Caribbean countries whose combined populations represent around 60 and 65 percent, respectively, of the subregional population.

In South America, moderate or severe food insecurity affected 40.9 percent of the population in 2021, while in Mesoamerica the prevalence was 34.1 percent. In the Caribbean, 64 percent of the people suffered moderate or severe food insecurity, half of which (30.5 percent) experienced severe food insecurity (TABLE 3).

TABLE 3
Prevalence of food insecurity (percent)

	Moderate food insecurity				Severe food insecurity				Moderate or severe food insecurity			
	2014	2019	2020	2021	2014	2019	2020	2021	2014	2019	2020	2021
World	**13.5**	**16.1**	**18.6**	**17.6**	**7.7**	**9.3**	**10.9**	**11.7**	**21.2**	**25.4**	**29.5**	**29.3**
Latin America and the Caribbean	17.1	21.8	26.7	26.4	7.5	9.9	12.8	14.2	24.6	31.7	39.5	40.6
Caribbean			31.8	33.5			36.6	30.5			68.4	64.0
Mesoamerica	23.7	20.9	26.8	26.1	6.5	7.3	7.3	8.0	30.2	28.2	34.1	34.1
South America	13.0	21.5	26.1	25.8	5.4	8.5	12.7	15.1	18.4	30.0	38.8	40.9

SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

In 2020, the confinement resulting from the COVID-19 pandemic caused a reduction in economic activity. Demand and employment decreased, and this affected the ability of households to generate income. In addition, the significant presence of informal employment in the region left a considerable proportion of households more vulnerable to a shock of this magnitude. Subregions and countries were affected differently according to their particular conditions (FAO, IFAD, PAHO, WFP and UNICEF, 2020).

The Caribbean[3] was the subregion most affected by food insecurity during 2019–2021. As can be seen in FIGURE 4, in Haiti the majority of the population (82.5 percent) suffered from moderate or severe food insecurity in 2019–2021 (three-year averaged estimate). Over the same period in Jamaica half the population was affected (50.3 percent), and in Trinidad and Tobago 43.3 percent. In Saint Vincent and the Grenadines and Barbados, more than 30 percent of the population experienced moderate or severe food insecurity. Saint Kitts and Nevis, and Grenada showed a prevalence higher than 20 percent.

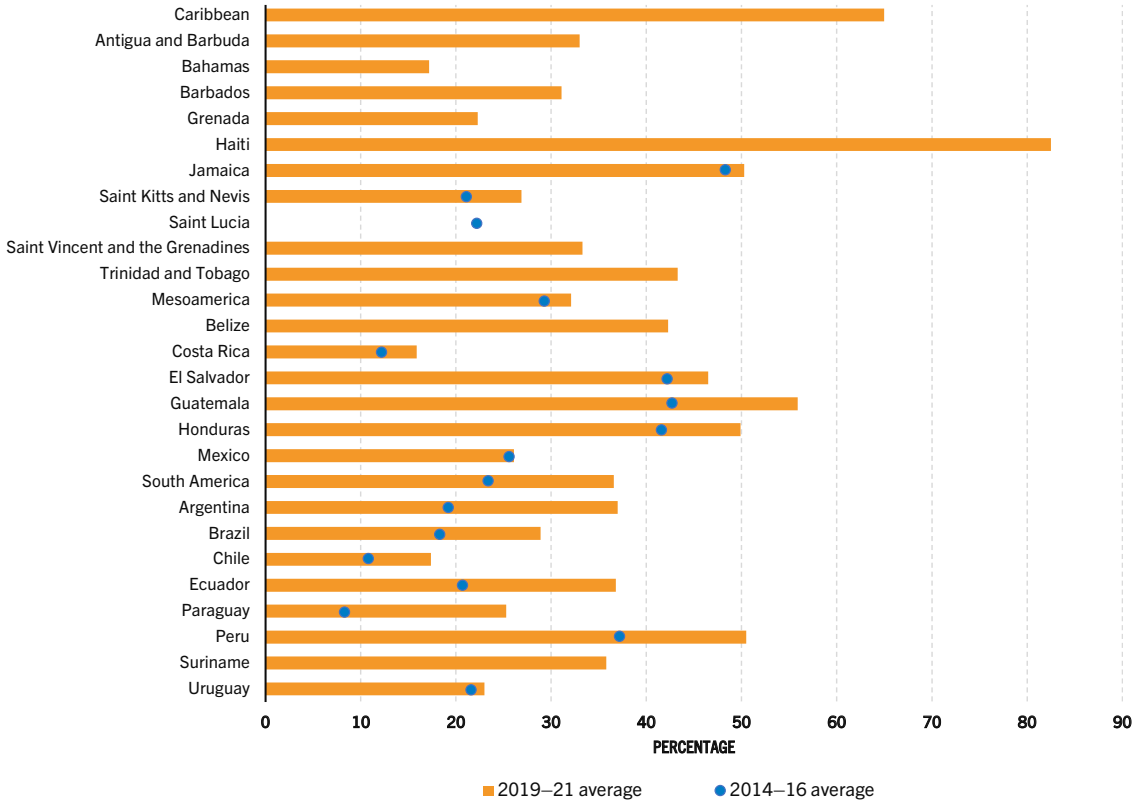
In Mesoamerica, moderate or severe food insecurity increased significantly in most countries between the 2014–2016 and 2019–2021 three-year periods. In Guatemala the increase was 13.2 percentage points, increasing prevalence to over half of the country's population (55.9 percent). Half the population of Honduras also experienced moderate or severe food insecurity, with an increase in prevalence of 8.3 percentage points. The prevalence in Belize increased 6.6 percentage points between these periods to exceed 40 percent of the population, while in El Salvador the increase was 4.3 percentage points reaching a prevalence of 46.5 percent in 2019–2021 (FIGURE 4). In Mexico food insecurity remained stable, affecting a quarter of its population in 2019–2021.

[3] See footnote 2.

In 2020, both the Caribbean and Mesoamerica were affected by extreme tropical storms. These devastating natural disasters had adverse effects on health, shattered the livelihoods of thousands of households, and destroyed much of the crops in the area (Klotzbach *et al.*, 2020; Waddell, Jayaweera, Mirsaeidi, Beier and Kumar, 2021). Along with the constraining consequences of the COVID-19 pandemic, this situation further endangered food security by directly hampering the ability of people to produce and access food.

Within South America, in Peru, around half the population experiences moderate or severe food insecurity. In Argentina, Ecuador and Suriname it affects nearly 37 percent of the population. As elsewhere, food insecurity increased significantly in those three countries between the 2014–2016 and 2019–2021 three-year-periods: by 17.8 percentage points in Argentina, 17 percentage points in Paraguay, 16.1 percentage points in Ecuador, and 13.3 percentage points in Peru. It is worth noting that in Brazil moderate or severe food insecurity increased by 10 percentage points over the same period (FIGURE 4).

FIGURE 4
Prevalence of moderate or severe food insecurity in Latin America and the Caribbean by country

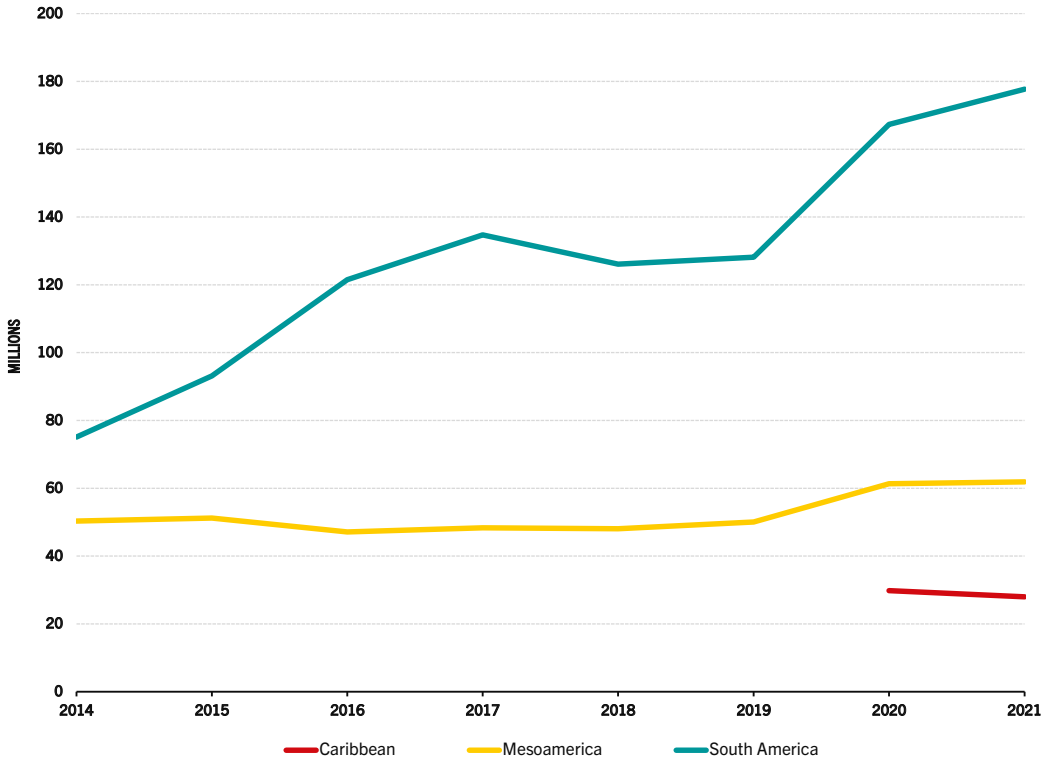


SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

Since 2014, moderate or severe food insecurity in the region has risen by 116 million people. Almost half of this increase occurred between 2019 and 2021, rising from 205.2 million to 267.7 million. The subregion mainly responsible for this increase is South America (49.6 million more people in 2021 than in 2019, and 177.7 million in total) (FIGURE 5).

In Mesoamerica, 61.9 million people suffered moderate or severe food insecurity in 2021. Food insecurity mostly remained unchanged in this subregion between 2014 and 2019, but between 2019 and 2021 moderate or severe food insecurity increased by 11.9 million people, as can be seen in FIGURE 5.

FIGURE 5
Number of moderately or severely food insecure people in Latin America and the Caribbean by subregion



SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

In 2021, 93.5 million people experienced severe food insecurity in Latin America and the Caribbean, a 29.5 million increase from 2019. Severe food insecurity has been rising at a faster pace in South America, where it has tripled since 2014, from 22 million to 65.6 million people. Between 2019 and 2021, severe food insecurity rose by 29.1 million in South America, an 80 percent increase in only two years. In Mesoamerica severe food insecurity has not risen as sharply as in South America, which experienced an increase of 3.6 million more people (33 percent) between 2014 and 2021. In Mesoamerica in 2021 severe food insecurity affected 14.5 million people.

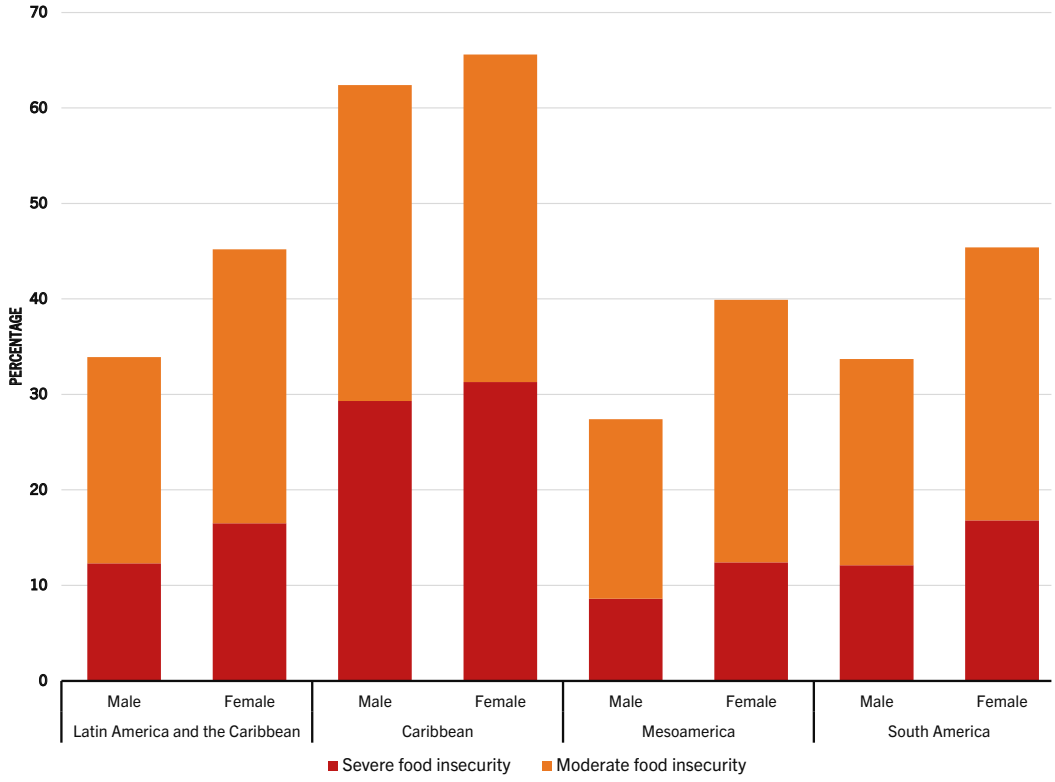
Food insecurity among women

Poverty, inequality and social exclusion leave people, mainly those in vulnerable groups, including women, at increased risk of food insecurity, unhealthy diets and malnutrition in all its forms. Women are more likely than men to be food insecure in the world. And rural women, as producers, face even greater constraints than their male counterparts in accessing productive resources and services, technologies, markets and financial assets. In addition, the COVID-19 pandemic has adversely and disproportionately affected women regarding employment opportunities and access to nutritious food. Consequently, in the last few years the gender gap in the prevalence of moderate or severe food insecurity has broadened (FAO, IFAD, UNICEF, WFP and WHO, 2021 and 2022).

At the global level, the prevalence of food insecurity among women is higher than the prevalence among men. In Latin America and the Caribbean, however, the gap is larger compared to the world and other regions (4.3 percentage points in the world in 2021, compared to 11.3 percentage points in the region). And the gap in the region has been increasing significantly more over the years, from 4 percentage points in 2014, to 11.3 percentage points in 2021, while at the global level the gender gap increase was 2.3 percentage points in 2014 to 4.3 percentage points in 2021. In 2021, moderate or severe food insecurity affected 45.2 percent of women in the region and 33.9 percent of men. Among the subregions, Mesoamerica shows the largest gap of 12.5 percentage points, while in South America the gap is 11.7 percentage points, and in the Caribbean 3.2 percentage points (FIGURE 6). This disparity shows the clear need for including a gender perspective in policies and investments that address food insecurity and malnutrition in all its forms (FAO, IFAD, UNICEF, WFP and WHO, 2021 and 2022).

Latin America and the Caribbean is the region with the highest increase in food insecurity in the world between 2019 and 2021. This is related to the fact that the region was among the most affected by the pandemic and has higher levels of income inequality (see Part 2). Economic downturns disproportionately affect the food security of lower-income populations in countries with higher income inequality (FAO, IFAD, UNICEF, WFP and WHO, 2019).

FIGURE 6
Prevalence of moderate or severe food insecurity by sex, 2021



SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

CHAPTER 2

THE STATE OF NUTRITION: PROGRESS TOWARDS GLOBAL NUTRITION TARGETS IN LATIN AMERICA AND THE CARIBBEAN

Key messages

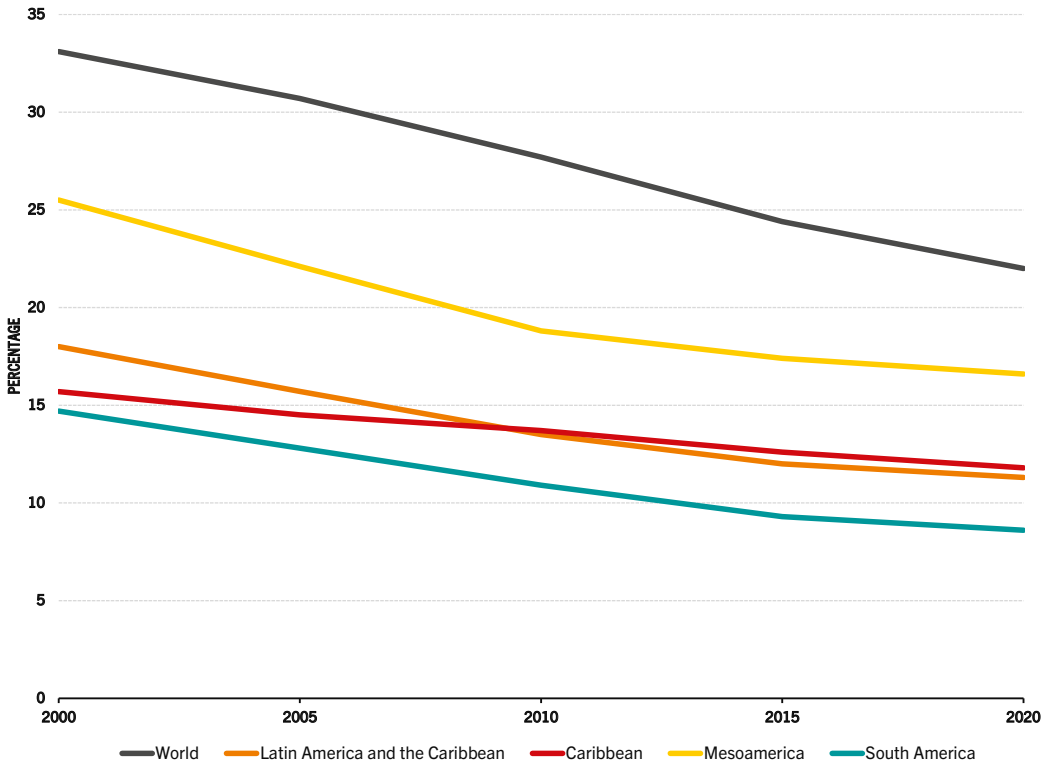
- In 2020 the prevalence of stunting in children under 5 in Latin America and the Caribbean was 11.3 percent, approximately 10 percentage points below the world average. Every subregion has made positive strides in reducing stunting. Between 2000 and 2020, South America reduced stunting by 41 percent, Mesoamerica by 35 percent, and the Caribbean by 25 percent. Stunting is particularly prevalent in the region among children whose mothers had no formal education. People in the lowest wealth quintile are more affected than the other four wealth quintiles in the region.
- In Latin America and the Caribbean, 7.5 percent of children under 5 were overweight in 2020, or 2 percentage points above the world average (5.7 percent). In South America and the Caribbean, overweight in children under 5 has risen over the last 20 years, reaching a prevalence of 8.2 percent and 6.6 percent in 2020 respectively. In Mesoamerica the prevalence is 6.3 percent.
- In the region anaemia affects 17.2 percent of the women aged 15 to 49 years, significantly below the world average. In the Caribbean, however, almost 30 percent of women aged 15 to 49 years are affected by anaemia.
- Although the effects of the COVID-19 pandemic on malnutrition are not yet fully revealed, negative impacts on various forms of malnutrition are expected. More recently, the conflict in Ukraine has the potential to impact malnutrition on a global scale, because of the Russian Federation's and Ukraine's importance in the production and trade of wheat, maize and fertilizers.

2.1. STUNTING AMONG CHILDREN UNDER 5

Stunting, the condition of having a low height for one's age, is a marker for several impacts of undernutrition and is caused by a combination of nutritional and other factors that simultaneously undermine the physical and cognitive development of children and increases their risk of dying from common infections. Stunting and other forms of undernutrition early in life may also predispose children to become overweight and to develop non-communicable diseases (NCDs) later in life.

The prevalence of stunting decreased worldwide and in the region between 2000 and 2020. As FIGURE 7 shows, significant progress has been made in reducing stunting in the region – a 37 percent drop (equivalent to 6.7 percentage points) over the last 20 years – but the reduction has been slower more recently. The prevalence of stunting in children under 5 was 11.3 percent in the region in 2020, more than 10 percentage points below the world average – 22 percent (FIGURE 7). Stunting in the region is particularly prevalent among children whose mothers had no formal education, and who live in the poorest quintile (FAO, IFAD, UNICEF, WFP and WHO, 2022).

FIGURE 7
Prevalence of stunting among children under 5 in Latin America and the Caribbean by subregion



SOURCE: UNICEF, WHO & World Bank. 2021. *Levels and Trends in Child Malnutrition. UNICEF/WHO/World Bank Group Joint Child Malnutrition Estimates. Key findings of the 2021 edition*. https://data.unicef.org/resources/jme-report-2021

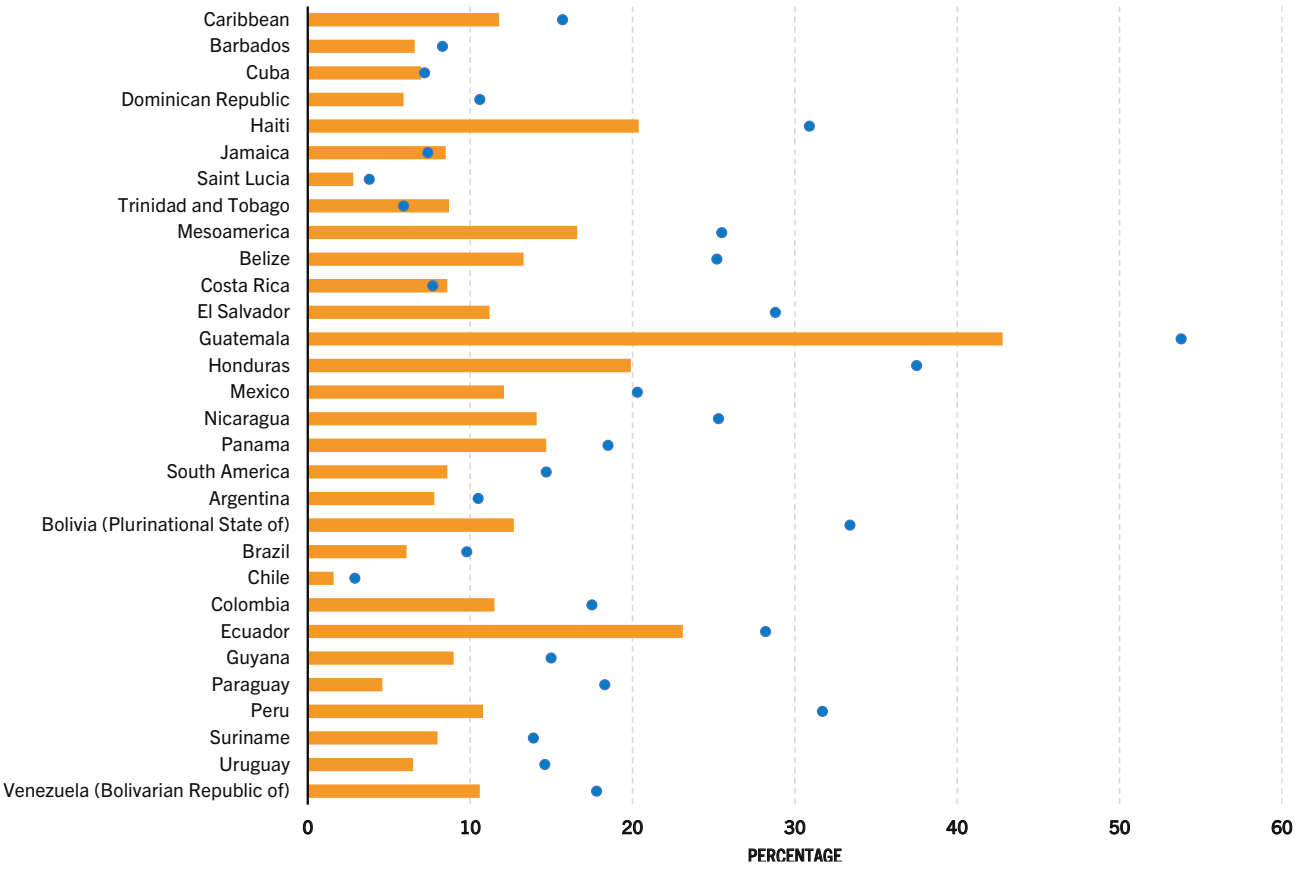
Between 2000 and 2020, South America managed to reduce stunting by 41 percent (-6.1 percentage points), Mesoamerica by 35 percent (-8.9 percentage points) and the Caribbean by 25 percent (-3.9 percentage points).

In 2020, the prevalence of stunting was 8.6 percent in South America, 16.6 percent in Mesoamerica, and 11.8 percent in the Caribbean. Mesoamerica shows the highest stunting numbers in the region and the slowest reduction rate since 2010. Specifically, between 2012 (the base year for the achievement of the SDGs) and 2020, stunting in Mesoamerica declined by just 7.8 percent, while the Caribbean achieved a reduction of 11.9 percent, and South America 18.6 percent. In Latin America and the Caribbean as a whole, stunting fell by 13.3 percent between 2012 and 2020.

FIGURE 8 shows a view by country, according to estimates for 2020. Chile, Paraguay, and Saint Lucia showed the lowest prevalence, below 5 percent. The countries where the prevalence of stunting increased between 2000 and 2020 are Trinidad and Tobago (+47 percent), Costa Rica (+15 percent), and Jamaica (+12 percent). The highest prevalence of stunting in the region was in Guatemala (42.8 percent), followed by Ecuador (23.1 percent), Haiti (20.4 percent) and Honduras (19.9 percent). For their part, the Plurinational State of Bolivia, El Salvador, Paraguay, Peru and Uruguay all showed reductions greater than 50 percent over the same period.

Among the countries that managed to reduce the prevalence of stunting between 2012 and 2020, Guyana did the best at 30 percent, while stunting decreased by more than 20 percent in the Plurinational State of Bolivia, the Dominican Republic, Panama, Paraguay and Peru.

FIGURE 8
Prevalence of stunting among children under 5 in Latin America and the Caribbean by country



SOURCE: UNICEF, WHO & World Bank. 2021. *Levels and Trends in Child Malnutrition. UNICEF/WHO/World Bank Group Joint Child Malnutrition Estimates. Key findings of the 2021 edition.* https://data.unicef.org/resources/jme-report-2021

Despite the progress made, Latin America and the Caribbean is not on track to achieve the SDG target 2.2 (reducing stunting among children under 5 by 50 percent by 2030). In 2020, stunting continued to affect 5.8 million children under 5 in the region: 2.8 million in South America, 2.7 million in Mesoamerica, and 400 thousand in the Caribbean. Additionally, the effects of the COVID-19 pandemic and the conflict in Ukraine on malnutrition are not yet fully known, due to data sparsity, the long-term impact on some nutritional outcomes, and the fact that it is not possible to know the scope and impact of such conditions and situations in progress. Negative impacts on stunting are expected, however, in lower-middle-income countries, and it is important to give special attention to those territories that are lagging behind in the region (FAO, IFAD, UNICEF, WFP and WHO, 2022; FAO, PAHO, WFP, UNICEF and IFAD, 2021).

2.2. WASTING AMONG CHILDREN UNDER 5

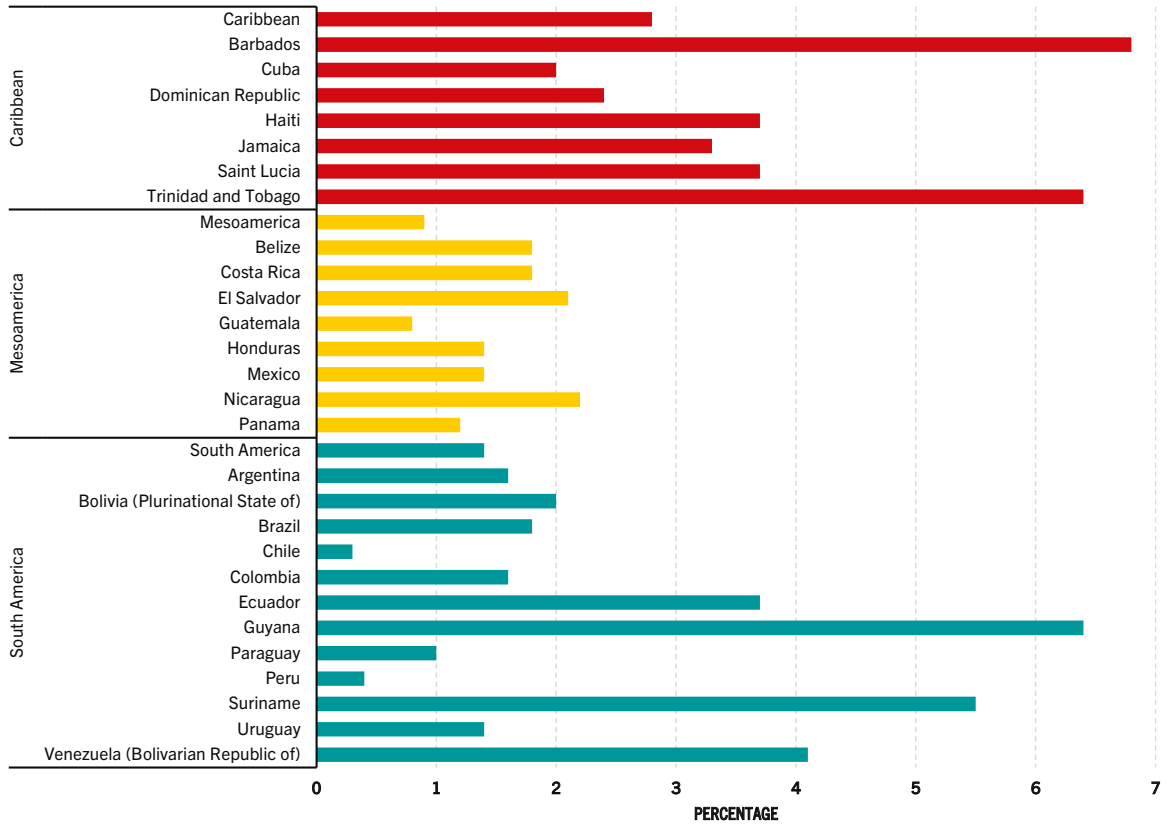
Child wasting is a life-threatening condition caused by insufficient energy and nutrient intake, poor energy and nutrient absorption, and/or frequent or prolonged illness. Wasting is one of the most critical forms of malnutrition in early childhood, as it is associated with a high risk of mortality if cases are not identified and treated properly in a timely fashion (WHO, 2022a).

In Latin America and the Caribbean, the prevalence of wasting is 1.3 percent (equivalent to 0.7 million children under 5), significantly below the world average of 6.7 percent. Among the subregions in 2020, the Caribbean had a slightly higher rate of 2.8 percent, South America's was 1.4 percent, and in Mesoamerica the rate was less than 1 percent. If these levels are sustained, the region is on track to reach the SDG target of maintaining wasting below 3 percent of the child population.

As can be seen in FIGURE 9 the countries with wasting levels above 3 percent are Barbados (6.8 percent), Trinidad and Tobago (6.4 percent), Guyana (6.4 percent), Suriname (5.5 percent), the Bolivarian Republic of Venezuela (4.1 percent) and Ecuador (3.7 percent).

FIGURE 9

Prevalence of wasting among children under 5 in Latin America and the Caribbean by country (latest year available)



SOURCE: UNICEF, WHO & World Bank. 2021. *Levels and Trends in Child Malnutrition. UNICEF/WHO/World Bank Group Joint Child Malnutrition Estimates. Key findings of the 2021 edition.* https://data.unicef.org/resources/jme-report-2021

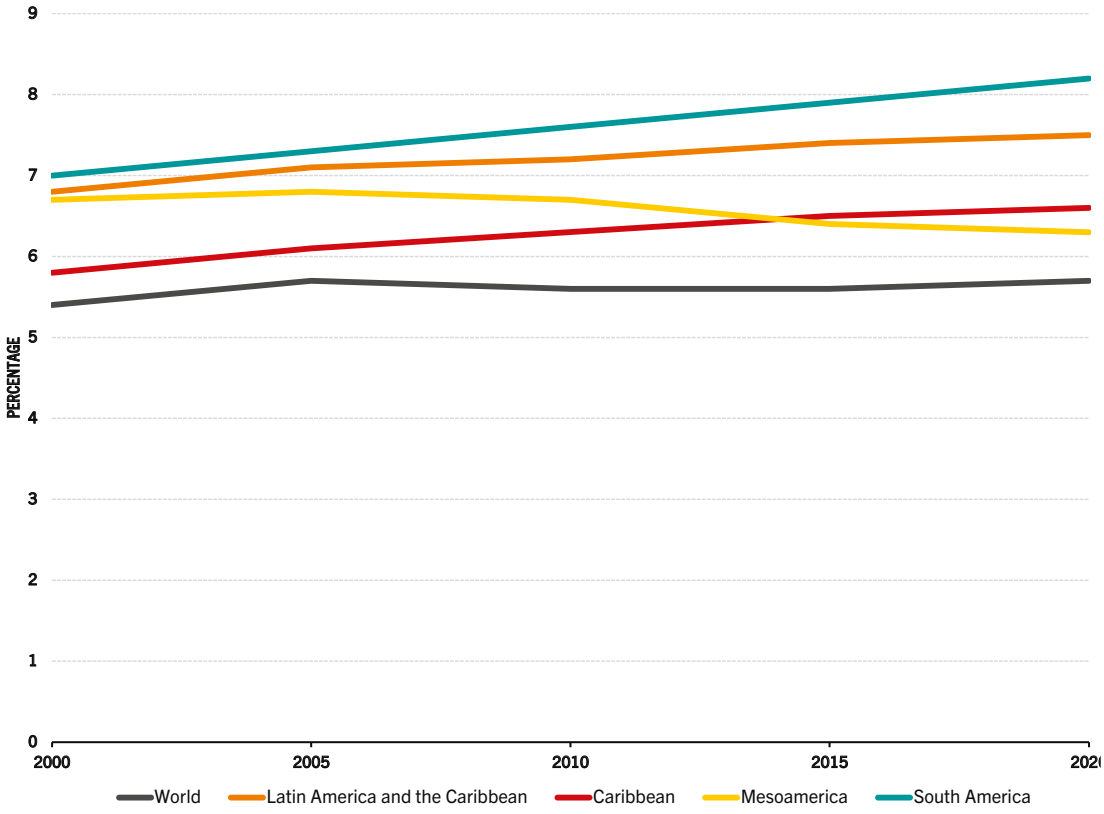
As previously indicated, the effects of the COVID-19 pandemic on malnutrition have not yet been fully revealed. Global projections for wasting indicate that between 11.2 and 16.3 million more children under 5 in low and middle-income countries could be afflicted between 2020 and 2022 (FAO, IFAD, UNICEF, WFP and WHO, 2022).

2.3. OVERWEIGHT AMONG CHILDREN UNDER 5

Child overweight is defined as high weight-for-height in children under 5 years of age. Obesity is the severe form of overweight. Overweight and obesity face both immediate and potentially long-term health impacts. Immediate impacts include respiratory difficulties, increased risk of fractures, hypertension, early markers of cardiovascular disease, insulin resistance and psychological effects (WHO, 2014). Long term, they have a higher risk of NCDs. Overweight has been on the rise in many countries, hastened by increasingly inadequate levels of physical activity and access to foods high in energy, fats, and added sugars and/or salt (WHO, 2021b). Child obesity may also contribute to cognitive, behavioural and emotional difficulties including lower scores on cognitive tests and low self-esteem, and may also lead to stigmatization, poor socialization, depression and reduced educational achievement (UNICEF, 2019).

In Latin America and the Caribbean, 7.5 percent of children under 5 (or 3.9 million) were overweight in 2020, almost 2 percentage points above the world average (5.7 percent). This percentage has been increasing over the last 20 years. Among the subregions, South America has the highest prevalence of overweight (8.2 percent), followed by the Caribbean (6.6 percent), and Mesoamerica (6.3 percent). FIGURE 10 shows that in South America and the Caribbean, overweight in children under 5 has moderately risen over the last 20 years, while in Mesoamerica it has been decreasing since 2010. It is important to note that in the region there is no significant difference in the prevalence of overweight among children under 5 between urban and rural areas, different wealth quintiles, levels of maternal education or gender (FAO, IFAD, UNICEF, WFP and WHO, 2022).

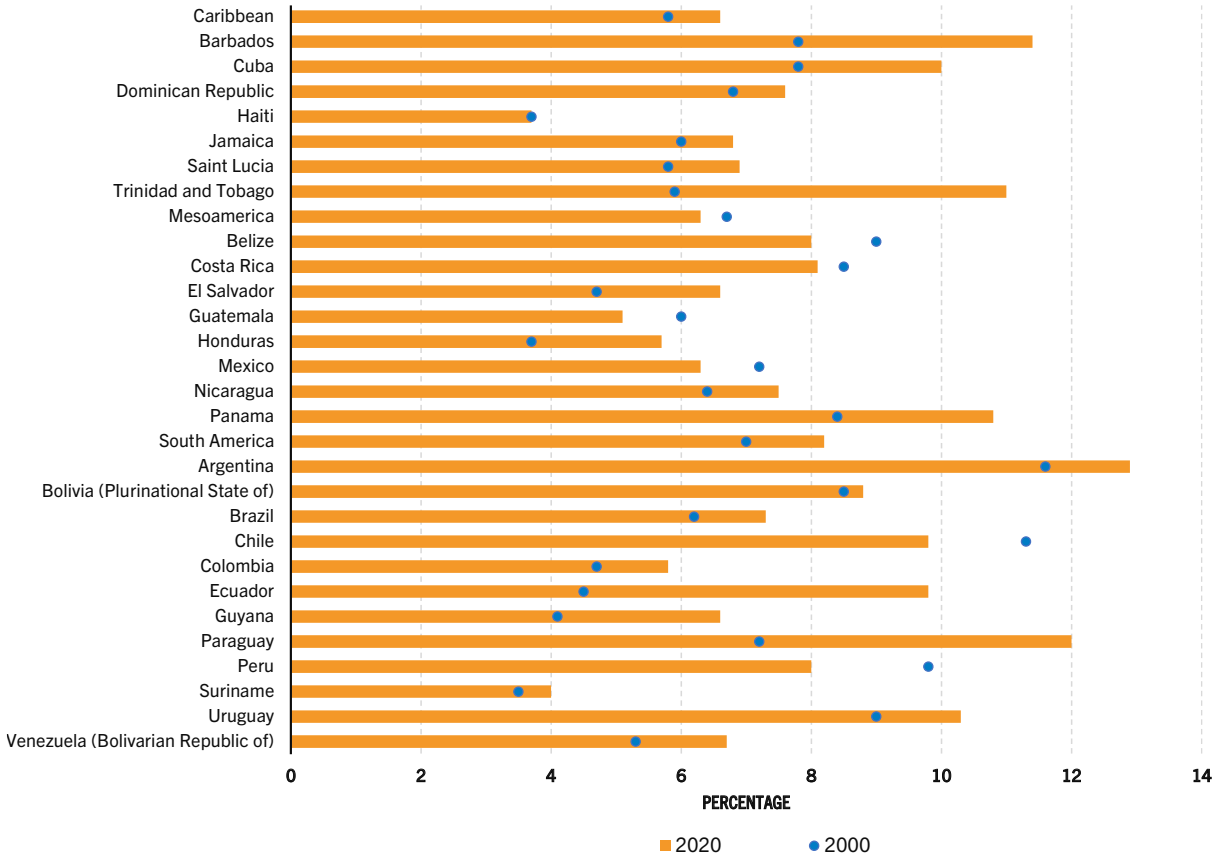
FIGURE 10
Prevalence of overweight among children under 5 in Latin America and the Caribbean by subregion



SOURCE: UNICEF, WHO and World Bank. 2021. *UNICEF-WHO-World Bank: Joint child malnutrition estimates - Levels and trends (2021 edition).* https://data.unicef.org/resources/jme-report-2021

According to estimates of overweight in children under 5, the lowest rates belong to Haiti (3.7 percent), Suriname (4 percent) and Guatemala (5.1 percent). Argentina, Barbados, Cuba, Panama, Trinidad and Tobago, and Uruguay show the highest prevalence in the region (over 10 percent). FIGURE 11 shows that in most of the region's countries, overweight in children under 5 has tended to increase between 2000 and 2020. The countries with the largest increases were Ecuador (5.3 percentage points), Trinidad and Tobago (5.1 percentage points), Paraguay (4.8 percentage points) and Barbados (3.6 percentage points). In Cuba, Guyana, Panama and Honduras the prevalence of overweight increased more than 2 percentage points in the same period. Six countries in the region managed to reduce the prevalence of overweight in children under 5 between 2000 and 2020: Belize, Chile, Costa Rica, Guatemala, Mexico and Peru.

FIGURE 11
Prevalence of overweight among children under 5 in Latin America and the Caribbean by country



SOURCE: UNICEF, WHO and World Bank. 2021. *UNICEF-WHO-World Bank: Joint child malnutrition estimates - Levels and trends (2021 edition).* https://data.unicef.org/resources/jme-report-2021

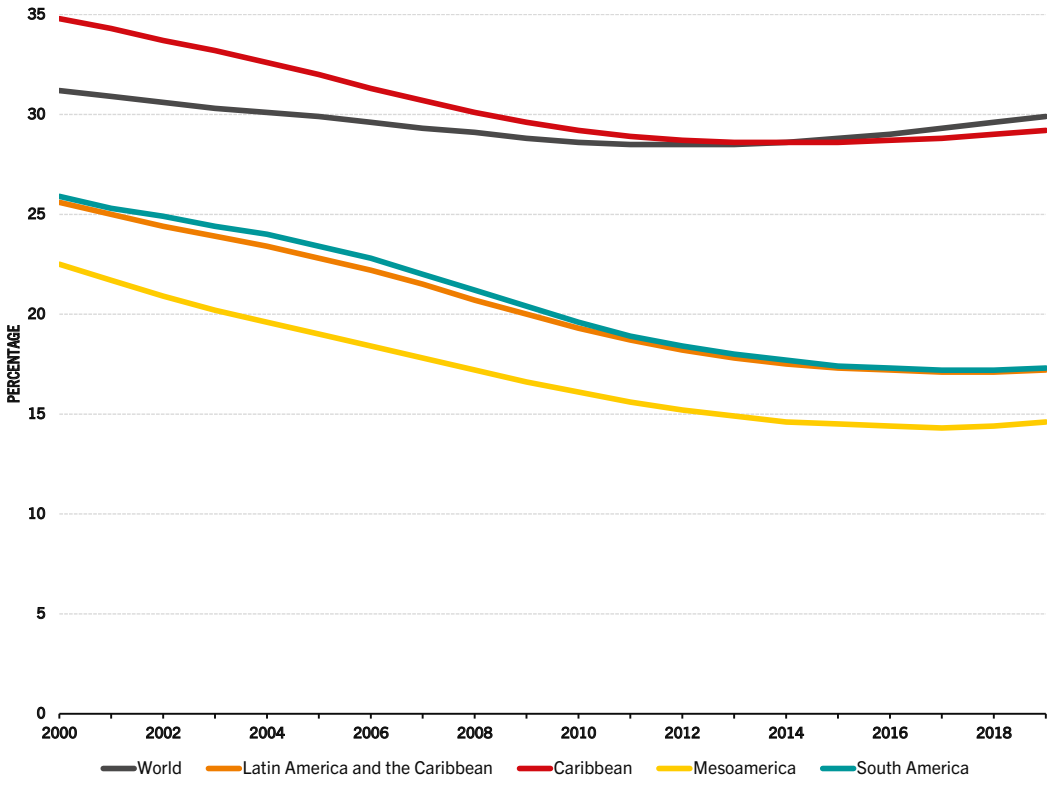
If this increasing trend continues, Latin America and the Caribbean will not be on track to achieve SDG 2 of maintaining overweight in children under 5 below 3 percent by 2030.

2.4. ANAEMIA AMONG WOMEN AGED 15 TO 49 YEARS

Anaemia refers to low levels of hemoglobin in the blood. It has a wide variety of causes, but iron deficiency is considered to be the most common cause, resulting from a low dietary intake of iron or poor absorption (for example, from diets rich in phytates or phenolic compounds) or loss of iron. Anaemia seriously affects health, and since pregnant women are a population group with greater iron requirements, they are especially at risk of anaemia, which is associated with increased risks for maternal and child mortality (WHO, 2022a).

Anaemia in women aged 15 to 49 years in Latin America and the Caribbean was 17.2 percent (equivalent to 29.6 million women aged 15 to 49 years) in 2019, significantly below the world average of 30 percent. In South America anaemia affects 17.3 percent of women aged 15 to 49 years, 14.6 percent in Mesoamerica, and 29.2 percent in the Caribbean, which is very close to the world average (FIGURE 12).

FIGURE 12
Prevalence of anaemia among women aged 15–49 years in Latin America and the Caribbean by subregion

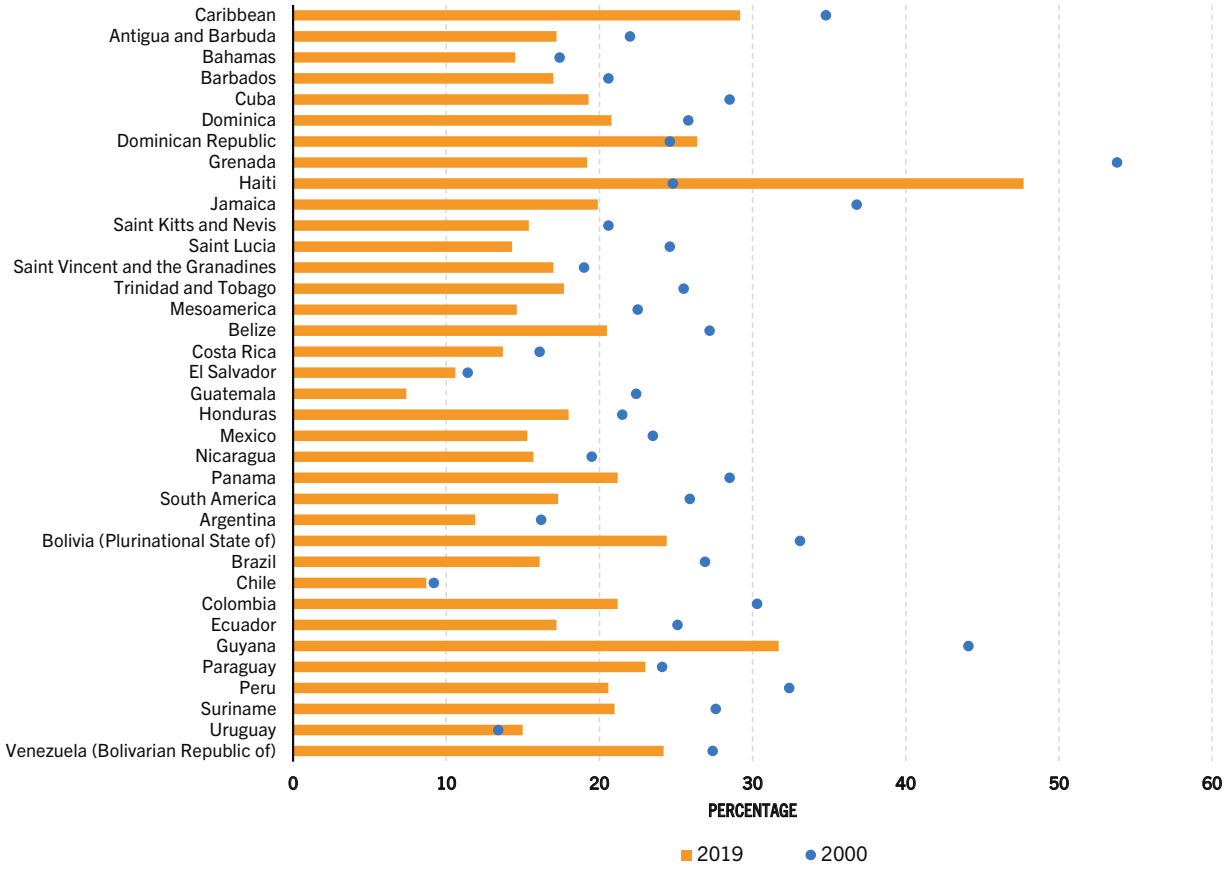


SOURCE: WHO. 2021. Global anaemia estimates, Edition 2021. In: *Global Health Observatory* (GHO) data repository. Geneva, Switzerland. Cited 25 May 2021. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-anaemia-in-women-of-reproductive-age-(-)

FIGURE 13 shows that among the region's countries with the highest prevalence of anaemia in women aged 15 to 49 years, Haiti's prevalence is the highest (47.7 percent), followed by Guyana (31.7 percent) and the Dominican Republic (26.4 percent). The countries with the lowest rates are Chile (8.7 percent), and Guatemala (7.4 percent). Every country in the region except Uruguay managed to reduce the prevalence of anaemia in women aged 15 to 49 years between 2000 and 2019. The most significant progress in this regard was achieved by Guatemala, with a 67 percent reduction. Brazil achieved a reduction of 40 percent, while Colombia, Ecuador, Mexico, Peru, Saint Vincent and the Grenadines, and Trinidad and Tobago reduced the prevalence of anaemia by more than 30 percent.

FIGURE 13

Prevalence of anaemia among women aged 15–49 years in Latin America and the Caribbean by country



SOURCE: WHO. 2021 Global anaemia estimates, Edition 2021. In: *Global Health Observatory* (GHO) data repository. Geneva, Switzerland. Cited 25 May 2021. www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-anaemia-in-women-of-reproductive-age-(-)

Although anaemia has decreased in the region since 2000, reduction in the last few years has stagnated, with little progress between 2012 and 2019, distancing the region from achieving SDG indicator 2.2.3 of reducing its prevalence by 50 percent by 2030.

CHAPTER 3

ADDITIONAL WORLD HEALTH ASSEMBLY NUTRITION INDICATORS

Key messages

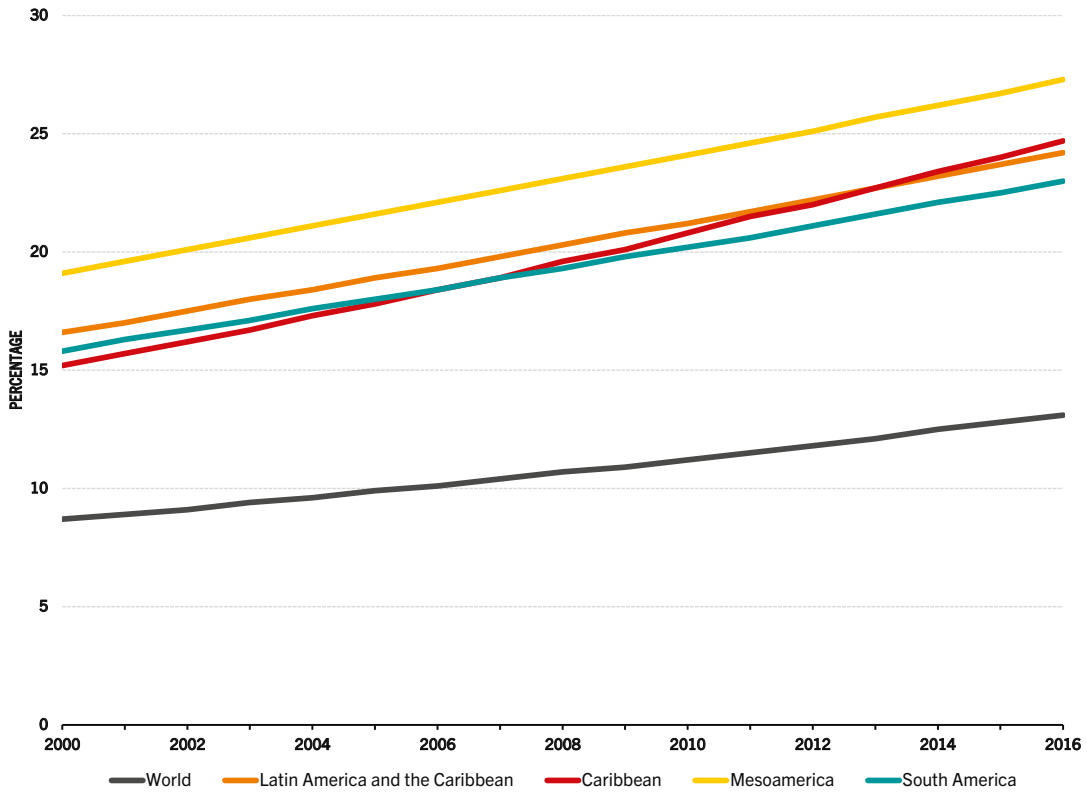
- In Latin America and the Caribbean, obesity affected almost a quarter of the adult population (24.2 percent) in 2016, as indicated by the last measure available for this World Health Assembly nutrition indicator, well above the world average of 13.1 percent. Obesity in adults significantly increased across the region between 2000 and 2016 – by 9.5 percentage points in the Caribbean, 8.2 percentage points in Mesoamerica and 7.2 percentage points in South America. Adult obesity is more prevalent among women than men in all countries in the region, and in 20 countries it is at least 10 percentage points higher for women than for men.
- In 2020, the rate of exclusive breastfeeding for six months in Latin America and the Caribbean was 37.3 percent below the world average (43.8 percent). The rate has decreased in the Caribbean, and although Mesoamerica has made significant progress improving the rate of exclusive breastfeeding for six months, it is still below the SDG target.
- In Latin America and the Caribbean, the prevalence of low birthweight was 8.7 percent in 2015, and though it has not varied much since 2000, the prevalence is still well below the world average.

This section assesses progress towards three additional global nutrition targets endorsed by the World Health Assembly (WHA) – adult obesity, exclusive breastfeeding and low birthweight.

3.1. OBESITY IN ADULTS

In Latin America and the Caribbean, obesity (≥18 years old) affected 24.2 percent of the adult population in 2016 (equivalent to 106 million adults), well above the world average (13.1 percent). Obesity in adults increased significantly across the subregion between 2000 and 2016 – by 9.5 percentage points in the Caribbean, by 8.2 in Mesoamerica, and by 7.2 in South America. Mesoamerica shows the highest prevalence of obesity in adults (27.3 percent), followed by the Caribbean (24.7 percent) and South America (23 percent) (FIGURE 14).

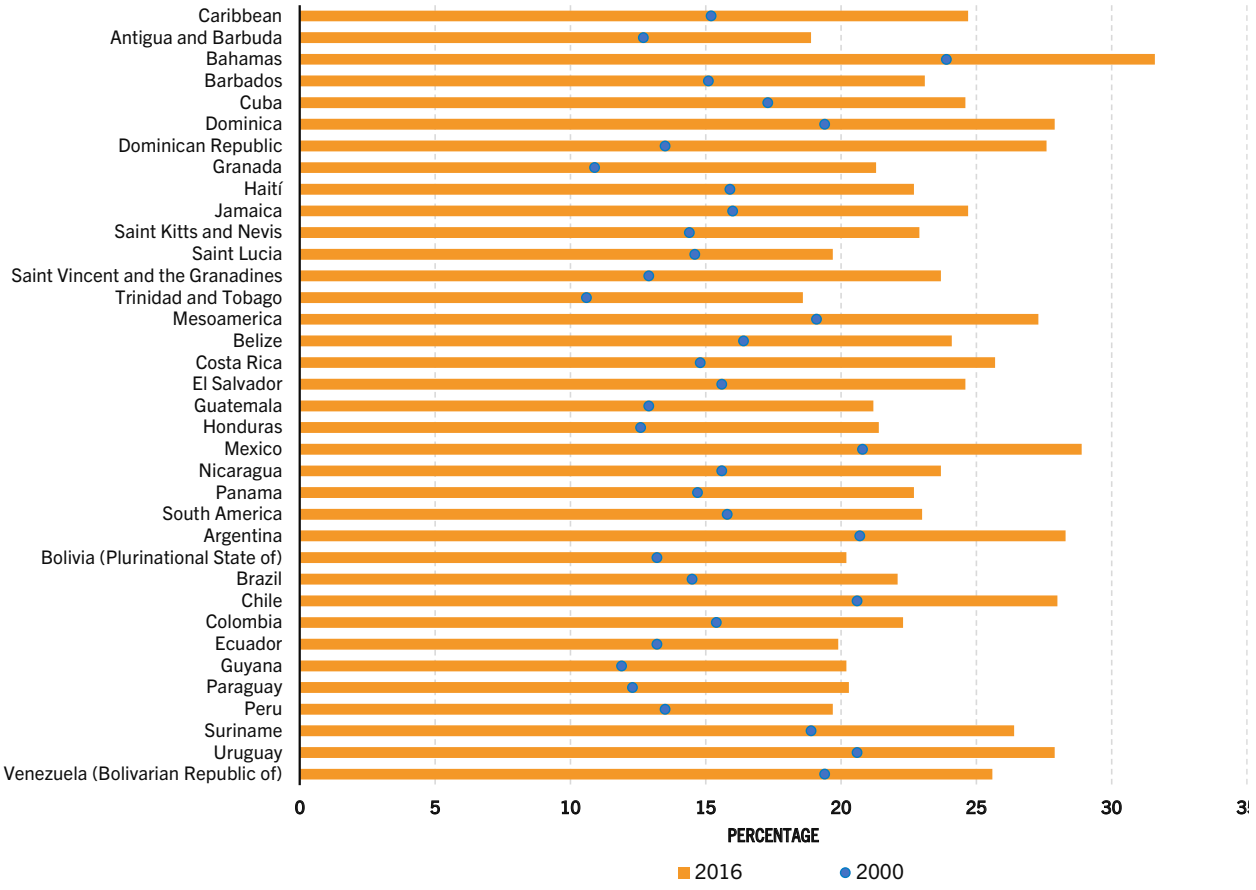
FIGURE 14
Prevalence of obesity among adults in Latin America and the Caribbean by subregion



SOURCE: WHO. 2020. Global Health Observatory (GHO) data repository. In: *WHO*. Geneva, Switzerland. Cited 28 April 2020. https://apps.who.int/gho/data/node.main.A900A?lang=en

FIGURE 15 shows that obesity in adults increased in all the region's countries between 2000 and 2016. By more than 10 percentage points in Costa Rica, the Dominican Republic, and Haiti. Bahamas had the highest prevalence of obesity in adults in 2016 (more than 30 percent), while obesity affected more than 25 percent of adults in Argentina, Chile, Costa Rica, Dominica, the Dominican Republic, Mexico, Suriname, and Uruguay.

FIGURE 15
Prevalence of obesity among adults in Latin America and the Caribbean by country



SOURCE: WHO. 2020. Global Health Observatory (GHO) data repository. In: *WHO*. Geneva, Switzerland. Cited 28 April 2020. https://apps.who.int/gho/data/node.main.A900A?lang=en

The region is not on track to meet the 2025 target of the World Health Assembly to halt the rise in obesity. Also, in order to reduce the prevalence of adult obesity, it is important to understand, along with the root causes, who and where the most affected people are.

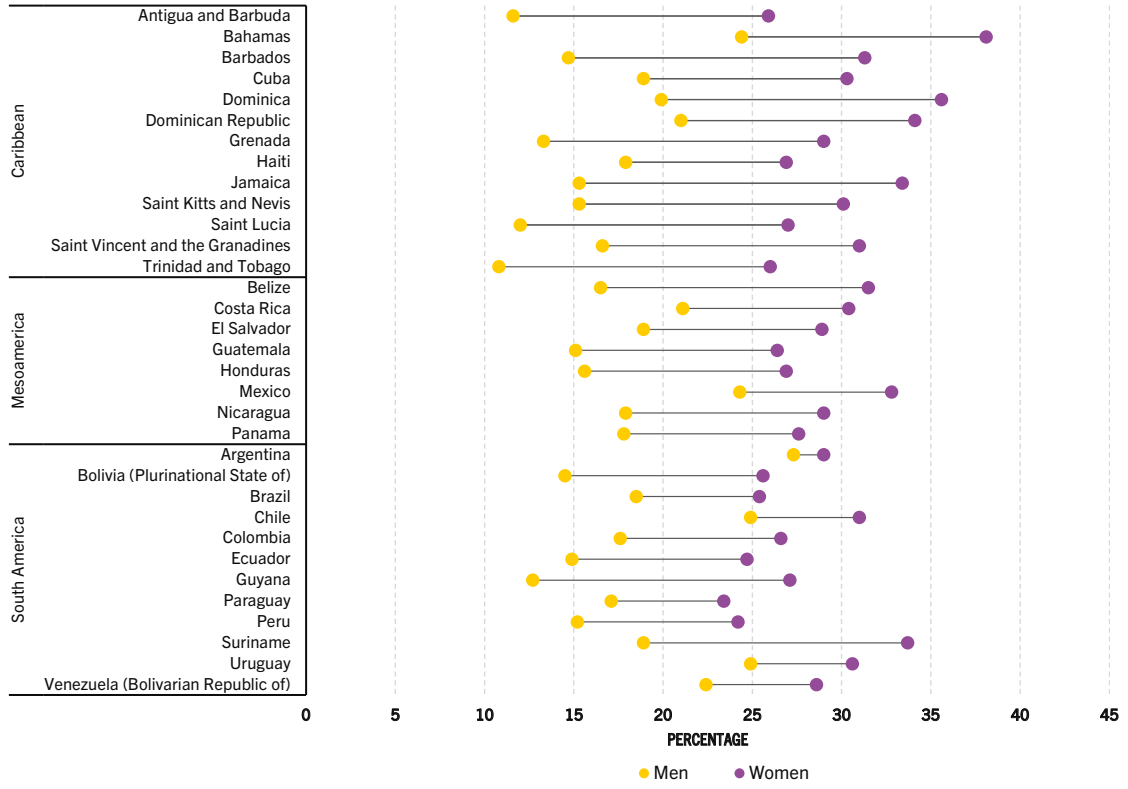
Obesity among women

Adult obesity is more prevalent among women than men across Latin America and the Caribbean. In 20 countries the prevalence for women is at least 10 percentage points higher than for men. Among the countries with the highest gender gap are Jamaica (18.1 percentage points), Barbados (16.6 percentage points), Dominica and Grenada (both with 15.7 percentage points) and Trinidad and Tobago, with a gap of 15.2 percentage points (FIGURE 16).

Significant inequalities can be seen when adult obesity is assessed according to certain socioeconomic variables. Viewed by area, we see that women from urban areas suffer from obesity more than those living in rural areas. While fewer women in the poorest quintile suffer from obesity, women with only primary education are more likely to be obese (FAO, IFAD, UNICEF, WFP and WHO, 2022).

FIGURE 16

Prevalence of obesity among adults in Latin America and the Caribbean by sex and country (2016)



SOURCE: WHO. 2020. Global Health Observatory (GHO) data repository. In: **WHO**. Geneva, Switzerland. Cited 28 April 2020. https://apps.who.int/gho/data/node.main.A900A?lang=en

3.2. PREVALENCE OF EXCLUSIVE BREASTFEEDING DURING THE FIRST SIX MONTHS OF LIFE

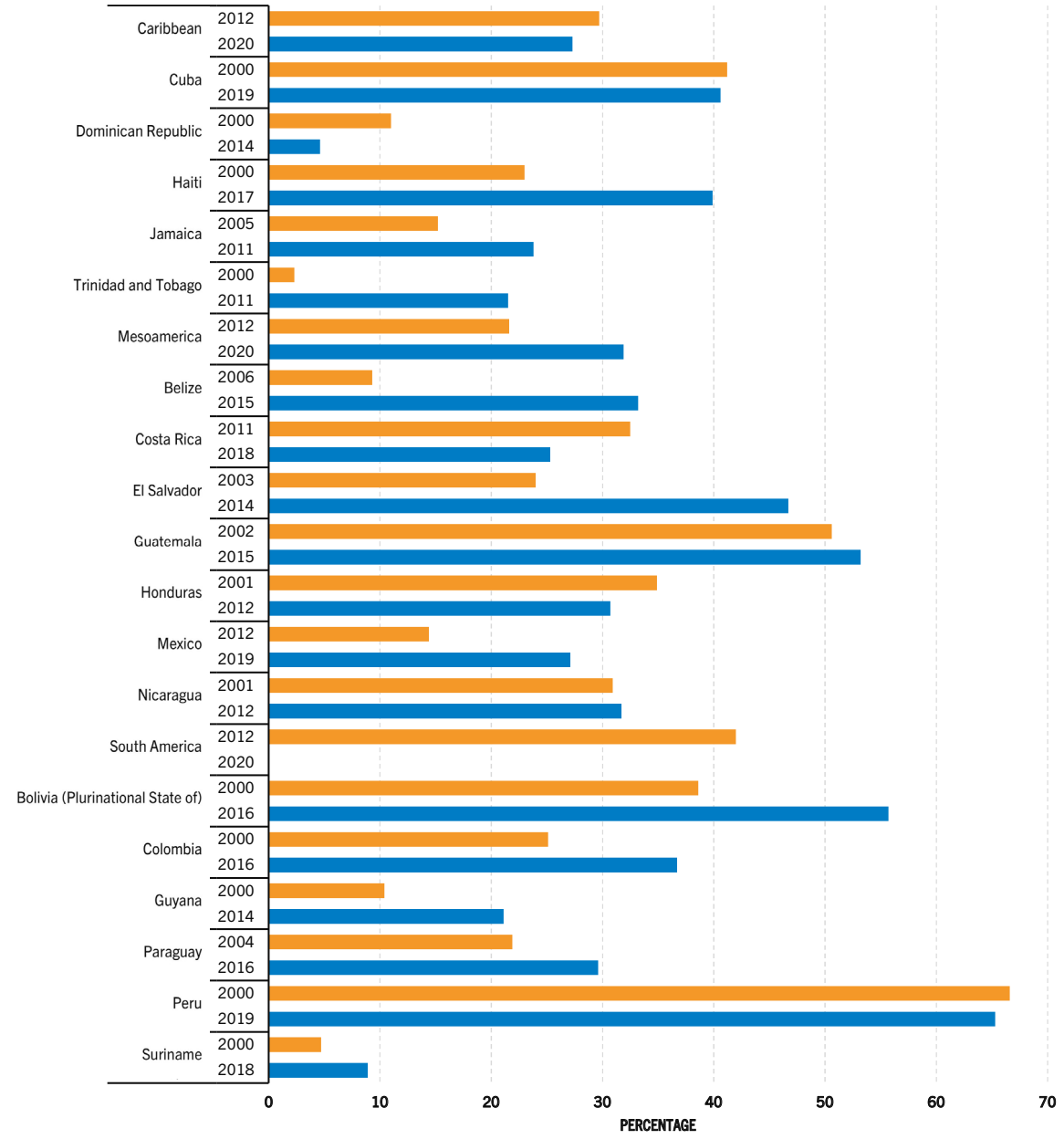
Exclusive breastfeeding during the first six months of life has many benefits for the infant and for the mother. Chief among these is protection against gastrointestinal infections for the infant. This benefit has been observed not only in developing countries, but also in developed countries (WHO, 2021b). Breastfeeding is one of the most powerful practices for promoting child survival and wellbeing. Breastfeeding protects against life-threatening and chronic illnesses, promotes healthy growth and adequate child development. It supports healthy brain development and is associated with higher intelligence (UNICEF, 2018).

In 2020, the rate of exclusive breastfeeding for six months in Latin America and the Caribbean was 37.3 percent, below the world average of 43.8 percent. Mesoamerica has made significant progress in this, jumping from 21.6 percent in 2012 to 31.9 percent in 2020. Though an improvement, this more recent percentage is still well below the world average of 44 percent, and even further behind the World Health Assembly (WHA) and the SDG targets (50 and 70 percent, respectively). In the Caribbean, by contrast, exclusive breastfeeding during the first six months of life decreased between 2012 and 2020, to a rate of 27.3 percent. In South America the rate was closer to the world average at 42 percent.

As indicated in FIGURE 17, the Plurinational State of Bolivia, Guatemala and Peru were the only countries in the region with exclusive breastfeeding rates above 50 percent in 2020. Among the 13 countries where the rate of exclusive breastfeeding increased between 2012 and 2020, Belize saw the biggest increase (24 percentage points), followed by El Salvador (22.7 percentage points), and Trinidad and Tobago (nearly 20 percentage points). Also worthy of mention is the 15-percentage point increase in exclusive breastfeeding in both the Plurinational State of Bolivia and Haiti. On the other hand, exclusive breastfeeding decreased almost 7 percentage points in the Dominican Republic (between 2011 and 2018) and Costa Rica.

FIGURE 17

Prevalence of excessive breastfeeding among infants 0–5 months of age in Latin America and the Caribbean by country



SOURCE: UNICEF. 2021. Infant and young child feeding. In: *UNICEF*. New York, USA. Cited 6 April 2022. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

Some differences can be seen between some socioeconomic variables. The percentage of infants under six months of age benefiting from exclusive breastfeeding in rural areas is significantly higher than in urban areas. Exclusive breastfeeding also tends to be higher among infants whose mothers have lower levels of education (FAO, IFAD, UNICEF, WFP and WHO, 2022).

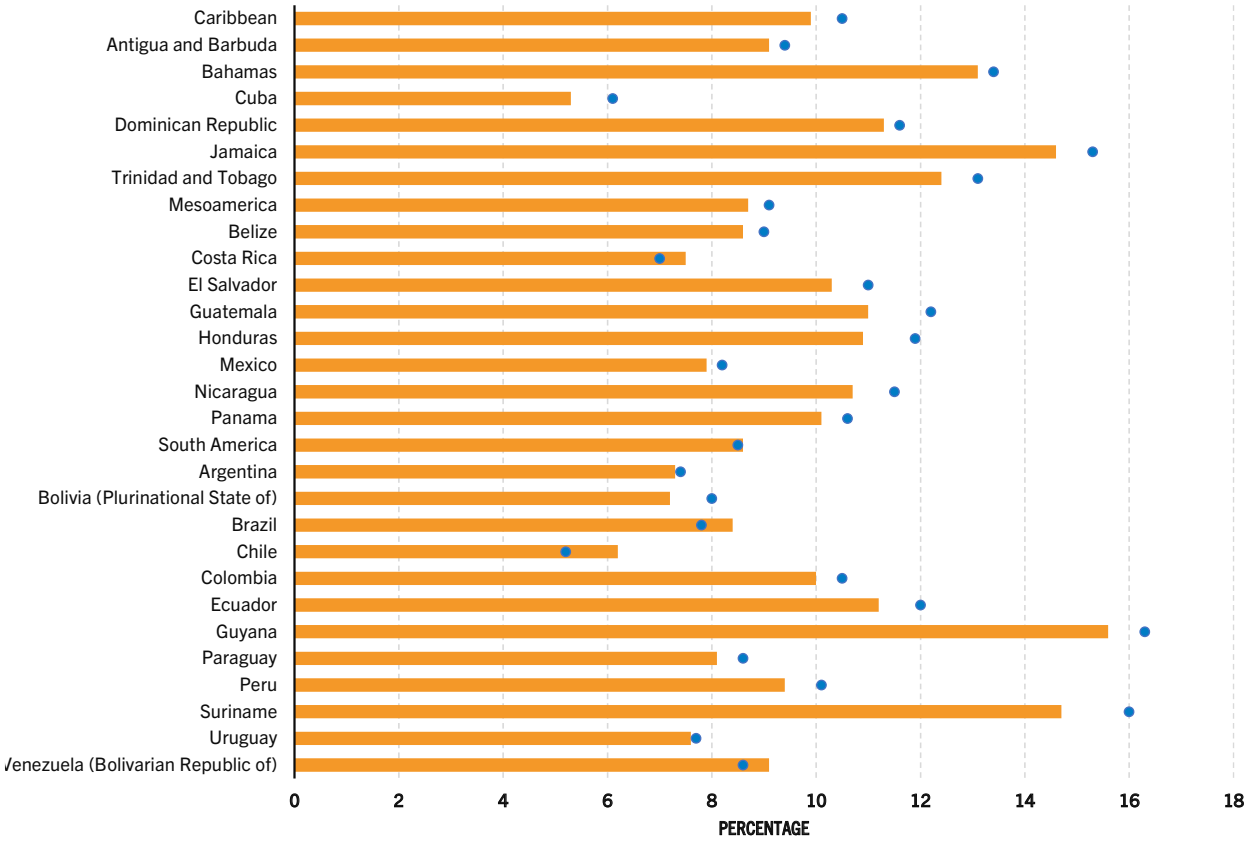
3.3. PREVALENCE OF LOW BIRTHWEIGHT

Low birthweight is defined by the *WHO* as weight at birth of less than 2 500 g (5.5 lb) and can be caused by intrauterine growth restriction, prematurity or both. Low birthweight continues to be a significant public health problem globally and is associated with a range of both short and long-term consequences such as fetal and neonatal mortality and morbidity, impaired growth and cognitive development, and an increased risk of NCDs later in life. Low birthweight infants are approximately 20 times more likely to die than infants with a weight over 2 500 g (WHO, 2014; WHO, 2022b).

In Latin America and the Caribbean, the prevalence of low birthweight was 8.7 percent in 2015. This has not varied much since 2000. Although the region has made little progress toward the WHO target of reducing low birthweight by 30 percent, it is worth noting that the region's average is well below the world average (14.6 percent). Among subregions, the Caribbean shows the highest prevalence of low birthweight (9.9 percent), followed by Mesoamerica (8.7 percent), then South America (8.6 percent).

The countries with the highest prevalence of low birthweight in the region according to the latest available data (2015), were Guyana (15.6 percent), Suriname (14.7 percent), Jamaica (14.6 percent), Bahamas (13.1 percent), and Trinidad and Tobago (12.4 percent), while Chile and Cuba had rates below 7 percent. Between 2000 and 2015, the prevalence of low birthweight increased by 6 percent in the Bolivarian Republic of Venezuela, 7 percent in Costa Rica, 8 percent in Brazil, and 19 percent in Chile. In contrast, the prevalence of low birthweight decreased in the Plurinational State of Bolivia (-10 percent) and Cuba (-13 percent) (FIGURE 18).

FIGURE 18
Prevalence of low birthweight in Latin America and the Caribbean by country



SOURCE: UNICEF and WHO. *Birthweight Estimates: Levels and trends 2000–2015*. New York.
https://data.unicef.org/resources/unicef-who-low-birthweight-estimates-levels-and-trends-2000-2015

CHAPTER 4

COST AND AFFORDABILITY OF A HEALTHY DIET: AN UPDATE FOR LATIN AMERICA AND THE CARIBBEAN

Key messages

- Diet quality is associated with food security and nutrition because poor diet quality can be related to different forms of malnutrition, including stunting, anaemia, as well as overweight and obesity.
- The average cost of a healthy diet globally in 2020 was USD 3.54 per person per day, which is 3.3 percent and 6.7 percent more than in 2019 and 2017, respectively. Latin America and the Caribbean had the highest cost of a healthy diet compared to other regions, at USD 3.89 per person per day in 2020, followed by Asia (USD 3.46), Northern America and Europe (USD 3.19) and Oceania (USD 3.07).
- Between 2019 and 2020, the cost of a healthy diet in the region increased by 3.4 percent. In the Caribbean the rise was the highest (4.1 percent), while in Mesoamerica the increase was half this (2.1 percent), and in South America the rise was 2.7 percent.
- In 2020, 131 million people in the region could not afford a healthy diet. This is an increase of 8 million from 2019, and is due to the higher cost of healthy diets in the region, where 22.5 percent of the population cannot afford a healthy diet. In the Caribbean, more than half of the population cannot afford a healthy diet. In Mesoamerica this number is 27.8 percent, and in South America, 18.4 percent.

FAO *et al*. (2020) presented an analysis of three reference diets with increasing levels of quality: an energy-sufficient diet that provides adequate daily calories relative to energy needs; a nutrient-adequate diet that provides not only adequate calories but also adequate amounts of essential nutrients in a balanced mix of carbohydrates, protein, fat, essential vitamins and minerals, with macronutrient intakes within the Acceptable Macronutrient Distribution Range (AMDR) set by the Institute of Medicine (IOM); and a healthy diet that provides adequate calories and nutrients but also includes more diversified foods from several different food groups, as recommended by food-based dietary guidelines (FBDGs).[4]

Since the State of Food Security and Nutrition in the World 2020 (SOFI) report, FAO has been monitoring and reporting annually the indicators on the cost and affordability of a healthy diet as they complement existing indicators in monitoring the progress toward the achievement of SDG 2. The cost of a healthy diet is defined as the cost of

[4] For a discussion of FAO's latest refinements and methodological updates to the cost and affordability of a healthy diet indicators see Box 6 in *The State of Food Security and Nutrition in the World* 2020 (SOFI) report and Herforth, A., Venkat, A., Bai, Y., Costlow, L., Holleman, C. and Masters, W.A. 2022. *Methods and options to monitor the cost and affordability of a healthy diet globally. Background paper for The State of Food Security and Nutrition in the World* 2022. FAO Agricultural Development Economics Working Paper 22-03. Rome, FAO. https://doi.org/10.4060/cc1169en.

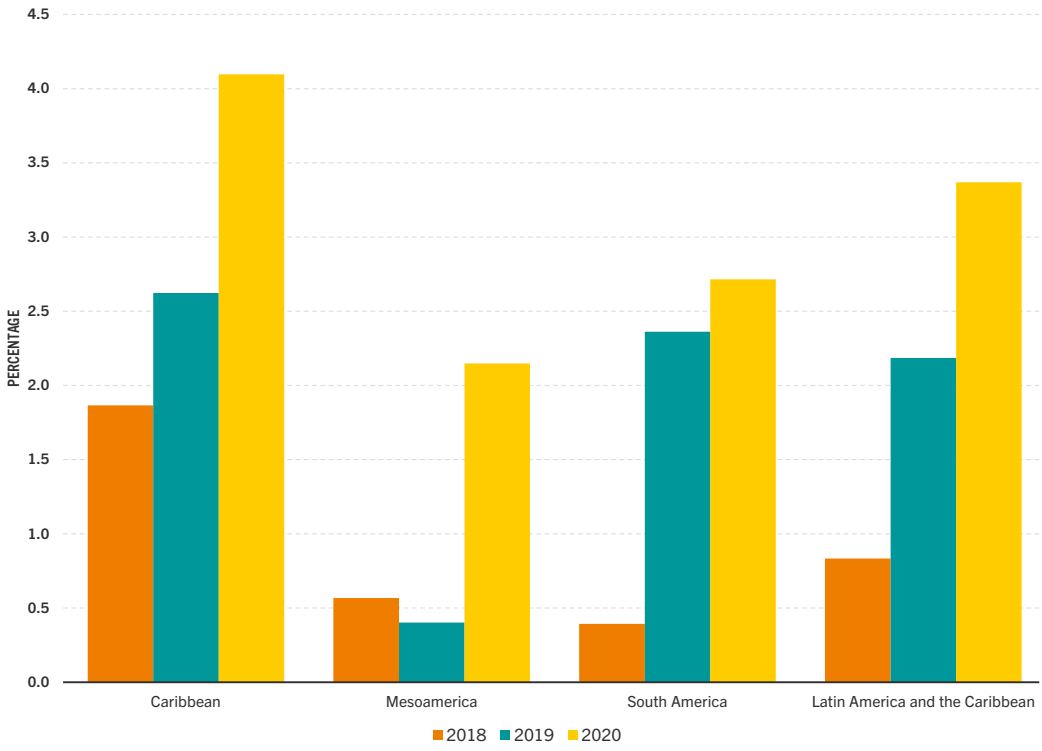
the least expensive locally available foods to meet energy requirements of 2 330 kcal/day as well as nutrient requirements established by national FBDGs. To determine affordability, which is measured by the percentage and the number of people unable to afford the cost of a healthy diet, the cost is compared with country-specific income distributions. A healthy diet is considered unaffordable when its cost exceeds 52 percent of the income in a country.[5]

In 2020, Latin America and the Caribbean had the highest average cost of a healthy diet compared to other regions of the world, at USD 3.89 per person per day, while the average cost of a healthy diet worldwide was USD 3.54.

As can be seen in FIGURE 19, the cost of a healthy diet in the region increased by 3.4 percent between 2019 and 2020.[6] In the Caribbean the rise was the highest (4.1 percent), while in Mesoamerica the increase was half that, at 2.1 percent. In South America the rise was 2.7 percent.

FIGURE 19

Change in the cost of a healthy diet compared to the previous year in Latin America and the Caribbean by subregion



SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Secrurity and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060/cc0639en

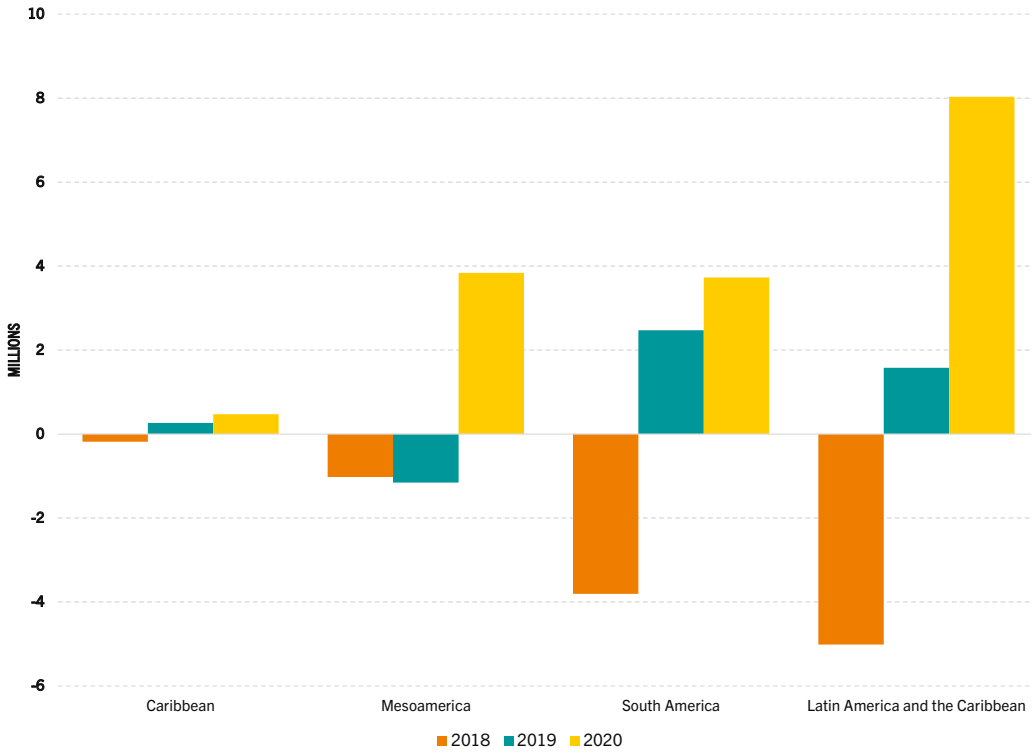
[5] This percentage accounts for a portion of income that can be credibly reserved for food, based on observations that the population in low-income countries (LICs) spends, on average, 52 percent of their income on food, as derived from the 2017 ICP national accounts expenditure data.

[6] Regional and subregional statistics on the cost of a healthy diet include Latin American and Caribbean countries, as well as the following areas and territories: Anguilla, Aruba, British Virgin Islands, Cayman Islands, Curaçao, Montserrat, Sint Marteen (Dutch part) and Turks and Caicos Islands.

In 2020, 42 percent of the population in the world could not afford a healthy diet, almost 3.1 billion people (see TABLE A-12). Due to the higher cost of a healthy diet, this percentage in Latin America and the Caribbean was 22.5 percent, or 131 million people, an increase of 8 million from 2019. South America accounts for 57 percent of people unable to afford a healthy diet in Latin America and the Caribbean (74.2 million), followed by Mesoamerica (43.1 million) and the Caribbean (13.9 million). More than half of the Caribbean population (52 percent) cannot afford a healthy diet, followed by Mesoamerica (27.8 percent) and South America (18.4 percent).

As FIGURE 20 illustrates, between 2019 and 2020 the number of people who could not afford a healthy diet grew by around 3.8 million in both Mesoamerica and South America. In the Caribbean, despite the significant increase in the cost of a healthy diet, the number of people who could not afford it showed the smallest increase (less than 500 000 people).

FIGURE 20
Change in the number of people unable to afford a healthy diet compared to the previous year in Latin America and the Caribbean by subregion



SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. https://doi.org/10.4060/cc0639en

In Latin America and the Caribbean, the percentage of the population that cannot afford a healthy diet differs greatly between subregions as well as between countries (see TABLE A-12). Among the Caribbean countries, the vast majority of the population of Haiti (85.9 percent) cannot afford a healthy diet, and in Jamaica more than two-thirds of the population (66.2 percent) cannot afford it. In the Dominican Republic and Saint Lucia, close to 20 percent of the population is unable to afford a healthy diet.

In Mesoamerica, over half of Honduras' population (51.3 percent) cannot afford a healthy diet, nor can more than a third of the people in Nicaragua and Belize (35.7 and 36.4 percent), and more than a quarter in Mexico (26.3 percent). In Panama and Costa Rica, less than 20 percent of the population cannot afford a healthy diet.

Lastly, Suriname (58.8 percent) and Guyana (43 percent) are the two South American countries with the highest percentage of people that cannot afford a healthy diet. Almost a quarter of the population of the Plurinational State of Bolivia cannot afford a healthy diet, while in Brazil, Ecuador and Peru around 20 percent of the population cannot. In Chile and Uruguay, on the other hand, less than 4 percent of the population cannot afford a healthy diet.

Analysing the determinants for affordability of a healthy diet, and sharing policies on a regional level, are essential to making progress toward the SDG 2.

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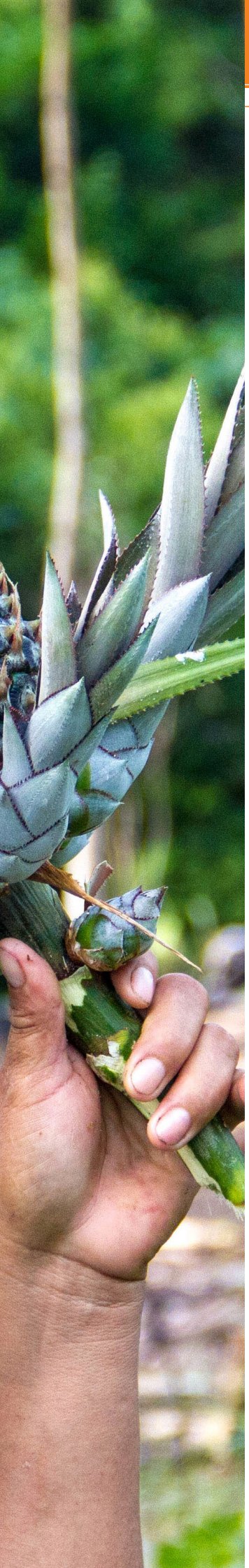

PART 2

POLICIES TO IMPROVE THE AFFORDABILITY OF HEALTHY DIETS IN LATIN AMERICA AND THE CARIBBEAN

As shown in Part 1, the region presents a difficult scenario, marked by an increase in undernourishment, food insecurity, overweight and obesity, and in some countries still a significant prevalence of stunting. Part of this complex problem is related to the increasing cost of a healthy diet, leading to a higher number of people unable to afford this diet in the region.

A rapid surge in food prices in recent years increased the cost of a healthy diet in the region. The greatest burden of this increase falls on vulnerable populations such as indigenous people, rural inhabitants and women. Since the second half of 2020, the international food price index began to register sustained increases and it has not been able to return to the values shown before the COVID-19 pandemic since. In addition, up until the latest available recent data (June 2022), food inflation has continued to rise, reducing the purchasing power of more and more households and putting their food security at risk (FAO, 2022a; FAO, 2022d). Average food inflation in 2021 was 3.7 percentage points higher in the region than the world average. This trend is highly relevant because high prices of nutritious foods are a critical barrier to healthy diets. (Herforth *et al.*, 2020).


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CHAPTER 5

HOW FOOD PRICES AND SOCIOECONOMIC FACTORS CONTRIBUTE TO THE COST AND AFFORDABILITY OF HEALTHY DIETS

5.1 SOCIOECONOMIC CHALLENGES TO IMPROVE THE AFFORDABILITY OF HEALTHY DIETS

Key messages

- The 2022 socioeconomic outlook for Latin America and the Caribbean is not encouraging. In the current inflationary environment, people in the lower income quintile are the most affected, as they spend a larger share of their budget on food.
- Worsening poverty and high income inequality, compounded with economic slowdowns and downturns in Latin American and Caribbean countries, are contributing to the rise in the number of people who cannot afford a healthy diet.
- The conflict in Ukraine has increased the prices of major food commodities, energy and fertilizers, and is compromising food security all over the world. The surge in the prices of wheat, maize, and sunflower oil poses challenges for affording nutritious food that are part of healthy diets in the region, as many countries are net importers of these foods. This is particularly true in the Caribbean, where almost all cereals are imported, making it vulnerable to international price hikes.

Latin America and the Caribbean face immediate and urgent challenges in addressing this current predicament of food security and nutrition. Due in part to the COVID-19 pandemic, the region's employment in 2021 remained below 2019 levels, which directly affected household incomes, making it harder to afford a healthy diet (ECLAC and ILO, 2021). In addition, countries in the region currently face fiscal deficits and significant budgetary constraints. This limits their ability to implement policies and programmes designed to mitigate the effects of higher food prices and the difficulties to afford a healthy diet. According to the Economic Commission for Latin America and the Caribbean (ECLAC, 2021a; ECLAC, 2022c), public debt increased by 20 percent between 2019 and 2020 in the region and remained at 2020 levels throughout 2021.

After a growth of 6.7 percent in the 2021 regional GDP, the Economic Commission for Latin America and the Caribbean (ECLAC, 2022g) estimates a 3.7 percent growth in 2022, with a continuation of this slowdown during 2023. While there is some variation between countries, they all show signs of decline associated with reductions in internal demand and a decrease in local production. Extreme poverty, one of the main drivers of hunger and severe food insecurity, is projected to increase in the region in 2022 (ECLAC, 2022c; Narayan *et al.*, 2022).

This section offers an overview of the current socioeconomic situation of the region, demonstrating the difficulties in working to reduce the costs of a healthy diet and improve its affordability.

Recent trends in international and regional food prices

Food prices depend, among other things, on how successfully production and supply chains accommodate tightening resource constraints arising from economic slowdown, conflicts and climate change. In some regions of the globe these factors of adversity may jeopardize the expansion of agricultural yields required to meet growing demand, which ultimately puts pressure on prices (FAO, 2018; FAO, 2016a).

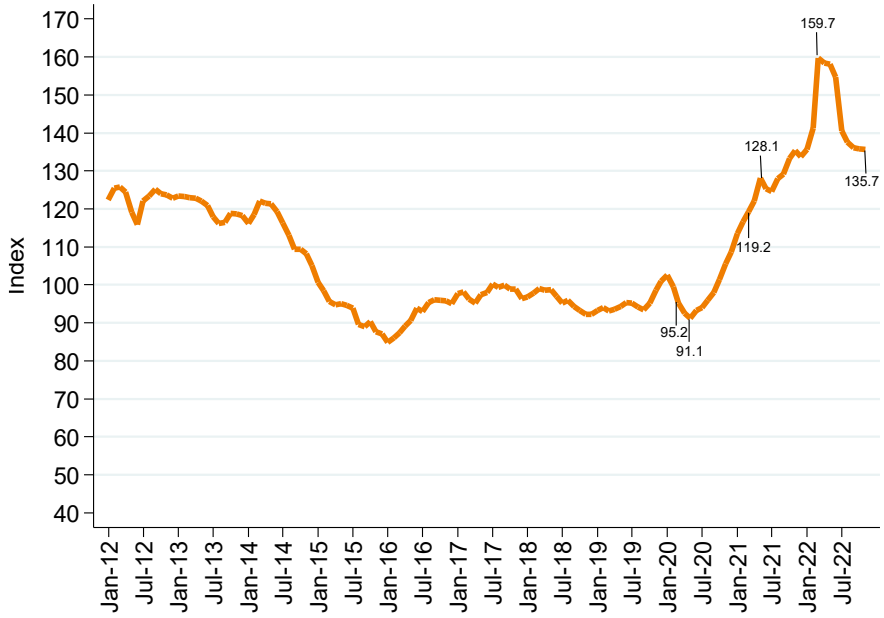
The FAO Food Price Index (FFPI) provides a measure of the monthly change in international prices of a basket of food commodities. Specifically, the index consists of an average of the price indices for five commodity groups – cereals, vegetable oils, dairy, meat and sugar – weighted by the average export shares of each group.

With the disruption of production and the supply chain in the context of the COVID-19 pandemic, international food prices increased in the second half of 2020 –driven mainly by the rising prices of vegetable oils and cereals –and continued to rise during 2021. The index reached 128.1 points in May 2021, meaning 34 points higher than May 2020 (FIGURE 21). The surge in international food prices was expected to be transitory and indeed it slowed slightly (for a few months) after this period. But then international prices presented another significant increase at the beginning of 2022, due to the conflict in Ukraine. In March 2022, the FFPI reached 159.7 points, the highest level registered by the FAO food price index since 1990, corresponding to a 34 percent rise compared to March 2021, and a 68 percent increase compared to the same month in 2020.

Although international food prices decreased between April and November 2022, they remain at the highest levels reported in the last 11 years – and 0.3 percent higher than November 2021. This situation has a strong impact on consumer prices, and hits food-commodity-importer countries especially hard.

Not all food groups and products are equally affected by food price increases. Some foods, such as staple cereals, are considered necessary and are highly price-inelastic, meaning their demand does not change significantly due to price changes. Whereas price elasticities for nutritious foods are greater than for basic staples. This means it is possible that the consumption of less energy-dense nutritious foods, such as fruits and vegetables, will be reduced to meet calorie requirements without increasing expenditure (FAO, IFAD, UNICEF, WFP and WHO, 2019).

FIGURE 21
FAO Food Price Index, 2012–2022

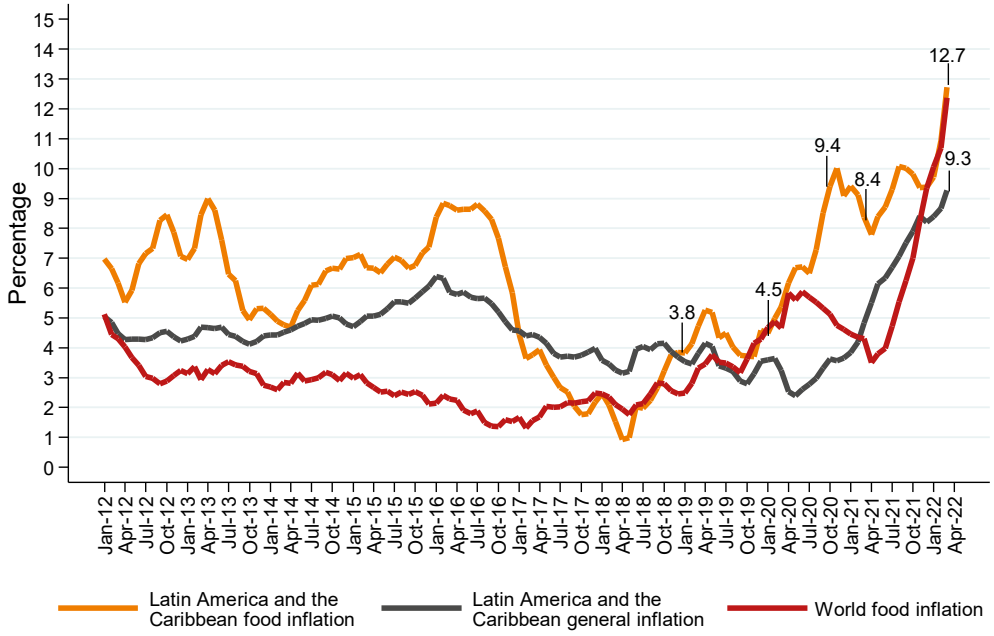


SOURCE: FAO. 2022. FAO Food Price Index. World Food Situation. In: *FAO*. Rome. Cited 10 May 2022. www.fao.org/worldfoodsituation/foodpricesindex/en

Following the global trend, the food consumer price indexes (CPI) in Latin America and the Caribbean has also shown an increase. A comparison of food CPI inflation trends in different regions shows notable price differences due to differences in production, trade structures and economic recovery. The Latin America and the Caribbean food CPI has the highest increase of all regions, at 23.5 percent between December 2020 and December 2021, followed by Africa at 15.5 percent, Asia at 14.8 percent, and less than two digits in the remaining regions. (FAO, IFAD, UNICEF, WFP and WHO, 2022).

On a regional level, food CPI inflation rates are higher than general CPI inflation rates (FIGURE 22). The annual food CPI inflation rate in Latin America and the Caribbean had been on the rise well before the COVID-19 pandemic. Since 2012 it has remained on average at a higher level than general CPI inflation. Between January 2018 and January 2019, food CPI inflation increased by 1.4 percentage points, then in the second half of 2020 it showed a major increase and has continued to expand since then, remaining much higher than the world average. By March 2022, general CPI inflation in the region reached 9.7 percent, and food CPI inflation was at 12.7 percent, an increase of more than 4 percentage points compared to March 2021.

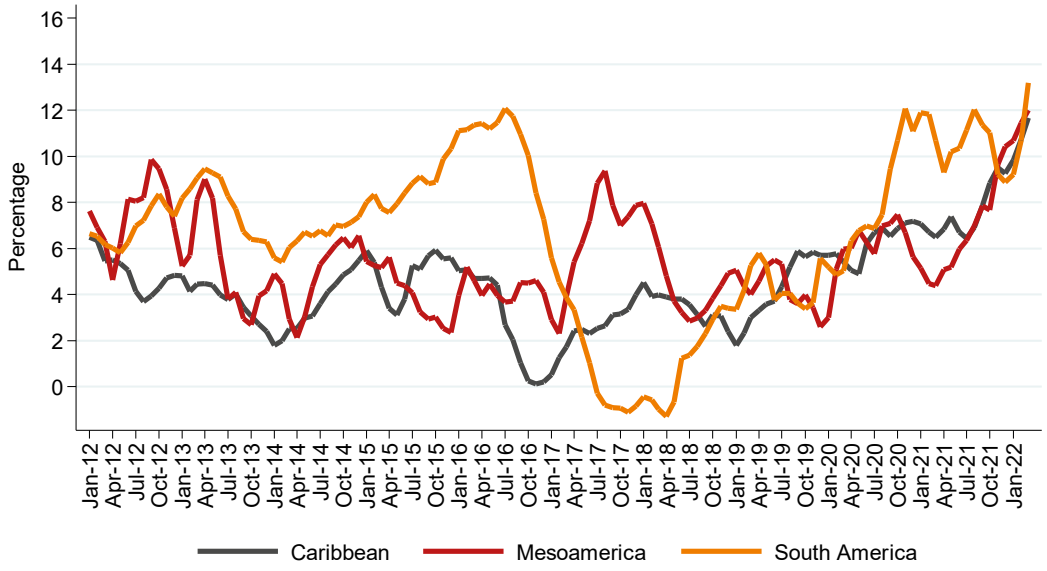
FIGURE 22
General and food inflation (percent), in Latin America and the Caribbean and in the world, 2012–2022



NOTE: General and food CPI inflation are calculated with FAOSTAT data on price index by country using Household Final Consumption Expenditure in USD in 2015 from UNSD. Argentina and the Bolivarian Republic of Venezuela are not included.
SOURCE: FAO. 2022. FAOSTAT: Consumer Price Indices. In: *FAO*. Cited 15 June 2022. https://www.fao.org/faostat/en/#data/CP

Within the region, South America was the subregion most affected by the increase in food CPI inflation, with an increase of 5 percentage points from August 2020 to August 2021. However, all the three subregions have experienced a similar growth in food CPI inflation since November 2021. In March 2022 it reached 13.2 percent in South America, 12 percent in Mesoamerica and 11.7 percent in the Caribbean, (FIGURE 23).

FIGURE 23
Food CPI inflation (percent) in Latin America and the Caribbean by subregion, 2012–2022



NOTE: General and food CPI inflation are calculated with FAOSTAT data on price index by country using Household Final Consumption Expenditure in USD in 2015 from UNSD. Argentina and the Bolivarian Republic of Venezuela are not included.
SOURCE: FAO. 2022. FAOSTAT: Consumer Price Indices. In: *FAO*. Rome. Cited 15 June 2022. https://www.fao.org/faostat/en/#data/CP

High inflation rates reduce the purchasing power of households, putting their food security at risk, and limiting their access to nutritious foods. This especially affects lower-income quintiles, where a considerable portion of their household budget is used to purchase foods (FAO, IFAD, UNICEF, WFP and WHO, 2019).

Rising food inflation and its impact on low-income groups

As shown above, the cost of goods and food has recently risen significantly in the region, reducing the purchasing power of a population that has been unable to cope with these increases. To illustrate how low-income quintile people are the most affected by food inflation, the following focus on a subset of countries is instructive.[7]

During the period from April 2021 to April 2022, food CPI went up by nearly 15 percent in Chile, around 13 percent in Brazil and the Dominican Republic and 11 percent in Costa Rica, Mexico and Uruguay. In all these countries, moreover, food CPI rose at higher rates than general CPI. Ecuador, however, showed a smaller increase of 2.8 percent, and the Plurinational State of Bolivia showed a decrease in food CPI of 0.9 percent. Both showed general inflation above food inflation.[8]

In Chile, food CPI increased 10 percent, twice the general CPI growth, between January and April 2022, barely four months into the calendar year and after the conflict in Ukraine started. In the same period, food inflation increased 7 percent

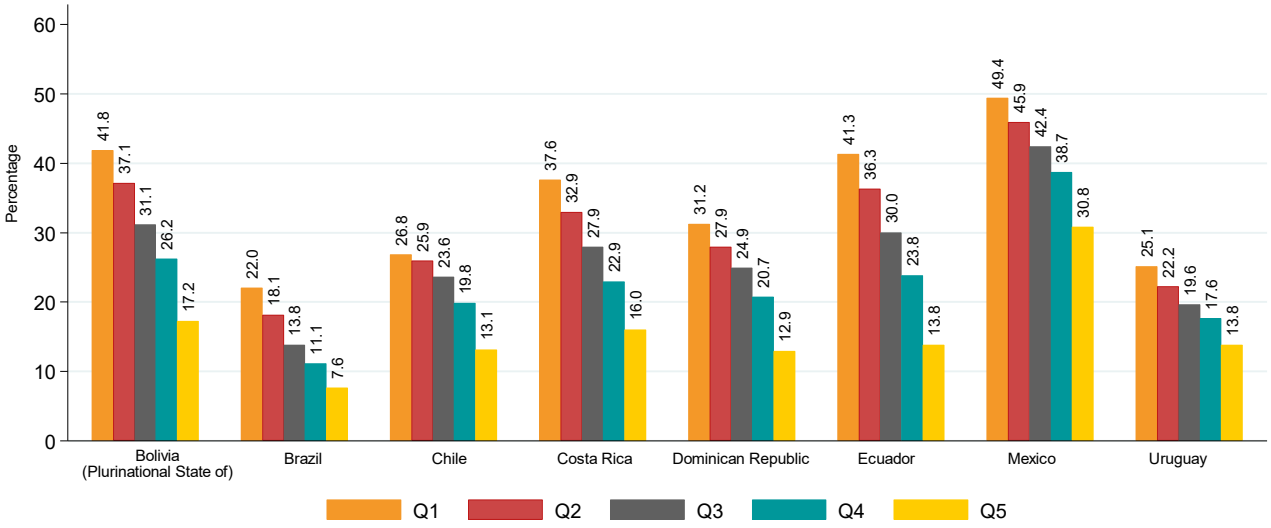
[7] This analysis includes some of the countries reporting the necessary information.
[8] Data from national central banks and statistics institutes.

in Brazil and Uruguay, almost 5 percent in the Dominican Republic and close to 4 percent in Costa Rica and Mexico.

The high food inflation mostly affects the lower-income quintile groups of the population, who spend a larger share of their incomes on food compared to higher-income quintile groups. In the countries analysed across the region, lower-income families spend between 22 percent (in Brazil) and 49 percent (in Mexico) of their budget on food, while higher-income quintiles spend less than 18 percent on food in eight of the nine countries analysed (FIGURE 24).

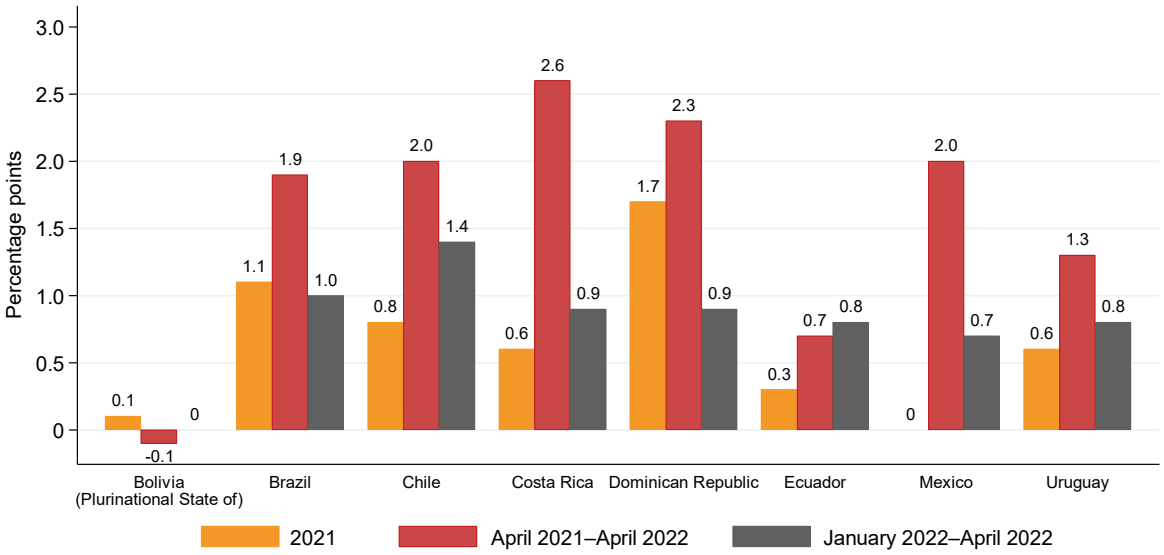
FIGURE 24

Average food expenditure by income quintile (percent) in selected countries in Latin America and the Caribbean by quintile, 2013–2020



NOTE: Data on food expenditure is for the Plurinational State of Bolivia (2016), Brazil (2018), Chile (2017), Costa Rica (2018), the Dominican Republic (2018), Ecuador (2012), Mexico (2020) and Uruguay (2017). In the case of Brazil, food expenditure is broken into five different groups based on the seven income groups presented in dados.gov.br. The quintile grouping for Brazil considers: "up to R$1 908" (Q1), "Between R$1 909 and R$5 724" (Q2), "Between R$5 725 and R$9 540" (Q3), "Between R$9 541 and R$23 850" (Q4) and "More than R$23 850" (Q5).
SOURCE: Own elaboration based on data from national central banks and statistics institutes.

FIGURE 25
Difference in food expenditure due to the rise in food inflation between the lowest and highest income quintiles (percentage points) in selected countries in Latin America and the Caribbean, April 2021 – April 2022



NOTE: Data on food expenditure is for the Plurinational State of Bolivia (2016), Brazil (2018), Chile (2017), Costa Rica (2018), the Dominican Republic (2018), Ecuador (2012), Mexico (2020) and Uruguay (2017). In the case of Brazil, food expenditure is differentiated into five different groups, based on the seven income groups presented in dados.gov.br. The quintile grouping for Brazil considers: "up to R$1 908" (Q1), "Between R$1 909 and R$5 724" (Q2), "Between R$5 725 and R$9,540" (Q3), "Between R$9 541 and R$23 850" (Q4), and "More than R$23 850" (Q5).
SOURCE: Own elaboration based on data from national central banks and statistics institutes.

The difference in food expenditure between the lowest and highest income quintiles is 14 percentage points in Chile and Brazil, over 18 percentage points in the Dominican Republic and Mexico, 22 percentage points in Costa Rica, 25 percentage points in the Plurinational State of Bolivia, and 28 percentage points in Ecuador. A comparison, below, between the impact of food inflation on the food expenditure of the highest and of the lowest income quintiles, illustrates how higher food inflation disproportionately affects the capacity of low-income families to purchase food (FIGURE 25).[9]

FIGURE 25 shows that food inflation disproportionately affects families in the first quintile (except in the Plurinational State of Bolivia, where food price variation is negative or close to zero). In Chile, between April 2021 and April 2022, the food expenditure for lowest-income households increased an additional 2 percentage points compared to those of the highest-income quintile. Between January and April of 2022, in the same country, the food expenditure of the first quintile increased by 1.4 percentage points more than that of the fifth quintile. Meanwhile, in Costa Rica and the Dominican Republic, the additional increase in the food expenditure of the first quintile compared to the fifth quintile was more than 2 percentage points between April 2021 and April

[9] This is done by multiplying the change in food prices by the difference in food expenditure between quintiles five and one, as a measure of the differential impact of food inflation for different periods.

2022, and 0.9 percentage points between January and April 2022. In the same periods in Mexico, the increase was 2 and 0.7 percentage points respectively; in Brazil they were 1.9 and 1.0 percentage points; and in Uruguay 1.3 and 0.8 percentage points.

Higher food inflation affects the lowest-income households the most. This is worsened by the fact that food prices are rising faster than general prices, making poor households and vulnerable population groups, such as indigenous groups, rural inhabitants, and women even more vulnerable (FAO, PAHO, WFP and UNICEF, 2018). And while these groups have already suffered from high levels of food insecurity, higher food prices force them to spend yet an even greater proportion of their income on food, and change their consumption patterns, thus increasing the risk of becoming more hungry and malnourished.

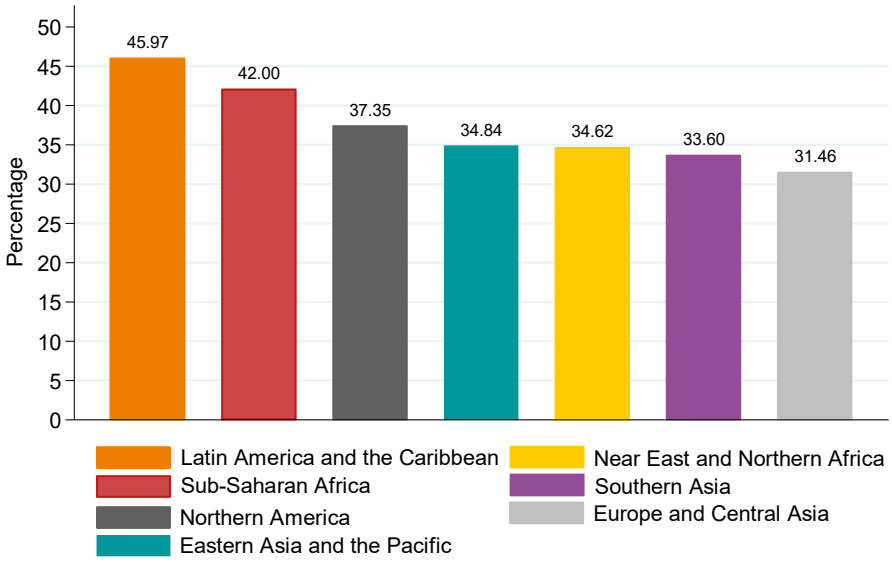
Declining economic growth, worsening poverty rates and income inequality contribute to the unaffordability of healthy diets

Structural causes of food insecurity and malnutrition such as poverty and inequality, coupled with food inflation, limit the ability of people to access sufficient nutritious food. Poverty, hunger, and food insecurity have increased in Latin America and the Caribbean in the last few years. This can be attributed to longstanding inequalities that create the conditions for stronger and deeper impacts from external shocks, such as those generated by the COVID-19 pandemic (Narayan *et al.*, 2022; ECLAC, 2022b). As analysed in the next section, the conflict in Ukraine is further driving up food prices and fertilizer costs in the region, as it affects production, trade, logistics, and energy markets around the world.

Despite several efforts, especially in response to the effects of the COVID-19 pandemic, countries in the region remain among the most unequal in the world. Latin America and the Caribbean is the region with the highest average level of income inequality, with an average Gini Index[10] of 45.97 percent, compared to an average of 42 percent in Sub-Saharan Africa, and an average below 40 percent in the world's remaining regions (FIGURE 26). Although the Gini index calculated by ECLAC has been trending downward since the early 2000s, inequality tended to rise during the COVID-19 pandemic (ECLAC, 2022b) (FIGURE 27). And it is important to consider that the overall inequality impacts of COVID-19 could be greater over the medium and long terms. This may be due to a slow and uneven recovery in developing countries, to the impacts that school closures have had on learning and development, and to repercussions that could likely manifest in the future (Narayan *et al.*, 2022).

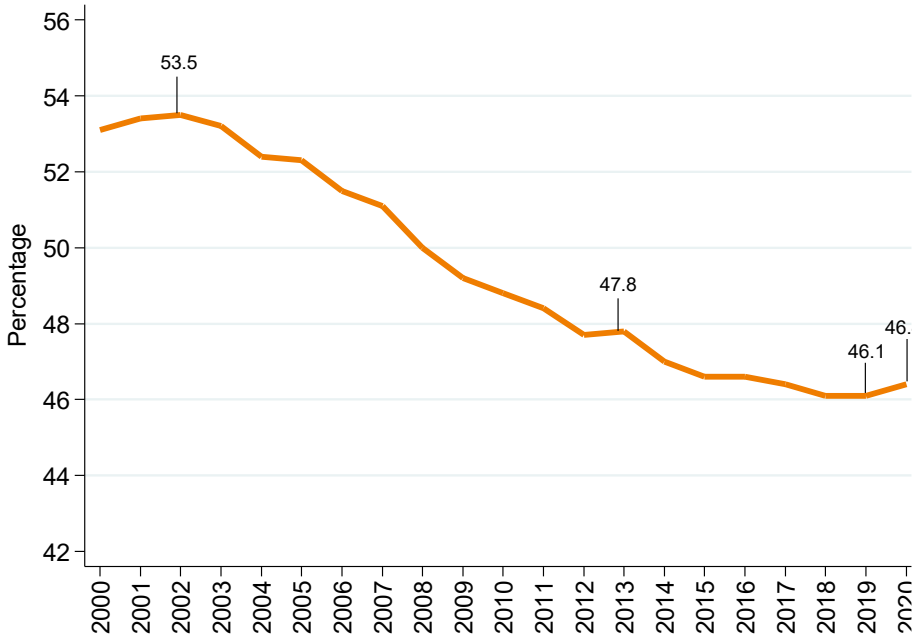
[10] Low values of the coefficient indicate a fairly homogeneous distribution; the value 0 expresses perfect equality, where all values are the same (i.e. where everyone has the same income); high values of the coefficient indicate a more unequal distribution; a Gini coefficient of 1 (or 100 percent) expresses maximal inequality among values (i.e. only one person has all the income and all others have none).

FIGURE 26
Average Gini index by region, 2014–2020



NOTE: The Gini index by region is calculated with a simple average of the latest data available between 2014 and 2020 from the World Development Indicators. Eastern Asia and the Pacific (17 countries), Europe and Central Asia (45 countries), Latin America and the Caribbean (18 countries), Near East and Northern Africa (9 countries), Northern America (2 countries), Southern Asia (5 countries) Sub-Saharan Africa (41 countries).
SOURCE: World Bank. 2022. World Bank Development Indicators. In: World Bank. Cited 19 May 2022. https://databank.worldbank.org/source/world-development-indicators

FIGURE 27
Evolution of the Gini index in Latin America, 2000–2020



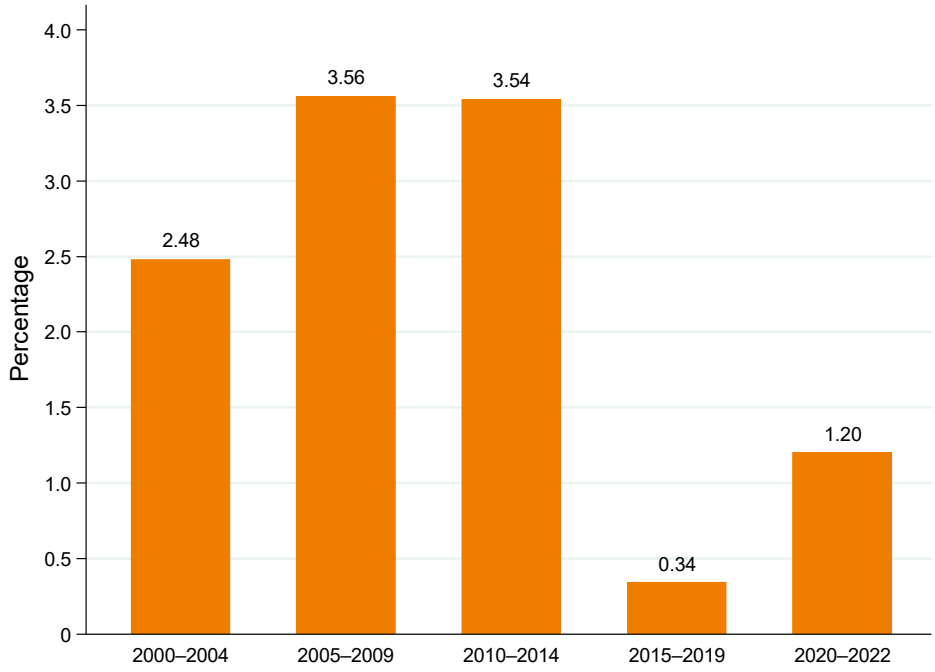
SOURCE: ECLAC. 2022. CEPALSTAT Statistical Databases and Publications. In: *ECLAC*. Cited 23 May 2022. https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=en

Inequality, not only in the distribution of income, but also in terms of access to nutrition-relevant services and social and health infrastructure, is a concept critical in understanding why economic growth alone will not significantly reduce extreme poverty or food insecurity and malnutrition in all its forms. Income inequality can result not only in undernutrition, but also overweight and obesity, as the higher cost of nutritious foods induces the lowest income groups to resort to cheap, energy-dense foods with minimal nutritional value (FAO, IFAD, UNICEF, WFP and WHO, 2019).

In highly unequal countries, economic downturns disproportionately affect the food security and nutrition of low-income groups (FAO, IFAD, UNICEF, WFP and WHO, 2019). When the economy contracts, household income decreases. If measures to counteract the effects of a declining economy fail to be implemented, poverty levels are likely to rise, along with the risk of facing hunger and food insecurity.

Between 2000 and 2014, Latin America and the Caribbean displayed remarkable economic growth – the GDP grew on average 3 percent each year – partly related to the commodities boom in the 2000s (Ocampo, 2007; UNCTAD and FAO, 2017). This growth and a series of public policies reduced poverty, inequality, and hunger (FAO and PAHO, 2017). Since 2015, however, the region's economic outlook has worsened: between 2015 and 2019, the average annual growth barely reached 0.34 percent. The COVID-19 pandemic heightened this trend. In 2020, Latin America and the Caribbean's GDP decreased by 6.8 percent, leading to an average growth for the region of 1.2 percent between 2020 and 2022 (FIGURE 28).

FIGURE 28
Average GDP growth in Latin America and the Caribbean (percent), 2000–2020

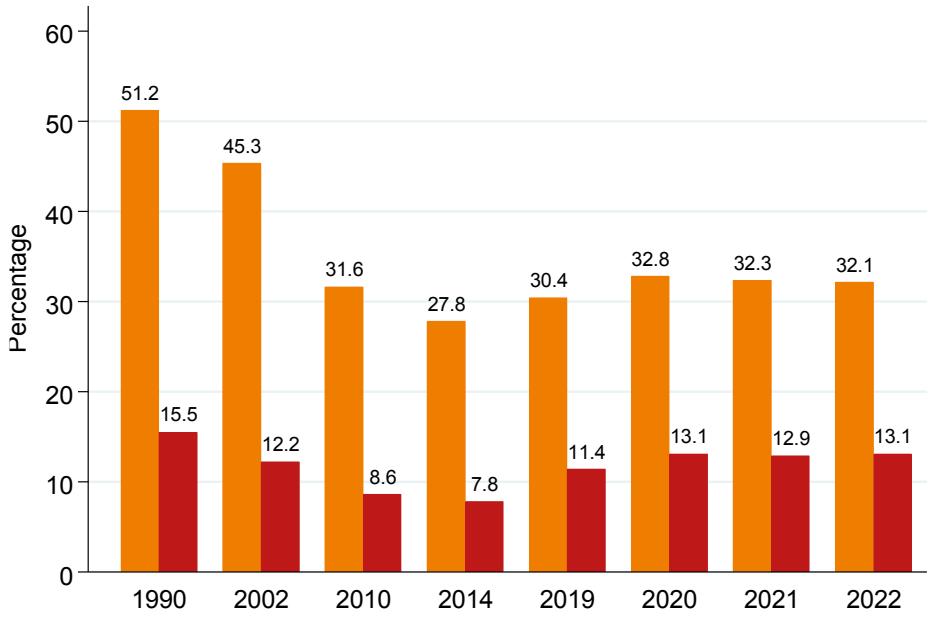


NOTE: for the average between 2020–2022, the GDP growth used for 2022 was the projection presented by ECLAC. 2022e. The rest of the average GDP growth data is from CEPALSTAT.
SOURCE: Own elaboration based on ECLAC. 2022. CEPALSTAT Statistical Databases and Publications. In: *ECLAC.* Cited 23 May 2022. https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=en; ECLAC. 2022 *Balance preliminar de las economías de América Latina y el Caribe,* 2022. Santiago, ECLAC. https://www.cepal.org/es/publicaciones/bp

Economic stagnation and several years of contraction between 2015 and 2019 caused the poverty rate in the region to rise from 27.8 percent in 2014 to 32.8 percent in 2020, while extreme poverty increased from 7.8 percent to 13.1 percent during the same period, representing a setback of 20 years in the extreme poverty rate (FIGURE 29). Thus, in 2019, even before the COVID-19 pandemic struck the region, poverty was already affecting 186 million people, and extreme poverty affected 70 million. In 2020, 17 million more people fell into poverty, raising the total to 203 million, one-third (32.8 percent) of the region's population (ECLAC, 2022b).

Between 2019 and 2021, poverty increased from 30.4 percent to 32.3 percent, while extreme poverty increased from 11.4 percent to 12.9 percent. According to ECLAC projections, in 2022 poverty will decrease slightly, affecting 32.1 percent of the population but will remain higher than in the years prior to the pandemic. Also, extreme poverty will affect 13.1 percent of the population in 2022, 1 million more people than in 2020 (ECLAC, 2022b; ECLAC, 2022g) (FIGURE 29).

FIGURE 29
Poverty and extreme poverty in Latin America and the Caribbean (percent), 1990–2021



NOTE: Values for 2020 and 2021 are estimates.
SOURCE: ECLAC. 2022. **Panorama Social de América Latina 2022**. Santiago de Chile, CEPAL. https://repositorio.cepal.org/bitstream/handle/11362/48518/1/S2200947_es.pdf

Between 2019 and 2021, worsening poverty, compounded by economic slowdowns and downturns in many Latin American and Caribbean countries, contributed to the rise in the number of people who cannot afford a healthy diet in all the subregions, as shown in Part 1 (FIGURE 20). To this already deteriorating situation, the effects of the current conflict in Ukraine could worsen food security and nutrition and make healthy diet even less affordable. Although effects are still uncertain at the time of the writing, the conflict has already affected international foodprices and food inflation in Latin American and Caribbean countries. The next section analyses how this conflict could affect food security and the affordability of healthy diets in the region.

Potential effects of the conflict in Ukraine on food security in Latin America and the Caribbean

The conflict in Ukraine has put the world and the region in a complex and uncertain position, posing significant risks to agriculture and food security. It affects production, trade, logistics, energy markets and food prices worldwide. These food supply disruptions also impact international food prices. This conflict has exacerbated the price increases of major food commodities, energy and fertilizers. Preliminary estimates project volatility, vulnerability to shocks, and higher prices for foods and fertilizers, in a scenario where the world economy is growing at a slower rate than expected. This is especially true in Latin America and the Caribbean, where estimates show economic growth will reach 3.7 percent in 2022 (ECLAC, 2022g).

Ukraine and the Russian Federation are among the leading producers and exporters of food commodities. They account for nearly 80 percent of world sunflower oil exports, nearly 30 percent of wheat exports and around 20 percent of maize exports. In March 2022, immediately after the conflict began, the FAO food price index reached its historical peak (159.7 points), a 13 percent increase from the previous month and a 34 percent increase compared to the same month in 2021. Among the rises, there were significant increases in the international prices of wheat, sunflower oil, and maize (FAO, 2022e; FAO, 2022f). Although the index decreased between April and November 2022, the annual average for 2022 is still 15.2 percent higher than the average for 2021 (FAO, 2022a).

As net importers of wheat, maize, and sunflower oil, most countries in Latin America and the Caribbean have been directly hit by the surge in the prices of these three commodities caused by the difficulties in producing and trading them. A few countries in the region are net exporters of some of these commodities – Argentina (wheat, maize and sunflower oil), Brazil (maize), the Plurinational State of Bolivia and Guatemala (sunflower oil), Paraguay (wheat and maize) and Uruguay (wheat). They are less exposed to the effects of the conflict (WITS, 2022). Whereas in the Caribbean, almost all cereals are imported, making this subregion the most vulnerable to international price hikes (ECLAC, 2022h).

The Russian Federation is a critical player in the global energy and fertilizer market. The sharp increase in energy and fertilizer prices due to the conflict will inevitably affect agriculture worldwide, as it is a high-energy activity (FAO, 2022e). The effects for agriculture production and food prices in Latin America and the Caribbean will surely be negative. The region imports nearly 85 percent of the fertilizer used, and the Russian Federation is a significant supplier of this agricultural input, accounting for 88 percent of nitrate- and phosphate-based fertilizer, and 36 percent of phosphorus-

and potassium nitrate-based fertilizer imports (ECLAC, 2022h; ECLAC and FAO, 2022). Russian fertilizers account for 10 to 20 percent of total fertilizer imports in El Salvador, Nicaragua and Uruguay; 20 to 30 percent in Brazil, Colombia, Costa Rica, Guatemala, Mexico, Panama and Suriname; 30 to 50 percent in Ecuador and Peru; and more than 50 percent in Honduras (FAO, 2022g).

In response to the various shocks currently faced by countries in the region, national governments started implementing measures during the first quarter of 2022 to mitigate rising food and fertilizer prices. FAO gathered information about the measures taken by 32 countries to handle food price hikes. The analysis indicates that the measures most frequently adopted were: tariff cuts (in at least 10 countries); food assistance (9 countries); promotion of food and nutrition education (6 countries); and investment in food price monitoring and analysis (6 countries). To mitigate the elevated prices of agricultural inputs, countries mostly slashed the tariffs on these products (8 countries). In addition, a significant number of countries subsidized inputs or producers in an attempt to mitigate the soaring prices of fertilizers.

Although it is still too early to gauge the effects of the conflict on food security and nutrition, FAO estimates that in 2022 hunger worldwide may increase by an additional 7.6 to 13 million people, and in the region the rise could be between 350 000 and 640 000 additional people (FAO, IFAD, UNICEF, WFP and WHO, 2022; FAO, 2022g). Consequently, this situation is likely to make healthy diets even less affordable, as important components of a healthy diet, such as starchy staples and vegetable oils, are less available and accessible, both physically and economically.

5.2 ANALYSIS ON THE COST OF HEALTHY DIETS BY SUBREGION AND COUNTRY

Key messages

- Latin America and the Caribbean shows a higher cost of a healthy diet compared to other world's regions. The Caribbean countries have the highest costs.
- The most expensive food groups of a healthy diet are on average vegetables –in the Caribbean and Mesoamerica– and animal-source protein foods –in South America.
- The cost of food groups in the region varies across countries with different levels of income. Animal-source foods are on average less expensive in high-income countries that are producers of animal foods and rely on more efficient value chains. Fruit is on average less expensive in low-income countries that are exporters of tropical fruit, where fruit is more available and affordable also in domestic markets.

Healthy diets contribute to the prevention of malnutrition in all its forms, including diet-related NCDs (FAO, IFAD, UNICEF, WFP and WHO, 2020). Although the composition of a healthy diet varies among countries and territories,[11] the consensus is that healthy diets should contain a balanced and diverse selection of foods from several food groups. A healthy diet ensures that a person's energy, macronutrient (proteins, fats and carbohydrates with dietary fibre), and essential micronutrient (vitamins, minerals and trace elements) intake needs are satisfied, considering their sex, age, physical activity level and physiological state. Healthy diets should also meet vitamin and mineral requirements without excessive energy intake. An average person should eat a minimum of 400 g of fruits and vegetables a day, restrict the intake of fats, which must be under 30 percent of total energy intake (no more than 10 percent saturated fats), choose unsaturated fats, and eliminate industrial trans fats. Furthermore, sugar must not exceed 10 percent of total energy intake (preferably less than 5 percent) and salt intake must be below 5 g per day. Also, healthy diets are based on a broad variety of unprocessed or minimally processed foods, balanced across food groups, restricting highly processed food and drink products[12] (FAO and WHO, 2019).

Unhealthy diets, on the other hand, are those that are low in a variety of essential nutrients, and often high in fat (especially trans or saturated fats), sugars, and/or salt (FAO, IFAD, UNICEF, WFP and WHO, 2022). The consumption of unhealthy diets may be due to reduced access to a variety of nutritious foods[13] (because of economic

[11] Each country establishes food-based dietary guidelines (FBDGs) that describe what constitutes a healthy diet in their specific context. FBDGs provide general advice on how to reach national or local healthy diets.
[12] Some forms of processing can lead to very high densities of salt, added sugar and saturated fats, and these products, when consumed in high amounts, can undermine diet quality (Global Panel on Agriculture and Food Systems for Nutrition, 2016).
[13] Nutritious foods are safe foods that provide essential nutrients such as vitamins and minerals (micronutrients), fibre and other components that are beneficial for growth, health and development, guarding against malnutrition. Nutritious foods contain only minimal amounts of saturated fats, free sugars and salt/sodium, also, they do not contain industrially produced trans-fatty acids, and the salt used is iodized (FAO, IFAD, UNICEF, WFP and WHO, 2022).

or other factors) and/or to knowledge, preferences, motivations and traditions. Low-quality diets that are high in calories and low in nutrients and contain highly processed foods are associated with overweight, obesity, micronutrient deficiency and NCDs (Navab, Gharavi and Watson, 2008; Rocha and Libby, 2009; Costa *et al.*, 2019; Gómez-Donoso *et al.*, 2017).

Unhealthy diets contribute to increased food insecurity and malnutrition in all its forms. Studies show that diet quality decreases as food insecurity increases (Hanson and Connor, 2014; Mundo-Rosas *et al.*, 2014; Vega-Macedo *et al.*, 2014; Ranjit, Macias and Hoelscher, 2020).

Nutrient-dense foods such as fruits and vegetables and animal-source foods are more expensive than staple foods (Alemu *et al.*, 2018; Headey, Hirvonen and Hoddinott, 2018). High prices of nutritious foods pose health and nutritional risks for the population (Darmon and Drewnowski, 2015; Rehm, Monsivais and Drewnowski, 2015).

To better understand the determinants of the high cost of a healthy diet, this chapter offers first a detailed review of the cost of healthy diets at regional, subregional and country levels, and then analyses the composition of a healthy diet, identifies which food groups are more costly, and how costs and composition vary between subregions.

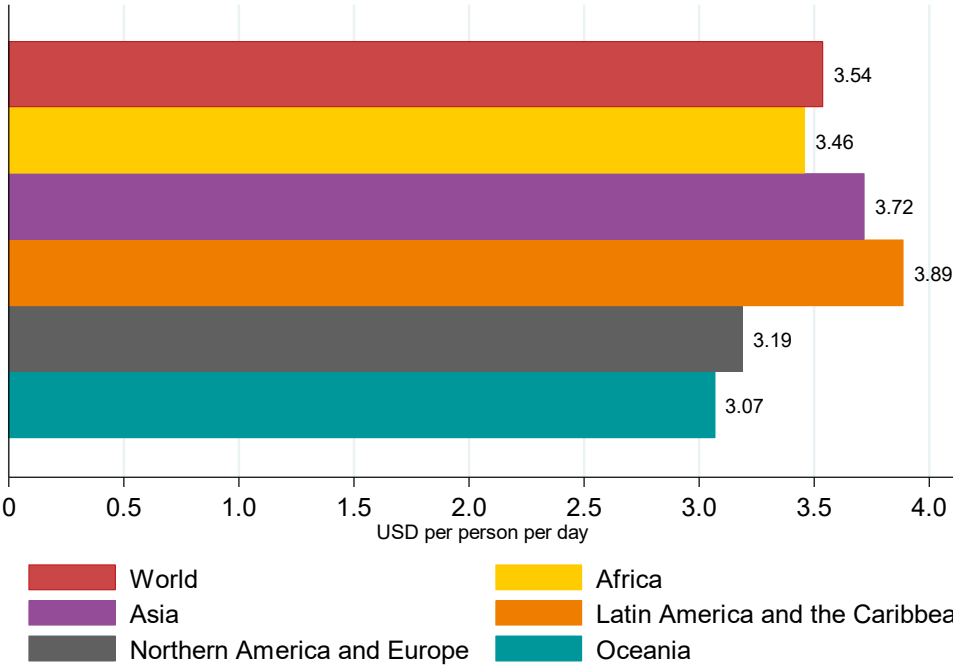
The cost of a healthy diet in Latin America and the Caribbean

For Latin America and the Caribbean specifically, healthy diets were found to be four times more expensive than an energy-sufficient diet[14] (FAO, IFAD, UNICEF, WFP and WHO, 2020). Almost a quarter of the region's population (22.5 percent) cannot afford a healthy diet (FAO, IFAD, UNICEF, WFP and WHO, 2022).

Lowering the cost of nutritious foods and improving access to healthy diets is critical to eradicating hunger, improving food security and reducing malnutrition in all its forms. Not doing so will impede the progress countries can make towards SDG 2, which seeks to eliminate hunger, achieve food security, improve nutrition and promote sustainable agriculture by 2030. Malnutrition is also linked to poverty and other development outcomes, and hampers the achievement of other SDGs (FAO, IFAD, UNICEF, WFP and WHO, 2019).

[14] An energy-sufficient diet provides adequate calories relative to daily energy needs (to meet a dietary energy intake of 2 330 kcal). This theoretical reference diet was defined in *The State of Food Security and Nutrition in the World 2002* for comparison purposes only and is no longer estimated by FAO.

FIGURE 30
The average cost in USD per person per day (purchasing power parity) of a healthy diet in the world and its regions, 2020

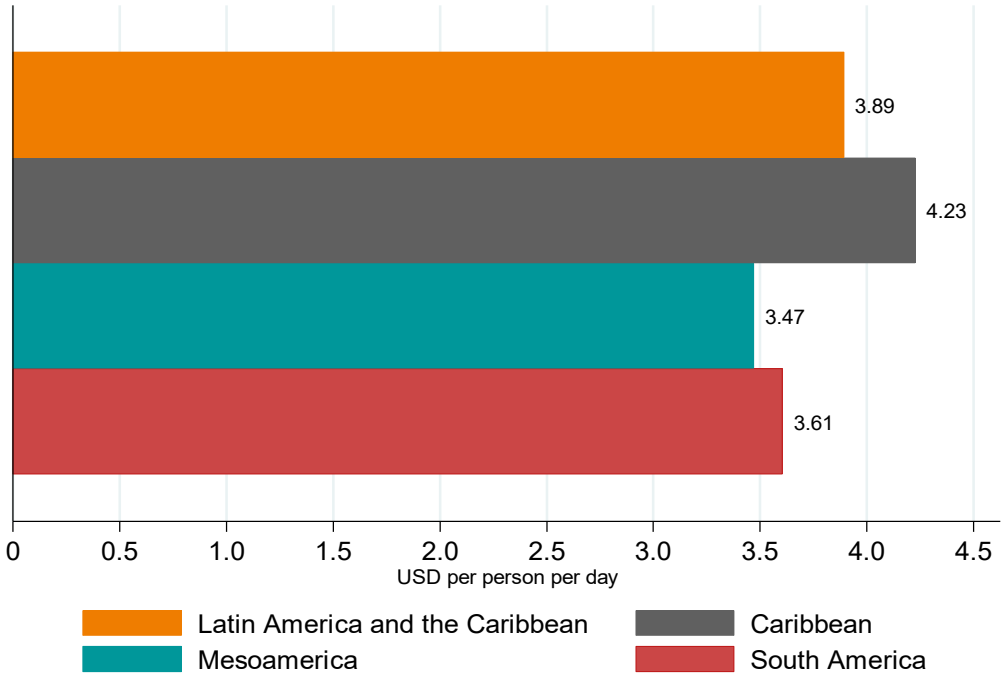


SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Secrurity and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060.

As shown in Part 1 Chapter 4, there is no other region in the world where a healthy diet is as expensive as it is in Latin America and the Caribbean (USD 3.89 per person per day), where it is well over the world average (USD 3.54), and the average for Northern America and Europe (USD 3.19) (FIGURE 30). This high average is explained by the particularly high cost of a healthy diet in the Caribbean, where the average cost reaches USD 4.23, while in South America it is USD 3.61, and in Mesoamerica it is USD 3.47 (FIGURE 31). [15]

[15] Regional and subregional statistics on the cost of a healthy diet include Latin American and Caribbean countries, as well as the following areas and territories: Anguilla, Aruba, British Virgin Islands, Cayman Islands, Curaçao, Montserrat, Sint Marteen (Dutch Part) and Turks and Caicos Islands. In this report, however, the discussion on the cost of a healthy diet at the country level is focused only on Latin American and Caribbean countries shown in Figure 32.

FIGURE 31
The average cost in USD per person per day (purchasing power parity) of a healthy diet in Latin America and the Caribbean by subregion, 2020



SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. https://doi.org/10.4060

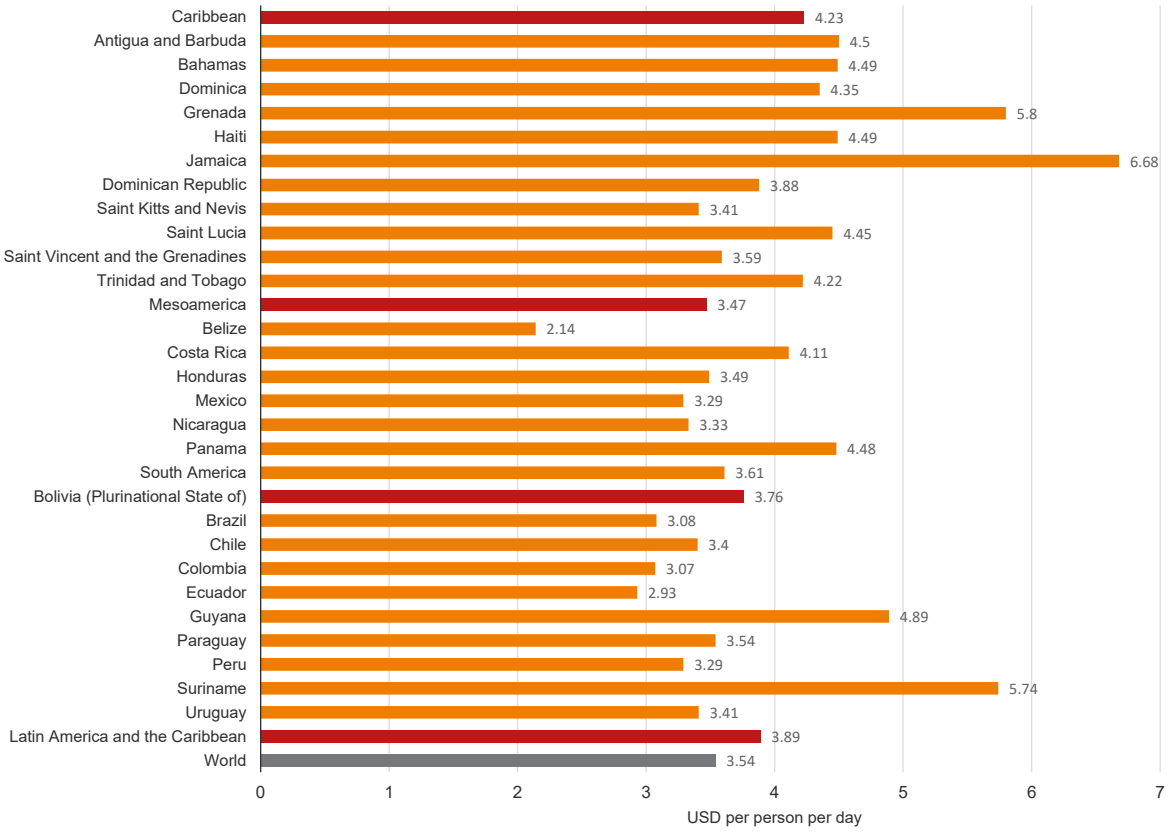
At a subregional level, as shown in FIGURE 31, a healthy diet tends to be more expensive in the Caribbean. Historically, the Caribbean countries have been reliant on food imports, mainly from the United States of America (Turnbull, 2021; FAO, 2020a). This is true for Antigua and Barbuda, Grenada, and Jamaica, which are net importers of energy and agrifood products (ECLAC and FAO, 2020a). Trade structure – in this case, highly dependent on imports – coupled with exposure to variable international prices and exchange rates, affect income, food supply and cost structure (FAO, 2020b). The COVID-19 pandemic has laid bare how disruptions to value chains can cause food prices to shoot up in countries dependent on food imports, increasing the cost of a healthy diet and further reducing the percentage of the population that can afford one (ECLAC and FAO, 2020b; GLOPAN, 2020). In this regard, the Caribbean countries Members of the Caribbean Community (CARICOM) are working to reduce their dependence on imports, with the goal of reducing them by 25 percent by 2025.

In the Caribbean countries, a healthy diet in Jamaica costs USD 6.68 and in Grenada USD 5.8. The Dominican Republic, Saint Kitts and Nevis, and Saint Lucia have the least expensive healthy diets in the Caribbean. Although the cost of a healthy diet in Trinidad and Tobago is above USD 4, the percentage of people who cannot afford this diet is the lowest in the subregion (11.6 percent).

In Mesoamerica, the lowest costs of a healthy diet are in Belize, Mexico and Nicaragua. Although in Costa Rica and Panama the costs of a healthy diet are the highest in the subregion, these two countries have the lowest percentage of people who cannot afford it.

In South America, the costs of a healthy diet are lowest in Ecuador, Colombia and Brazil. In Suriname and Guyana, a healthy diet has the highest costs in the subregion—of USD 5.74 and USD 4.89, respectively (FIGURE 32).

FIGURE 32
Cost of a healthy diet in Latin America and the Caribbean countries, 2020



NOTE: Cost and affordability data are not available for Barbados, Cuba, El Salvador, Guatemala, and Venezuela (Bolivarian Republic of). Data for Argentina are not reported because of insufficient or unreliable information to update cost and affordability in 2018–2020.
SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Secrurity and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060

Cost of a healthy diet by food group in Latin America and the Caribbean

To better understand the determinants of the cost of a healthy diet, it is important to analyse the composition of the diet, to identify which food groups are more costly, and how costs vary between subregions. FIGURE 33A shows that vegetables and animal-source foods are the groups that contribute more significantly to the cost of a healthy diet in all three subregions, especially in Mesoamerica. In South America, the animal-source food group contributes most significantly to the cost of a healthy diet, while in the Caribbean and Mesoamerica, vegetables are the group that contributes the most.

It is worth noting that the cost of fruits in the Caribbean contributes significantly more to the cost of a healthy diet compared to the other subregions, while in South America the group of legumes, nuts, and seeds represent a higher proportion compared to the other to subregions. Fats, on the other hand, are the food group that contributes the least to the cost of a healthy diet, especially in South America (FIGURE 33A).

Although animal-source foods represent the highest contribution to the cost of a healthy diet in South America, it is not in this subregion where this food group has the highest cost (FIGURE 33B). These differences are partly explained by a country's dependence on imports, which is usually the case in the Caribbean, but less so in South America. In fact, in the Caribbean, almost all food groups – except legumes, nuts and seeds – are more expensive than in the other two subregions.

FIGURE 33A
Food group contribution to the cost of a healthy diet (percent) by subregion, 2017

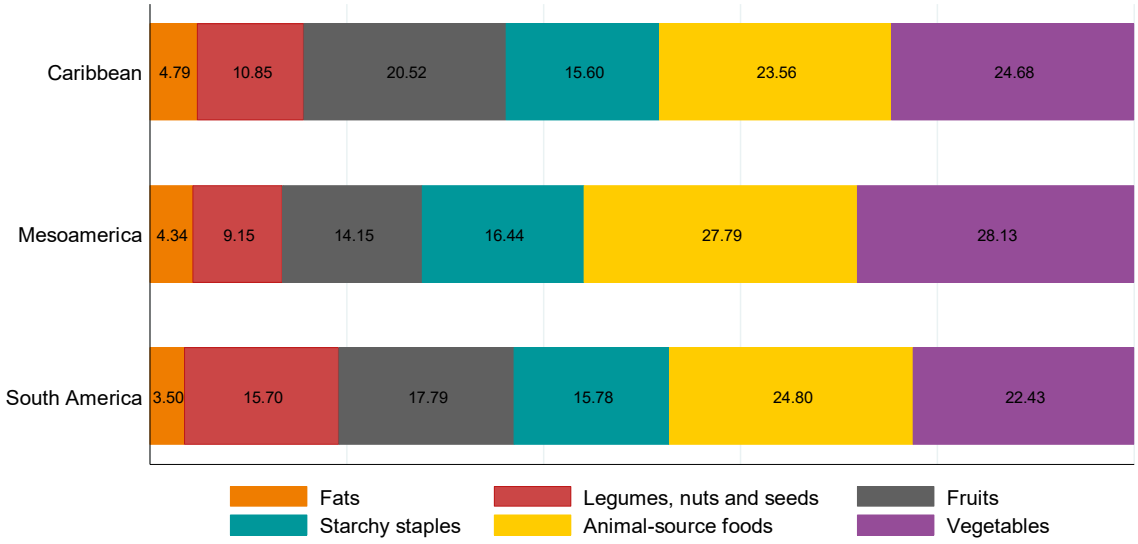
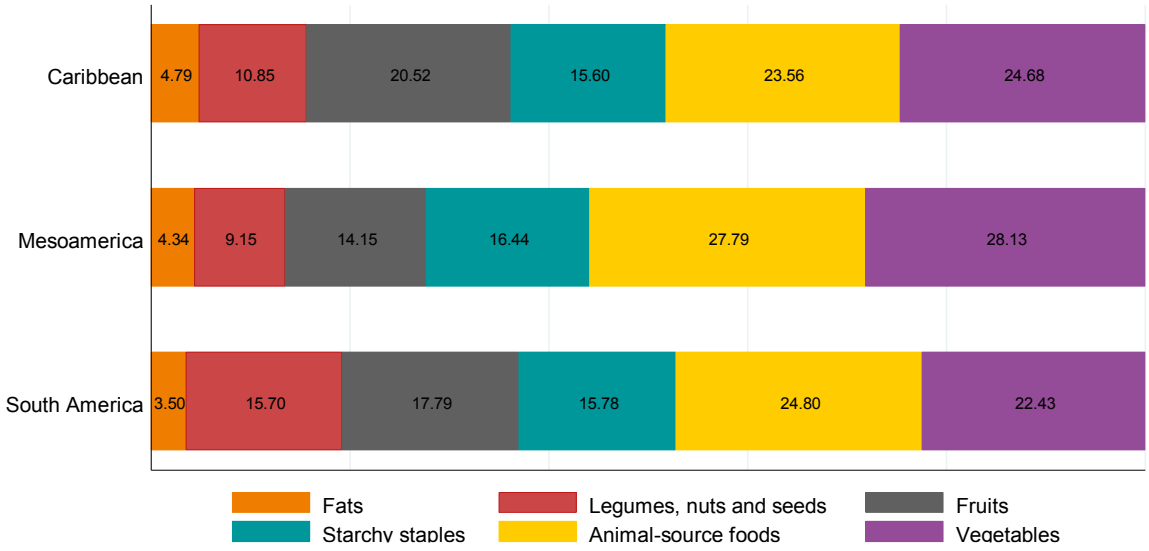


FIGURE 33B
Food group contribution to the cost of a healthy diet (USD) by subregion, 2017



NOTE: This analysis uses data from 2017, which is the latest available data for the cost of food groups of a healthy diet.
SOURCE: FAO. (forthcoming). FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). In: FAO. Rome. Cited 22 August 2022. https://www.fao.org/faostat/en/#data/CAHD

In the region, the cost of each food group varies across countries with different income levels (FIGURES 34A and 34B). Fruits and animal-source foods show the highest variability in cost In high-income countries, the cost of fruits in a healthy diet is on average USD 0.69, and contributes to 20 percent of the total cost. This is significantly higher than the cost in low-income countries (USD 0.38), where fruit represents only 10 percent of the total cost of a healthy diet. This can be explained by the fact that many low- and middle-income countries are exporters of specific tropical fruits (e.g. Haiti, Honduras and Nicaragua) that generate important foreign exchange used to import food and other items. As fruits exporters, they may have availability and access to fruit items also in the domestic markets and at lower prices compared to other countries in the region that need to import fruit products (FAO, 2020c). Also, many Caribbean countries are high-income fruits importer countries (e.g. Antigua and Barbuda and Bahamas) where food prices tend to be higher.

By contrast, the higher the country's income level, the lower the cost of animal-source foods and their contribution to the total cost of a healthy diet (FIGURE 34). In high-income countries, the average cost of animal source food within a healthy diet is USD 0.77 and represents 22 percent of the overall cost, compared to USD 1.58 in low-income countries where it represents, on average, 40 percent of the total cost. This suggests that animal-source foods are cheaper in higher-income countries because they produce meat or dairy and also because they can rely on more productive and efficient value chains at every stage, which lead to reduced loss and waste, and lower final costs. For instance, Brazil and Uruguay are important meat producers in the region and have lowered the costs of animal-source foods over time. Also, countries with lower income tend to produce or export less animal-source foods and depend more on imports of this food group. This exposes them to changes in international prices and exchange rate variations.

FIGURE 34A

Average cost by food groups in percentage by income level in Latin America and the Caribbean, 2017

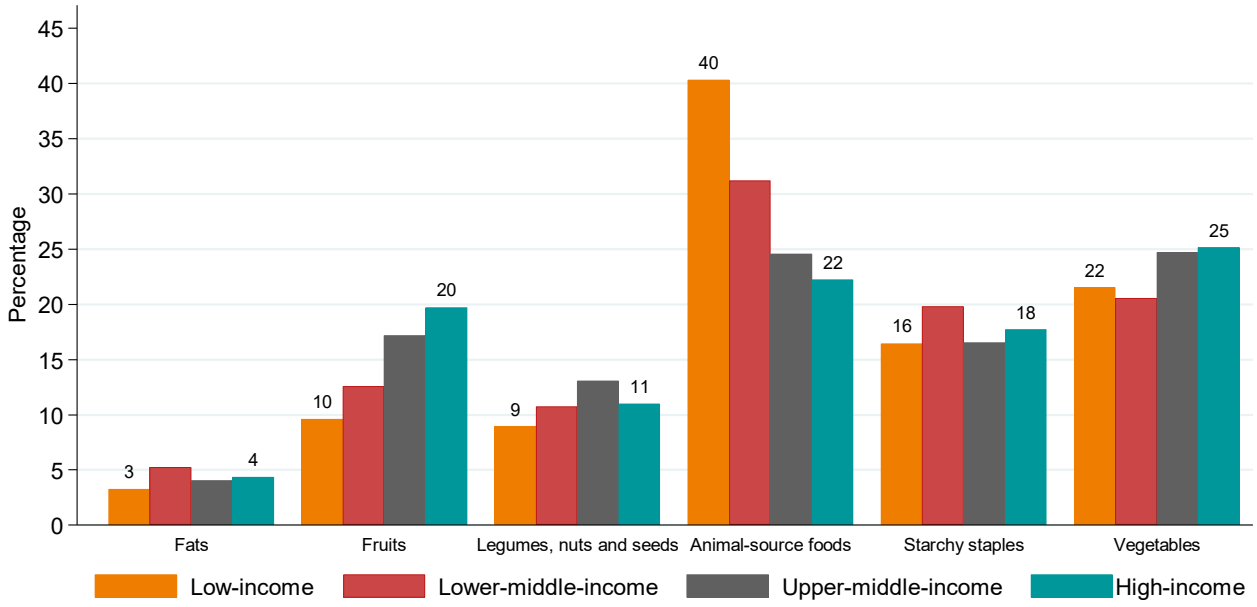
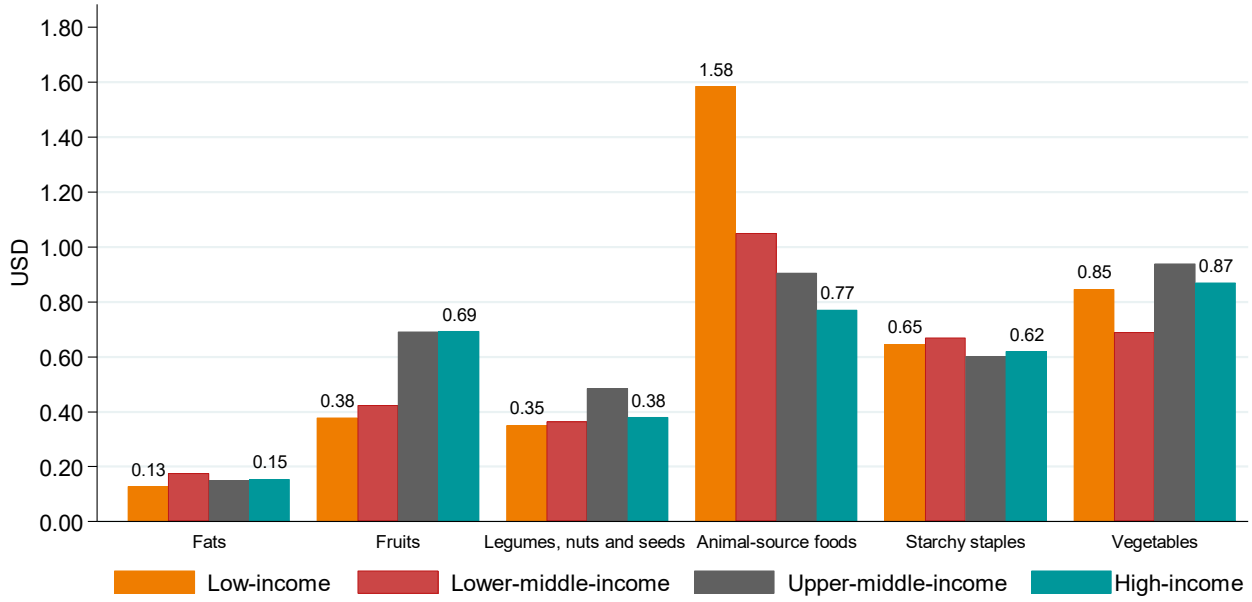


FIGURE 34B

Average cost by food groups in USD by income level in Latin America and the Caribbean, 2017



NOTE: This analysis uses data from 2017, which is the latest available data for the cost of food groups of a healthy diet.
SOURCE: FAO. (forthcoming). FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). In: *FAO*. Rome. Cited 22 August 2022. https://www.fao.org/faostat/en/#data/CAHD; World Bank. 2022. World Development Indicators. In: *World Bank*. Cited 19 May 2022. https://databank.worldbank.org/source/world-development-indicators#

5.3 CORRELATION BETWEEN AFFORDABILITY OF HEALTHY DIETS WITH SOCIOECONOMIC AND NUTRITION INDICATORS

Key messages

- In the region, 131 million people could not afford a healthy diet. More than 50 percent of the population is unable to afford a healthy diet in the Caribbean, 28 percent in Mesoamerica and close to 20 percent in South America.
- The unaffordability of a healthy diet observed across the region is associated with different socioeconomic indicators, especially with country income levels, poverty incidence and income inequality.
- Unaffordability of a healthy diet is associated with hunger, stunting in children under 5 years of age, and anemia in women aged 15 to 49 years.

Having described the costs of a healthy diet, it is important now to assess what the affordability of a healthy diet means. In general, we understand that a healthy diet is affordable when an individual has enough economic resources to access it, considering their income relative to the cost of a healthy diet. Given that the cost of a healthy diet is estimated based on the least-cost version of a healthy diet, it is affordable (or unaffordable) when an individual has sufficient (or insufficient) economic resources to access those foods.[16] The affordability indicator measures the percentage of the population that cannot afford a healthy diet, which shows the degree of inequality of access to a healthy diet in each country. When comparing across countries and subregions, it is helpful to also consider relative prices with respect to other non-healthy or less-healthy options, and to note each country's average income.

This chapter describes the affordability of a healthy diet in the subregions and in the countries of the region. It also shows the association between the unaffordability of a healthy diet and socioeconomic indicators at the country level, such as national income, poverty rates and levels of inequality, as well as nutritional outcomes.

Unaffordability of a healthy diet in Latin America and the Caribbean

As shown in Part 1, 131 million people (22.5 percent) in Latin America and the Caribbean could not afford healthy diets in 2020. In the Caribbean, 52 percent of its population was unable to afford a healthy diet; in Mesoamerica, 27.8 percent; and in South America, 18.4 percent.

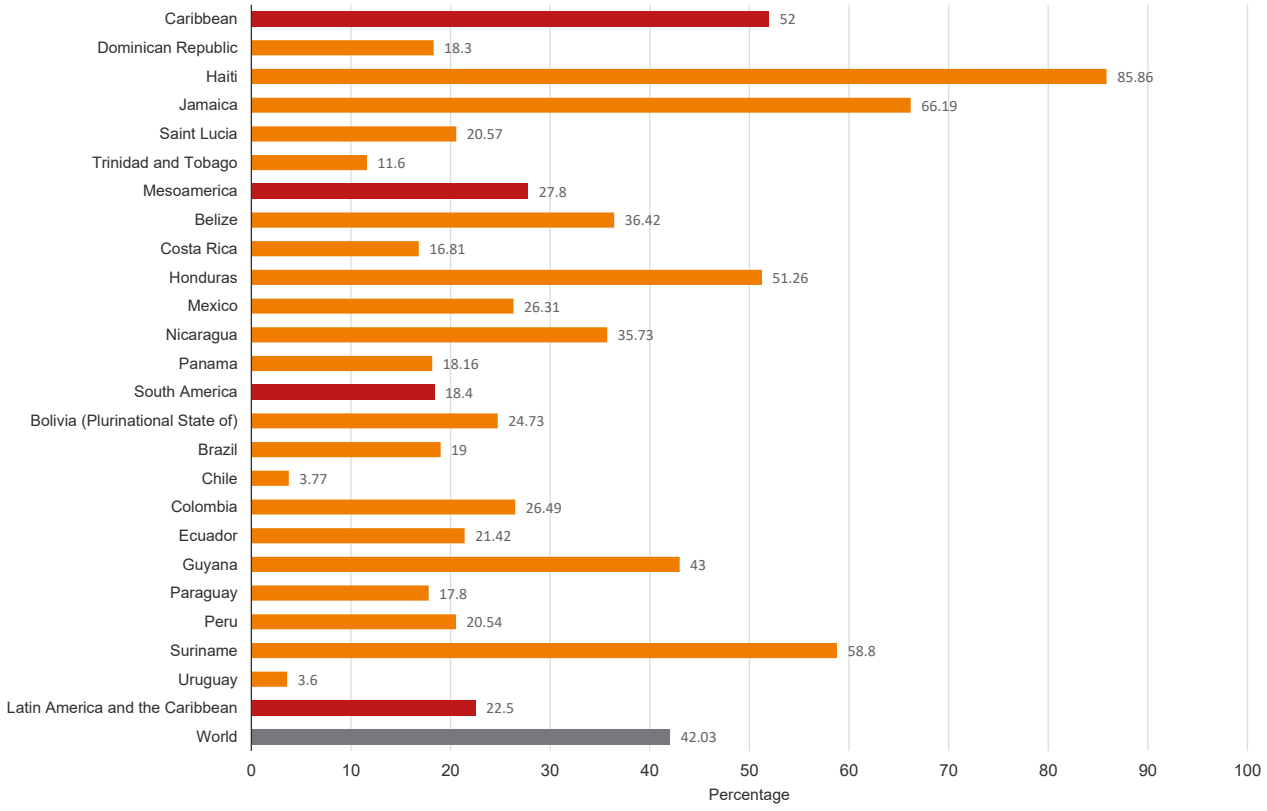
Regarding affordability by country, in the Caribbean, the most concerning situation is reported in Haiti, where more than 80 percent of the people could not afford a healthy diet, while in Dominican Republic and Saint Lucia about 20 percent of the

[16] As highlighted in Chapter 4, affordability of a healthy diet refers to an individual who has sufficient economic resources to spend up to 52 percent of income on the food needed to buy the least-cost version of a healthy diet, reserving 48 percent of income for other spending. This percentage accounts for a portion of income that can be credibly reserved for food, based on observations that the population in low-income countries (LICs) spends, on average, 52 percent of their income on food, as derived from the 2017 ICP national accounts expenditure data.

people could not afford this diet (FIGURE 35). In Mesoamerica, a healthy diet is most affordable in Costa Rica and Panama, with less than 20 percent of the people unable to afford a healthy diet, while in Honduras more than 50 percent of the people could not afford one. In South America, a healthy diet is most affordable in Uruguay, Chile and Paraguay. It is worth noting that in South America a healthy diet is generally more affordable than in the other subregions, with some exceptions: in Guyana and Suriname the percentage of the population that could not afford a healthy diet is like that of the Caribbean.

FIGURE 35

Unaffordability of healthy diets in Latin America and the Caribbean, 2020



SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Secrurity and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060.

Socioeconomic indicators related to the unaffordability of a healthy diet

While it is not possible, due to insufficient data points, to make an analysis of the association between the unaffordability of a healthy diet and socioeconomic indicators at the regional level, it is possible to do so on a global level. This section shows the association, at the global level, between the unaffordability of a healthy diet and country income level, income inequality and poverty rates.

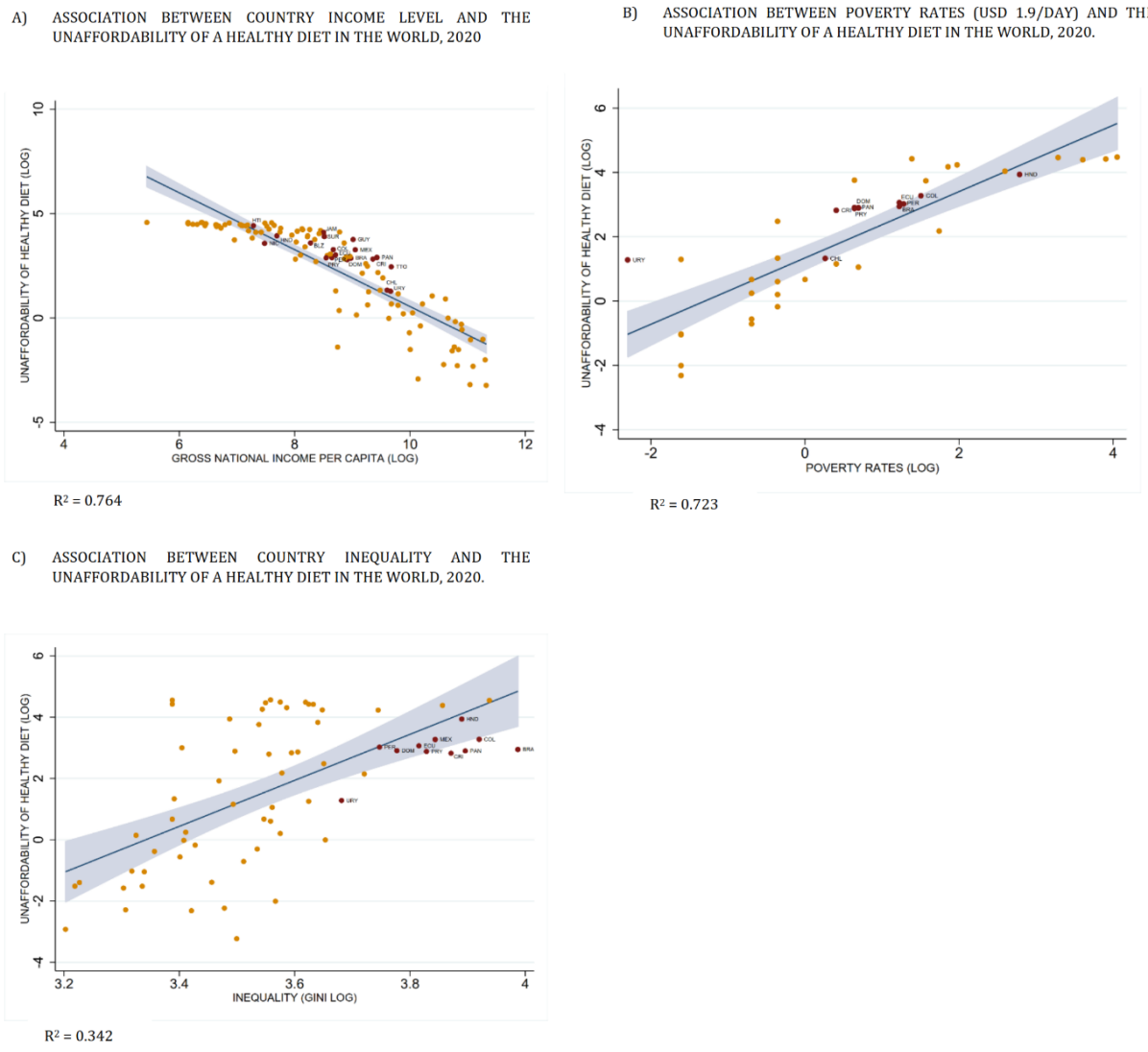
Regarding country income level (measured as gross national income per capita) a clear negative association was found with the unaffordability of healthy diets. This means that as the gross national income per capita of a country increases, the percentage of unaffordability of healthy diets decreases (FIGURE 36A). Countries like Chile, Trinidad and Tobago and Uruguay, at the right end of the income distribution, are those with the lowest shares of population that cannot afford healthy diets; whereas countries like Haiti, Honduras and Nicaragua, at the left end of the income distribution, present the highest unaffordability observed in the region.

FIGURE 36B shows that poverty and unaffordability, as expected, are positively associated: in other words, when poverty rates increase, so do the levels of unaffordability of a healthy diet. In Haiti, with the highest rate of poverty in the region, the unaffordability of a healthy diet affects 86 percent of its population. Also, Honduras has one of the highest poverty rates in the region and is among the countries in the region with the highest unaffordability (52 percent).

The association between income inequality (measured by the Gini index) and the unaffordability of a healthy diet (FIGURE 36C) shows an inescapable trend: in highly unequal countries, a healthy diet is usually more expensive and more difficult to access (Hoffman and Centeno, 2003; Lustig, 2017). It is noteworthy that region countries colour coded in red are among the most unequal and have the highest unaffordability, compared to other world's countries.

FIGURE 36

Association between the unaffordability of a healthy diet and socioeconomic indicators



NOTE: The Figure shows a simple regression analysis between (A) gross national income per capita (2020), (B) the poverty headcount ratio at USD 1.90 a day as percentage of population (2015), and (C) the Gini index (2018) (horizontal axis) and the unaffordability of a healthy diet (2020) (vertical axis) in the world. Higher values on the vertical axis reflect higher levels of unaffordability of a healthy diet expressed as the percentage of average country food expenditures measured in 2020. All variables are expressed in logarithms. R-squared denotes the percent of the variance in the unaffordability of a healthy diet explained by the variable on the horizontal axis and the line represents a linear fit. Latin America and the Caribbean countries are colour coded in red.
SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome, FAO. https://doi.org/10.4060.; World Bank. 2022. World Development Indicators. In: *World Bank*. Cited 19 May 2022. https://www.fao.org/faostat/en/#data/CAHD

This analysis shows that in countries with high income and lower poverty rates – both with a strong correlation – healthy diets are more affordable; but less income inequality is also relevant, as it might indicate more people could have access to a healthy diet.

Malnutrition indicators related to the unaffordability of a healthy diet

This section presents an analysis of the unaffordability of a healthy diet in relation to the following indicators of hunger and malnutrition: prevalence of undernourishment, prevalence of stunting, anaemia among women aged 15 to 49 years, prevalence of overweight among children under 5 years, and prevalence of obesity in adults.

Not surprisingly, in countries where the prevalence of undernourishment is high, the proportion of the population that cannot afford a healthy diet is also high. Countries like Haiti, Jamaica and Honduras are among those in the upper right hand of FIGURE 37A (with a high prevalence of undernourishment and a high proportion of unaffordability), whereas countries like Uruguay and Chile, with lower levels for both indicators, are on the other side of the graph.

FIGURE 37B shows that countries with higher levels of unaffordability are associated with higher rates of stunting. Moreover, the prevalence of stunting in countries with high cost of healthy diet is over 5 percentage points more than in countries with mid-range healthy diet costs, and almost 10 percentage points higher than in countries with low-healthy diet cost. As with the prevalence of undernourishment indicator, Chile and Haiti represent opposite realities: while the South American country shows lower levels of stunting and unaffordability, the Caribbean country has higher levels of both.

The association between anaemia among women aged 15 to 49 years and the unaffordability of healthy diets is also positive. Anaemia is more prevalent in countries where the percentage of the population that cannot afford healthy diets is higher, such as Haiti, Honduras and Guyana (FIGURE 37C).

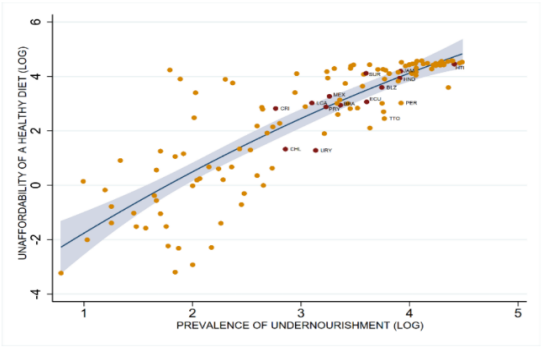
Finally, the association between the unaffordability of a healthy diet and overweight and obesity is not obvious. FIGURE 37D shows that countries where the percentage of the population that cannot afford a healthy diet is high show lower levels of overweight among children under 5. This pattern is potentially related to the income levels of the countries, with wealthier countries presenting less unaffordability but higher overweight. This is also the case for the prevalence of obesity in the adult population (FIGURE 37E).

Chile, Costa Rica and Uruguay have the lowest levels of unaffordability of a healthy diet, and also the highest rates of adult obesity in the region. These results align with recent research on the different stages of the so-called “obesity-transition”, where the prevalence of overweight and obesity increase substantially as countries become more developed and GDP per capita grows. This effects likely explains the results for Chile and Uruguay, which are both high-income countries. The “obesity-transition” also describes the situation for developed countries in which the prevalence of obesity among those with lower socioeconomic status surpasses the prevalence among those with higher socioeconomic status (Jaacks *et al.*, 2019). This means that despite having higher prevalence of obesity in the country, it is more concentrated among people with lower incomes. It should be noted, however, that economic development and socioeconomic status are not the only variables that influence weight gain (FAO, IFAD, UNICEF, WFP and WHO, 2022).

FIGURE 37

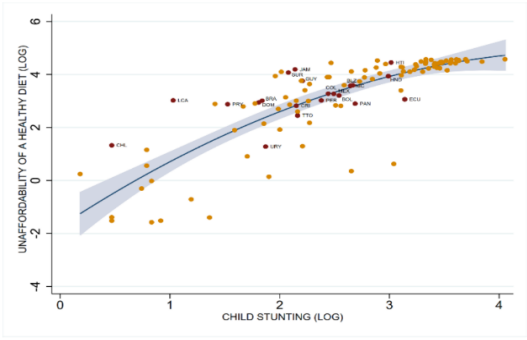
Association between the unaffordability of a healthy diet and malnutrition indicators in the world, 2020

A) ASSOCIATION BETWEEN THE UNAFFORDABILITY OF A HEALTHY DIET AND THE PREVALENCE OF UNDERNOURISMENT IN THE WORLD, 2020



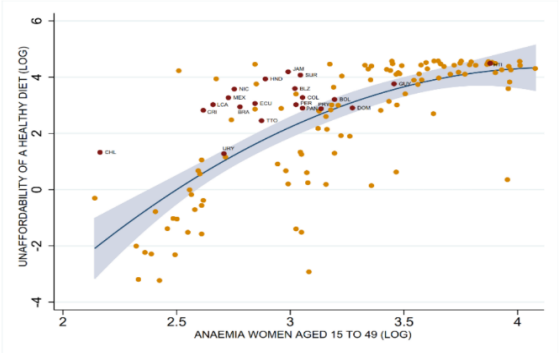
$R^2 = 0.743$

B) ASSOCIATION BETWEEN THE UNAFFORDABILITY OF A HEALTHY DIET AND STUNTING AMONG CHILDREN UNDER 5 IN THE WORLD, 2020



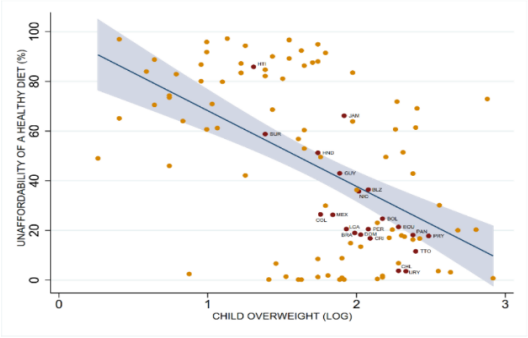
$R^2 = 0.72$

C) ASSOCIATION BETWEEN THE UNAFFORDABILITY OF A HEALTHY DIET AND ANAEMIA IN WOMEN AGED 15 TO 49 YEARS IN THE WORLD, 2020



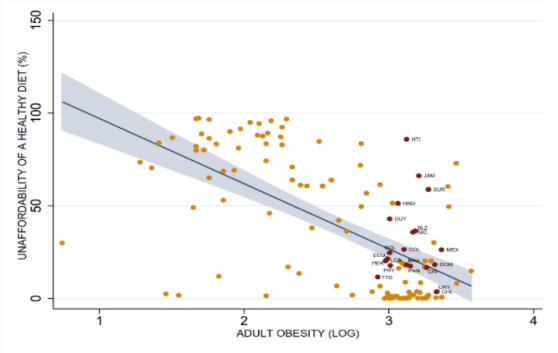
$R^2 = 0.539$

D) ASSOCIATION BETWEEN THE UNAFFORDABILITY OF A HEALTHY DIET AND OVERWEIGHT AMONG CHILDREN UNDER 5 YEARS IN THE WORLD, 2020



$R^2 = 0.315$

E) ASSOCIATION BETWEEN THE UNAFFORDABILITY OF A HEALTHY DIET AND OBESITY AMONG ADULTS IN THE WORLD, 2020



$R^2 = 0.316$

NOTE: the figure shows a simple regression analysis between (A) the prevalence of undernourishment 3-year average (2019–2021), (B) the prevalence of stunting in children under 5 (2020), (C) the prevalence of anaemia in women aged 15–49 years (2019), (D) the prevalence of overweight in children under 5 (2020), and between (E) the prevalence of obesity in the adult population (2016) (horizontal axis), and the unaffordability of a healthy diet (2020) (vertical axis) in the world. Higher values on the vertical axis reflect higher levels of unaffordability of a healthy diet expressed as the percentage of average country food expenditures measured in 2020. All variables are expressed in logarithms. R-squared denotes the percentage of the variance in the variable on the horizontal axis explained by the unaffordability of a healthy diet, the line for A, B and C represents a quadratic fit, and the line for D and E represents linear fit. Latin America and the Caribbean countries colour coded in red.
SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060; Source A) FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO.* Rome. Cited 15 June 2022. https://www.fao.org/faostat/en/#data/FS ; Source B) UNICEF, WHO and World Bank. 2021. Data by topic and country. In: *UNICEF.* Cited 27 May 2022. https://data.unicef.org/topic/nutrition/malnutrition/; Source C) WHO. 2021 The Global Health Observatory: Women and Health. In: *WHO.* Cited 26 May 2022. www.who.int/data/gho/data/themes/theme-details/GHO/women-and-health; Source D) WHO. 2021b. Infant and young child feeding. In: *WHO.* Cited 26 May 2022. www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding; Source E) WHO. 2017. The Global Health Observatory. Noncommunicable diseases: Risk factors. In: *WHO.* Cited 26 May 2022. www.who.int/data/gho/data/themes/topics/topic-details/GHO/ncd-risk-factors

Overall, the unaffordability of a healthy diet seems to be closely correlated to poverty rate and country income levels, and to some extent to income inequality levels. These analyses show that poorer and more unequal countries tend to present higher levels of unaffordability. Also, the data shows that the unaffordability of a healthy diet is significantly associated with hunger and malnutrition indicators. Although the results of this exercise are valid for the world, they suggest how the unaffordability of a healthy diet may be associated with the prevalence of hunger and malnutrition indicators in Latin America and the Caribbean. This would translate into a higher prevalence of undernourishment, more stunting among children under the age of five, and anaemia among women aged 15 to 49 years. On the contrary, and probably due to a correlation with income, countries with larger proportions of people who cannot afford a healthy diet tend to present lower levels of overweight and obesity, especially among adults.

Food consumption patterns are complex and depend on many variables, including food prices and the cost of diets. Overall, our results indicate an increase in the risk of hunger and various forms of malnutrition when fewer people can afford healthy diets. Therefore, policies aimed at improving their affordability not only help to eradicate hunger and address food security, but also address nutrition and diet-related health problems in the region.

Latin America and the Caribbean faces a complex scenario characterized by high and rising food inflation, increasing poverty and high levels of income inequality. These factors have been worsened by the COVID-19 pandemic, and by the effects of the ongoing conflict in Ukraine, which are putting further pressure on the already high cost of healthy diets in the region. These conditions are likely to further threaten the ability of people to afford even the least-cost version of a healthy diet.

Given these current trends, urgent actions are needed to improve the affordability of healthy diets, especially for the most vulnerable populations. Also, measures to counteract the effects of declining growth, coupled with persistent levels of poverty and inequality, are needed through policies oriented to food production, trade, marketing and consumption.

The next chapter provides an overview of policies already implemented in the region we can learn from. To improve the affordability of healthy diets in the region, it can be helpful to analyse, understand, and rethink these initiatives.

CHAPTER 6

IMPROVING THE AFFORDABILITY OF HEALTHY DIETS: A REVIEW OF POLICIES IN LATIN AMERICA AND THE CARIBBEAN

6.1 IMPLEMENTING AND REPURPOSING POLICIES FOR HEALTHY DIETS

Key messages

- To increase the affordability of healthy diets, requires promoting lower prices for nutritious foods and address the income constraints of the most vulnerable populations who do not have adequate physical and economic access to a healthy diet.
- An agrifood systems approach enables the identification, analysis and reorientation of policies associated with supply chains, food environments and consumer behaviour that contribute to improving the affordability of healthy diets.
- There is also a need to transform agrifood systems to be more efficient, inclusive, resilient and sustainable, ensuring that food supply chains, food environments and people's eating behaviours facilitate the reduction of the cost of a healthy diet, its physical and economic accessibility, as well as the consumption of nutritious foods that make up this type of diet.
- It is crucial to increase and improve the efficiency and effectiveness of investments in food and agricultural policies across the agrifood system in three main areas: policies targeting food production, trade and markets, and consumers.
- Examples of policy implementation in the region demonstrate how food and agricultural policies can make healthy diets affordable for everyone.

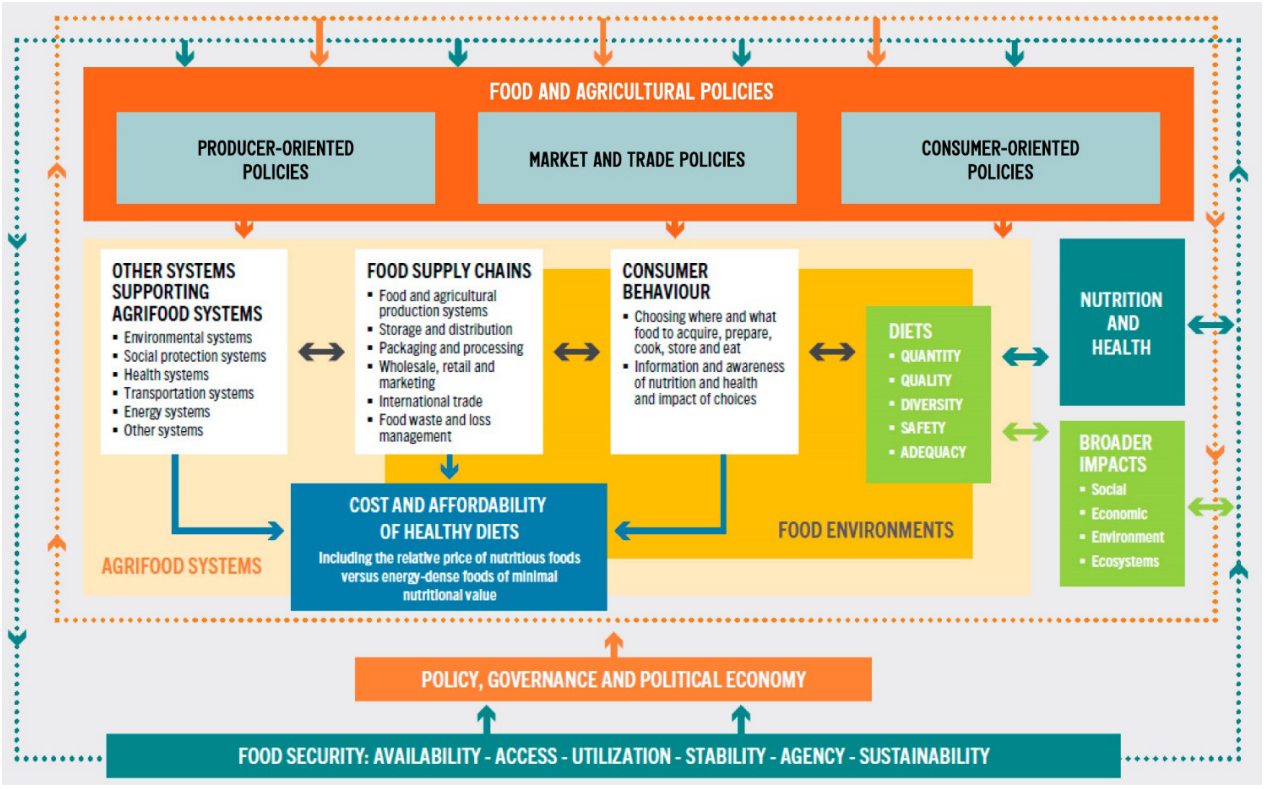
Agrifood systems encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products. They comprise all food products that originate from crop and livestock production, forestry, fisheries and aquaculture, as well as the broader economic, societal and natural environments in which these diverse production systems are embedded (FAO, IFAD, UNICEF, WFP and WHO, 2022). A comprehensive agrifood systems approach is essential for identifying how policies can contribute to making healthy diets affordable for the whole population

(FAO, IFAD, UNICEF, WFP and WHO, 2022). Drivers of the high cost of nutritious foods are found throughout agrifood systems, starting with production and considering food supply chains and food environments, as well as in consumer behaviour, and are associated with political economy factors, including low levels of productivity.

In the food supply chain, inadequate food storage, poor road infrastructure and limited preservation capacity for highly perishable foods lead to food losses and inefficiencies along the chain. This drives up the cost of food in general, including the nutritious foods than make up a healthy diet. In addition, many people are unable to physically access food markets, especially fresh fruit and vegetable markets, which represents a significant barrier to accessing healthy diets. And trade policies, mainly protectionary trade measures, tend to incentivize the domestic production of staple foods (rice and maize) to the detriment of nutritious foods (fruits and vegetables) (FAO, IFAD, UNICEF, WFP and WHO, 2020).

Food and agricultural policies can play a significant role in making healthy diets more affordable if they address the drivers of the high cost of nutritious foods in the different components of agrifood systems, as elaborated in FIGURE 38 (FAO, IFAD, UNICEF, WFP and WHO, 2022).

FIGURE 38
Agrifood systems approach for policies to contribute to improving affordability of healthy diets



SOURCE: Adapted from FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* FAO, Rome. https://doi.org/10.4060/cc0639en

The agrifood systems approach is essential for understanding the nexus between food and agricultural policies and the cost and affordability of healthy diets. This chapter has selected producer-oriented, trade and market, and consumer-oriented policies implemented in different countries of the region. However, as discussed in the previous chapter, the uncertain regional economic recovery, rising poverty, levels of income inequality and high inflation amount to a formidable challenge to the objective of investing more in policies such as the ones analysed in this chapter.

Worldwide support to the food and agricultural sector, including producer-oriented policies, averaged almost 630 billion dollars a year between 2013 and 2018.[17]

At present, governments in the region have fewer resources to address these challenges. These resources need to be directed to achieve food security and nutrition goals, and in particular to support healthy diets –considering that Latin America and the Caribbean is the region with the highest cost of a healthy diet in the world. As analysed in the previous chapter, the unaffordability of a healthy diet is associated with higher rates of hunger, anaemia among women aged 15 to 49 years and stunting among children under 5 years of age. Achieving affordable healthy diets for all is therefore an essential contribution to achieving food security and nutrition in the region.

This edition of the report focuses on identifying and analysing policy experiences in the region, which raises an important question: how can governments achieve more, without the need for significant investment, but by working with the limited resources at their disposal? The 2022 edition of *The State of Food Security and Nutrition in the World (SOFI)* presents a global analysis of how repurposing food and agricultural policy support, can lower the cost of nutritious foods and make healthy diets more affordable, which could be an alternative in the current challenging scenario. SOFI analyses different scenarios in which food and agricultural support is reallocated, and estimates the impacts on different outcomes, such as the prevalence of undernourishment, the affordability of a healthy diet, extreme poverty and farm incomes, among others. This global study considers also Latin America and the Caribbean, and its main conclusions are discussed in BOX 1.

[17] This support also included trade and market interventions, and consumer-oriented policies, which are analysed in the following sections. For more details, please see FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. https://doi.org/10.4060/cc0639en

BOX 1

REPURPOSING FOOD AND AGRICULTURAL POLICY SUPPORT TO MAKE HEALTHY DIETS MORE AFFORDABLE

Repurposing existing food and agricultural policy support in all regions of the world to promote the production of nutritious foods would contribute to making a healthy diet more affordable. The *State of Food Security and Nutrition in the World 2022* presents an analysis of the repurposing of three different types of policies, based on a 2030 baseline scenario, to improve access to healthy diets. These scenarios are:

i. Repurposing fiscal subsidies to producers,* excluding fiscal support given collectively to agriculture through general public services.**

ii. Repurposing price incentives*** through border measures and market price control in support of healthy diets.

iii. Repurposing fiscal subsidies from producers to consumers.****

At the regional level – for Latin America and the Caribbean[a] and the Americas[b,c] – the effects of repurposing food and agricultural policies can have an impact on the cost and consumption of a healthy diet, similar to the global scenario. Table A shows that shifting fiscal subsidies from producers to consumers and redirecting fiscal subsidies to producers to support healthy diets in the region have an effect on lowering the cost of a healthy diet (-3.07 percent and -3.04 percent for Latin America

TABLE A

Impact in Latin America and the Caribbean and Americas of repurposing three types of support to healthy diets by 2030 (percentage change with respect to the base line)

For Americas region	Repurposing fiscal subsidies from producers to consumers	Fiscal subsidies to producers	Border measures
Changes in the cost of current diets	-1.23	-0.54	0.09
Changes in the cost of a healthy diet	-5.69	-3.52	0.34
Changes in the per capita consumption of dairy products	0.94	0.00	0.15
Changes in the per capita consumption of fats and oils	-1.60	-1.72	0.08
Changes in the per capita consumption of sugar and sweeteners	0.56	-1.13	0.01
Changes in the per capita consumption of fruits and vegetables	0.78	1.79	-0.36
For Latin America and the Caribbean region	**Repurposing fiscal subsidies from producers to consumers**	**Fiscal subsidies to producers**	**Border measures**
Changes in the cost of current diets	-0.54	-0.52	0.00
Changes in the cost of a healthy diet	-3.07	-3.04	0.14
Changes in the per capita consumption of dairy products	1.87	0.07	0.30
Changes in the per capita consumption of fats and oils	1.67	-1.72	0.22
Changes in the per capita consumption of sugar and sweeteners	-0.79	-1.28	0.06
Changes in the per capita consumption of fruits and vegetables	1.94	2.56	-0.37

SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060/cc0639en

and the Caribbean, respectively). In addition, the report notes that shifting tax subsidies from producers to consumers would have the greatest impact on increasing the affordability of healthy diets for Latin America and the Caribbean (1.21 percentage points). These measures would also translate into a significant increase in the consumption of fruits and vegetables in Latin America and the Caribbean (1.94 percent), as well as a decrease in the consumption of sugar and sweeteners (-0.79 percent).

While this analysis provides useful guidance on the potential impact of reallocating fiscal resources and adapting agricultural and food policies to contribute to the affordability of healthy diets, more research is still needed on the potential trade-offs that may exist at the national level in terms of economic, environmental and consumption behavioural impacts.

* Fiscal subsidies to producers are budgetary transfers essentially from taxpayers to individual farmers and can be granted depending on i) output (i.e. transfers made according to the level of the production quantity of a specific agricultural commodity), ii) input use (i.e. transfers made to lower the cost of variable inputs, such as seeds and fertilizers), iii) the use of other factors of production (e.g. capital, labour or land), or iv) non-commodity criteria for which production is not required (e.g. subsidies tied to environmental or landscape outcomes or lump-sum payments to all farmers subject to cross-compliance conditions).

** General services support refers to public expenditure (or budget transfers) for the provision of public or collective goods. As such, these expenditures are not directed to individual agents, such as producers, processors, traders or consumers, but they may benefit production, processing, trade and consumption of agricultural commodities in the longer term.

*** These interventions increase or depress domestic prices relative to the border price; as such, they can generate price incentives (or disincentives) for farmers. Border measures refers to policies that may affect imports (e.g. tariffs, tariff-rate quotas and non-tariff measures) and exports (e.g. export taxes, bans or licensing, or export subsidies or credits). Market price control measures refers to policies such as administered prices (at which governments procure food from farmers) and minimum producer price policies.

**** Fiscal subsidies to consumers are budgetary transfers from the government (and more specifically, taxpayers) to intermediary (e.g. processors, traders, etc.) or final consumers of food. These transfers are meant to lower the cost of acquiring food (food subsidies), to increase consumer income (e.g. cash transfers) or to provide direct access to food (e.g. in-kind food transfers and school feeding programmes).

[a] Latin America and the Caribbean includes all countries in this region except HICs, which are included in the group Americas.

[b] Americas includes HICs in Latin America and the Caribbean (Chile, Panama, Trinidad and Tobago, and Uruguay), plus Canada and the United States of America.

[c] The classification of countries and sub-regions in this Box is different from the classification used throughout this report, as the analysis presented here is based on a global simulation model that includes multiple regions, sectoral and economic linkages at the international level.

Following the approach proposed in FIGURE 38, the policies analysed in this chapter fall into three categories: producer-oriented, market and trade-oriented and consumer-oriented. These policies are among those discussed in BOX 1, and their analysis is a first step towards the transformation of agrifood systems in Latin America and the Caribbean.

6.2 PRODUCER-ORIENTED POLICIES

Key messages

- The diversity of the food people consume is a key element of diet quality. The diversification of food production must be incorporated into any strategy designed to make healthy diets affordable for all people. Good practices in Latin America and the Caribbean show that increasing the production and productivity of more diverse foods can make nutritious foods more accessible to consumers.
- Policies or programmes that support small-scale and family farmers' food production and link their production to local food programmes or markets through shorter food supply chains, can increase farmers' incomes while reducing the cost of nutritious food for consumers.
- In addition, efforts to diversify food production must include the incorporation of Neglected and Underutilized Crop Species (NUCS). Programmes in the region that support Indigenous producers to grow these crops and deliver them to school feeding programmes have demonstrably improved their incomes, while increasing the dietary diversity of their families' and communities' diets.

Producer-oriented policies are aimed at supporting primary agricultural production, food processing, distribution and related logistics (transport, storage etc.). This category also includes measures to support natural resources management and institutional and organizational changes and settings. Producer-oriented support includes public procurement from farmers at fixed producer prices, provision of productive inputs to small-scale farmers, strengthening extension services, among others (FAO, 2015).

Current food and agricultural policy support varies across food groups and commodities. According to *The State of Food Security and Nutrition in the World 2022*, rice, sugar and different types of meat are among the commodities most supported by fiscal subsidies to producers worldwide, including small-scale and family farming. These measures are not always aligned with the need to support healthy diets, and may discourage the production of more nutritious and diverse foods, such as fruits, vegetables and pulses, among others (FAO, IFAD, UNICEF, WFP and WHO, 2022).

Diet quality comprises four key aspects: variety or diversity (within a food group or between food groups), adequacy (sufficient level of nutrients or food groups according to requirements), moderation (foods and nutrients that should be consumed with restraint) and overall balance (composition of macronutrient intake) (FAO, IFAD, UNICEF, WFP and WHO, 2020). In this sense, dietary diversity is a key element of diet quality, and is critically linked with food security and nutrition.

Family farming plays an important role in food security through the stable provision of food – thanks to the integration of rural and urban areas – meeting the needs for nutritious foods such as fruits and vegetables in wholesale markets in a large

proportion of developing countries (FAO, 2020c). Because family farmers possess the knowledge to produce nutritious and culturally appropriate foods (FAO and IFAD, 2019), they contribute to ensuring that urban dwellers can also have access to a balanced diet, as the food produced by this sub-sector is generally minimally processed, thus retaining most of its inherent physical, chemical, sensory and nutritional properties (FAO, 2020c).

Eating a larger variety of foods across food groups is associated with decreased risk of insufficient intake of several essential micronutrients and related deficiencies. Consuming a wide variety of unprocessed or minimally processed foods, balanced across food groups, while restricting highly processed foods and beverages throughout the life-course, is a key principle of healthy diets and helps to prevent against all forms of malnutrition (FAO, IFAD, UNICEF, WFP and WHO, 2022).

Family farming also plays a valuable role in preserving cultural heritage related to traditional knowledge of food production. Family farming is also very important for the economic dynamization of rural territories, generating between 57 percent and 77 percent of agricultural employment in Latin America and the Caribbean (FAO and IDB, 2007) and contributing between 27 percent and 67 percent of the region's food production (FAO, 2014).

The experiences of two policies that focused on strengthening family farming and short food supply chains by creating linkages between family farming and public procurement initiatives are presented below. These policies, targeting small-scale producers in the region, contributed to the diversification of production and consumption of nutritious food, and directly improved access to healthy diets.

Improving diversification through support for family farming and local sourcing schemes

The Food and Nutrition Improvement Plan for Antioquia (Plan MANÁ), in Colombia, was designed to help improve the nutritional status of the population of Antioquia, in particular for children under 6 years, and to guarantee access to enough safe and nutritious foods (Gobernación de Antioquia, 2016). Plan MANÁ met its goal of increasing the consumption of foods grown in home gardens and promoting sustainable family agriculture business ventures. The programme had three components (FAO and MANÁ, 2016):

i. Family farming ventures: to increase the production and profitability of yields, increase the incomes of rural families, and stimulate the consumption of fruits and vegetables to improve food security and nutrition.
ii. Local supply plans, implemented on the basis of a prior analysis of the behaviour of the supply systems related to the basic food basket in Antioquia.
iii. Strengthening institutions by building the capacities of government employees, producer organizations, rural institutions, and local experts to implement food security and nutrition programmes.

These activities mainly sought to foster engagement with public workers from several municipal offices, agricultural science university students, experts and independent

specialists, different agrifood system stakeholders, representatives of community and labour associations, and other interested parties with the MANÁ Plan (FAO and MANÁ, 2014; FAO, 2016b).

The results of the plan were positive. Thirty-eight family kitchen-garden agricultural ventures were established, promoting associativity among producers. In addition, 1 600 producers created enterprises dedicated to seven markets (composting, seeds, seedling, rice, beans, vegetables and tomatoes). For each production chain and producer association, the technical team elaborated models of intervention with good agricultural practices focused on technical-agronomic improvements and on strengthening socio-business and commercial management (FAO, 2016b). The MANÁ plan contributed to shortening food value chains, allowing producers to sell their products directly to consumers, which significantly improved producers' incomes (mainly through the sale of vegetables), while reducing the cost of food (FAO, IFAD, UNICEF, WFP and WHO, 2020).

Prior to the project, household members ate on average 122.9 grams of fruit and vegetables per day (one and one-half portions). After the project, fruit and vegetable consumption increased by 77.8 grams, almost a full portion. This remarkable growth in nutritious food consumption can certainly be attributed to the availability of home-grown and home-available foods – specifically, beans, rice and vegetables. The project evaluation showed that participating families were able to afford healthy diets without increasing their expenditure on nutritious foods, due the increased availability of home-grown food and higher earnings related to the shorter food value chains. Average savings increased in households were at around USD 20 per month

One aspect of the project's food security and nutrition strategy involved promoting dietary diversification and making the most of production for the diet. These actions were complemented by training on how to prepare vegetables, along with basic nutritional education (FAO, 2016b).

Successful implementation of this programme required strengthening governance and institutional capacities, with a focus on establishing local supply plans, and family farming entrepreneurship. However, this experience showed that family farming has the potential to improve household incomes and, at the same time, increase the consumption of fruits and vegetables.

Promoting marginalised and underutilised crops to link family farming to food procurement programmes

Brazil's Food Acquisition Programme (PAA) was launched in 2003, in the context of the Zero Hunger Programme, as part of a national integrated food security policy framework (Delgado, Conceição and Oliveira, 2005). The programme helps to ensure the right to adequate food by encouraging diversified crop production, connecting family farming agricultural supply to a diversified public demand, and working to rescue, recover and commercialize neglected regional and local products. One example is the production and trade of Neglected and Underutilized Crop Species (NUCS),[18] some of which have never been commercialised before.

In schools, the PAA ensures fresh local organic food is available in canteens. Data shows that this intervention contributes to improved attendance, performance and well-being of school children (Ortega, de Jesus and Só, 2006). The programme prioritized NUCS diversity for healthier diets and improved nutrition, and mainstreaming these plant species into production and consumption systems, and linking them to the national public food procurement programmes (Hunter *et al.*, 2019). Foods such as *babassu* palm flour, pine nuts, coconut oil, *baru* nut flour, *cupuaçu*, palm hearts, *umbu*, *maxixe* and *jambú*, among others, are now being served more frequently in schools and in social assistance organizations (Weitzman, 2021).

Indigenous communities in the northern region of Brazil are key suppliers of NUCS to the PAA. As a result, the programme is revitalizing and preserving foods neglected over generations, thus valuing traditional foods, knowledge and cultures, while empowering Indigenous communities (women in particular) and reaffirming their identities.

Impact assessment studies attest that the programme improved the dietary diversity of the producers, as well as the quantity and quality of the food produced. Fostering family farming production through the PAA had positive impacts on production for household self-consumption, particularly of fresh fruits and vegetables (Zimmermann and Ferreira, 2008). The use of underutilized nutritious foods in the PAA is improving the access of Brazilians to a healthy and diverse diet, while protecting traditional cultural heritage and biodiversity. Besides helping fight hunger and malnutrition, promoting NUCS nationwide also helps to make food systems more resilient to climate change (Bioversity International, 2017).

Some of the NUCS purchased by the PAA come from sustainably managed forest practices, such as the babassu palm value chain (oil and flour). Brazil nut producers from the state of Acre in the Amazon are guaranteed the sale of their production to the PAA, and have seen the price of nuts almost double. These guaranteed purchases assure producers higher incomes from sustainable practices and incentivize forest preservation. The PAA promotes agroecological and organic food commercialization to provide healthy, pesticide-free food to socially vulnerable groups. To this end, a price premium of 30 percent is offered for environmentally-sound products.

[18] NUCS are little known species that have been ignored by agricultural researchers, plant breeders and policymakers. They are wild or semi-domesticated varieties and non-timber forest species not typically traded as commodities (Padulosi, Thompson and Rudebjer, 2013).

As part of the implementation, all public procurement proposals from 2011 onwards required the inclusion of a minimum of 40 percent women suppliers. By 2015, the participation of women in the PAA modalities reached more than 45 percent, effectively consolidating the valorisation of their work, increasing their income and guaranteed their socioeconomic inclusion, and making visible the role of women in rural areas (CONAB, 2016) (BOX 2). Despite its success, the PAA still faces challenges involving family farmers living in poverty and extreme poverty, in addition to Indigenous Peoples and other vulnerable groups.

In this context, IFAD supports projects in Brazil to support family farmers within the highest levels of poverty, to encourage production and capacity-building through technical assistance, and thus enable access to the PAA.

BOX 2

FOOD SECURITY, NUTRITION AND GENDER

According to the data presented in this report, food insecurity and obesity have not affected men and women equally in the region (see Chapter 1.1). This growing disparity has become more evident since sex-disaggregated data became available, increasing more sharply between 2019 and 2021 in the context of the COVID-19 pandemic. This crisis had effects on women's employment, income and productive activity.

The impact of the COVID-19 pandemic led to a sharp exit of male and female workers from the labour market. In the case of women, this exit was part of an 18-year decline in their labour force participation levels in the economically active population at the regional level. The female participation rate declined from 51.8 percent in 2019 to 47.7 percent in 2020, while the male participation rate fell from 75.5 percent to 70.8 percent. One in two women are excluded from the labour market, while one in four men are excluded (ECLAC, 2022b).

Economic and physical access is one dimension of food security and nutrition. To ensure and support inclusive access, gender-sensitive food security and nutrition policies, plans and programmes are needed. An interesting intervention created in 2011 by the Centre for Alternative Technologies of Zona da Mata (CTA-ZM)*, in partnership with IFAD and the Women's Movement of Zona da Mata and Minas, was carried out in northeast Brazil, where, as in so many other places across the world, the work of rural women is often invisible. Their contributions to their households in terms of housework, work in agriculture and other economic sectors are immense but often go unnoticed.

The *Methodological Guide for the Agroecological Logbook* offers systematic guidelines on how to implement and use agroecological logbooks** (AL) which measure daily production in home gardens. The project intervention delivered these notebooks to women, which act as a political-pedagogical tool for empowering rural women, granting visibility and raising awareness of the importance of their work for family income and diet (Cardoso *et al.*, 2019).

Across seven states and 112 municipalities of the Brazilian Northeast, 879 rural women used the AL between August 2019 and February 2020 to write down every contribution they made to the family budget by producing food from their home gardens. Women farmers produced 1 228 different types of products, most of which were food. In one year, the value of the production of these women amounted to more than USD 237 000***, with an average of up to USD 64 per household monthly. The AL also showed that 60 percent of their products were sold door-to-door, and only 39 percent were sold in the community or in street markets.

The AL proved to be an efficient instrument for valuing the large, and heretofore almost invisible, economic contribution of these women. And this experience shows how the availability of diversified nutritious food consumed by households directly improves economic access to healthy diets.

* The Center for Alternative Technologies of Zona da Mata (CTA-ZM) is a non-profit organization with more than 30 years of experience in promoting agroecology for family agriculture in the Zona da Mata region of Minas Gerais.

** Dom Helder Câmara Project (PDHC) phase II; Dom Távora Project; Paulo Freire Project (PPF); PROCASE; Pró-Semiarid Project (PSA); and Viva o Semiárido Project (PVSA).

*** Converted to dollars using the exchange rate of June 2020.

6.3 MARKET AND TRADE POLICIES

Key messages

- Efficiency and transparency of food marketing and supply can act as an enabler for food security and nutrition, and in particular, for the affordability of a healthy diet.
- Greater transparency of food supply and prices in markets through the use of digital platforms reduces asymmetries between different actors in the supply chain, facilitating the selection of nutritious food for consumers, who can easily access information if digital platforms can be accessed through websites or through applications for mobile devices.
- Platforms that have databases with daily price monitoring statistics – at producer and consumer levels for nutritious foods – price alerts that may be out of range, and geo-referencing of production zones and markets, make the information available to producers, consumers and decision-makers.

Trade policies are a set of regulations and tools that governments use to implement international economic relations, through trade agreements and trade measures, such as tariffs, quotas, restrictions, subsidies, sanitary and phytosanitary standards, and others. Trade and market policies seek, among other objectives, to safeguard global food security, address trade-offs between economic and environmental objectives, and strengthen the resilience of the global agrifood system to shocks, such as conflicts, pandemics and extreme weather (FAO, 2022h).

Border measures can affect the availability, price and affordability of healthy diets, influencing consumer choices (FAO, IFAD, UNICEF, WFP and WHO, 2022). As can be seen in TABLE 4, there is a difference in import tariffs for different food groups between countries according to their income levels. Thus, low- and lower-middle-income countries apply a higher tariff on fruit and vegetable imports than on sugar and confectionery products, and than on highly processed foods, which could also be influencing the higher price of fruits and vegetables. In addition, it is important to note that while high-income countries apply import tariffs on fruit and vegetables averaging 5.2 percent, low-income countries set tariffs at 19.0 percent, i.e. average tariffs on these foods in lower-income countries are 3.7 times higher than in higher-income countries. Agricultural tariffs remain relatively high, especially in low- and middle-income countries, which, together with non-tariff measures such as sanitary and phytosanitary measures, contribute to relatively higher agricultural trade costs (FAO, 2022i), impacting on their relative or consumer price. This could be associated with higher costs of fruits and vegetables and therefore lower affordability of a healthy diet, especially for the most vulnerable people.

TABLE 4
AVERAGE APPLIED TARIFFS ON DIFFERENT FOOD GROUPS (IMPORT VALUE-WEIGHTED, PERCENT), BY COUNTRY INCOME GROUP

Country income group	Highly processed foods	Sugar and confectionary	Fruits and vegetables	Food and beverages (all)
Low-income countries	13.8	13.4	19.0	11.5
Lower-middle-income countries	14.7	9.9	11.1	8.5
Upper-middle-income countries	7.3	11.1	8.9	6.6
High-income countries	6.3	6.2	5.2	7.5

NOTES: N = 181 countries. Data are cross-sectional and mostly reflect 2020 values. For some missing cases, data are taken from 2019 (14 cases), 2018 (5 cases) or 2017 (6 cases) to maximize the sample. Values are rounded to the first decimal.
SOURCE: FAO based on World Bank. 2022. Tariff data by country. In: *World Integrated Trade Solution (WITS)*. Washington, DC. Cited 26 May 2022. https://wits.worldbank.org/tariff/trains/country-byhs6product.aspx?lang=en

SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. FAO, Rome. https://doi.org/10.4060/cc0639en

To reduce uncertainty and enhance the predictability and stability of international agrifood trade, transparency and trust between trading partners is fundamental. One of the tools of trade policy is information systems that promote the marketing of food and inputs. Timely and complete information on market conditions and rules affecting market access is crucial for increasing agribusiness participation in international trade. It also allows the identification of possible bottlenecks and obstacles, in order to offer solutions and alternatives. This results in improved productivity and competitiveness, and fosters economic growth, food security and poverty reduction (Avesani, Kobuta and Mukhtar, 2021).

Limited access to information technologies and inadequate levels of innovation are some of the factors adversely affecting the availability of timely market information, affecting decision-making by various stakeholders within agrifood systems (von Braun *et al.*, 2021). Promoting digital transformation strategies can close this gap, creating opportunities for more efficient and transparent agrifood markets (Tripoli, 2021).

Digital platforms are virtual systems that companies adopt or develop as a business tool to facilitate integration between consumers and producers, and to simplify the company's financial or organizational operations (Sotomayor, Ramírez and Martínez, 2021). Leveraging digital trade requires creating enabling environments that facilitate technology adoption, innovation and development, including core components like public policy reforms, access to finance, adequate digital infrastructure, bridging the digital divide, and human capital development (Tripoli, 2021). To make sure that digital technologies are adopted, it is important to consider practical factors appropriate to the various contexts such as internet access, rural communications infrastructure and local knowledge.

In 2011, an inter-agency platform, the Agricultural Market Information System (AMIS),[19] was launched to enhance food markets transparency and policy response for food security. The system also provides a platform to coordinate actions in times of market uncertainty. By enhancing transparency and policy coordination in international food markets, the AMIS has helped to avoid unexpected price hikes, thus strengthening global food security (AMIS, 2022).

[19] AMIS is composed of G20 Members plus Spain and seven additional major exporting and importing countries of agricultural commodities. Together, AMIS participants represent a large share of global production, consumption and trade volumes of the targeted crops, typically in the range of 80-90 percent.

Analysed below are two initiatives designed to increase the transparency of trade and markets, to make information available to all, and to promote the use of digital technologies to facilitate access to that information. The first is being developed by the Brazilian National Supply Company (CONAB), which seeks to modernise the technical and operational management processes of wholesale markets. The second is an agricultural market monitoring system implemented by the Members of the Central American Integration System (SICA).

Modernization of the Horticulture Market Programme by the National Supply Company

To stimulate the production of horticultural products and increase their supply at reasonable prices, the Support Programme for the Production and Commercialization of Horticultural Products (PROHORT) was implemented in Brazil in 1970 (Banco Central do Brasil, 1982). Between 1990 and 2012, the fruit and vegetable sector – stimulated by the market expansion due to both the population growth (33 percent) observed in Brazil during this period, and to real gains in income – made progress in modernization and incorporating technologies (Camargo and Camargo, 2017). In 2014, a statistical database also called PROHORT (CONAB, 2022) was created to improve the transparency of food markets. Supply centres and other supplier markets were incorporated into this technological platform. This was done using an accredited methodological process according to national standards, to offer market information at regular intervals, and other managerial tools to guide administrative procedures and governmental policies (Ministério de Estado da Agricultura, Pecuária e abastecimiento, 2014).

PROHORT is now a public-private initiative, led by the CONAB[20] in association with the Brazilian Association of Supply Centres (ABRACEN), which aims to:

i. develop and integrate statistical databases;
ii. generalize the information generated, reducing asymmetries between wholesalers and the public;
iii. modernize the technical-operational and administrative management processes of the supply centres; and
iv. generate knowledge to develop the fruit and vegetable sector at the national and international levels.

CONAB has a database containing more than 20 000 serial records distributed across all federal units that allow for market analysis, consultation of historical series, and identification of productive regions, among other technical studies. PROHORT allows the most recent prices of 48 fruit and vegetable products to be monitored daily at the wholesale, federal, municipal, and micro- and meso-regional levels in supply centres. This information is automatically shared through a digital platform which can be downloaded for mobile devices and through the website. The digital platform allows favourite queries to be saved and the values of the same product to be checked in different centres, among other features (CONAB, 2021). The information is shown by means of tables and graphs, which show the daily prices posted over the last 30 days.

[20] CONAB is the official body of the Brazilian Government for the administration and management of agricultural and supply policies.

The *Hortigranjeiro* bulletin, which is published online monthly by CONAB, allows consumers to find prices for fruits and vegetables.

Benefits of an agricultural market monitoring system: Regional System for Intelligence and Monitoring of Agricultural Markets

The Regional Agricultural Markets Intelligence and Monitoring System (SIMMAGRO) is an online platform that provides daily information on the wholesale prices, trade and production of 40 products in Central America and the Dominican Republic. SIMMAGRO was developed by the Regional Market Information Network of the Central American Integration System (SICA). SICA's Members include Guatemala, El Salvador, Honduras, Costa Rica, Panama and the Dominican Republic. SIMMAGRO is supported by the Central American Economic Integration Secretariat (SIECA) and the Central American Agriculture Council Secretariat (CECAC), with ongoing technical and financial assistance from FAO.

The Regional Market Information Network and SIMMAGRO contribute to the transparency of agricultural markets to the benefit of all actors in the trade chain, increasing the capacity to monitor prices of nutritious foods in the countries (Bai *et al.*, 2021). SIMMAGRO provides current price information (wholesale, retail and producer prices) for the most traded products in the region, such as maize, beans and rice, which are mainly sourced from family and commercial agriculture, and that are strategic for food security and family farming (Regional Market Information Network, 2021). The availability of information encourages users to capture spatial and temporal price differences (FAO, 2011). The system can also provide alerts for out-of-range prices that reveal possible speculative practices in the sale of products that can affect the income of producers and the purchasing power of consumers.

SIMMAGRO also provides information about international trade, and production volumes, for these 40 strategic crops. Additionally, the system helps improve interactions between the different government agents and members of the production and distribution chains (FAO and FLAMA, 2022), stimulating mechanisms for more trade integration in the SICA region through SIECA and the CECAC (FAO and FLAMA, 2022).

To strengthen SIMMAGRO, FAO provides ongoing support through a series of projects and initiatives. These include expanding the subregional database of agricultural product prices and their integration with information on production and trade; the creation and management of a website for monitoring, analysing and disseminating prices for these products; training staff of the member entities of the subregion's market information network; and continuous technological improvements and backstopping. SIMMAGRO benefits public and private sector decision-makers by providing market, trade and production price information (FAO, 2020d), to improve costs and availability of food for consumers.

6.4 CONSUMER-ORIENTED POLICIES TO ENSURE AFFORDABILITY OF HEALTHY DIETS

Key messages

- Social protection programmes are critical for poverty reduction, decent work and livelihoods. Furthermore they are an important element of any strategy oriented to making healthy diets affordable, especially for the most vulnerable population.
- Nutrition-sensitive or social protection policies designed with nutrition-sensitive considerations – such as in-kind food transfers, school feeding programmes, food vouchers or cash transfers with food and nutrition education – can improve access to nutritious foods.
- Among them, school feeding programmes can provide better access to nutritious foods. A solid legal framework, the inclusion of public procurement from small-scale family farming, and increasing the presence of local gastronomic culture in school menus can help make healthy diets more widely accessible for children.
- In addition, well-designed fiscal policies to lower the relative price of nutritious foods in relation to those of high energy density and minimal nutritional value, can contribute to the affordability of healthy diets, without affecting tax revenues.
- To move from affordability to consumption of healthy diets, policies must create food environments and behaviours that promote such consumption. For example, front-of-pack nutrition labelling can discourage the consumption of foods with high energy density and minimal nutritional value.

The affordability of healthy diets depends not only on the cost of nutritious foods, but also on available income. Therefore, increasing the income and ensuring the well-being of the population, in particular the most vulnerable, who must spend most of their income on food, is a key element of any strategy towards making healthy diets affordable for all.

The cost of eating healthily is still far too high for the most vulnerable population. In consequence, poverty reduction and income inequality objectives are also important to achieving food security, as these are directly linked with better economic access to food, and thus to healthy diets.

Social protection mechanisms are among the policy options that governments have to reduce poverty and income inequality. In relation to food security and nutrition in particular, in-kind food transfers, school feeding programmes, food vouchers and cash transfers can potentially make healthy diets more affordable, and are mechanisms that are widely implemented in the region (FAO, IFAD, UNICEF, WFP and WHO, 2022). If these mechanisms are designed with nutrition-sensitive considerations, they can have better results in increasing economic access to nutritious foods for lower-income consumers.

Globally, school feeding programmes have helped to improve access to nutritious foods among low-income students (FAO and AMEXCID, 2020), and to make healthy diets more affordable for the population (FAO, IFAD, UNICEF, WFP and WHO, 2020). Latin America and the Caribbean has the second highest coverage of school feeding programmes in the world (reaching 78 million children), second only to southern Asia (107 million children) (WFP, 2020). Most of the financing across the region comes from national budgets (WFP, 2020).

Social protection programmes, in general, gained importance during the COVID-19 pandemic (WFP, 2020; Laborde *et al.*, 2021). In Latin America and the Caribbean, nearly all countries implemented one or more social assistance measures during the COVID-19 pandemic (Gentilini *et al.*, 2020). Although emergency social protection measures are not always designed to be nutrition-sensitive instruments, they are important tools in times of shock, to prevent household income levels from falling and to ensure economic access to food. According to ECLAC's database (ECLAC, 2022i) which includes non-contributory social protection programmes for Latin America and the Caribbean, 21 countries have implemented programmes related to conditional cash transfers.

Considering the high cost of a healthy diet in the region, food assistance programmes should focus on nutritional quality, and not only on the quantity of food delivered (Laborde *et al.*, 2021). Improving targeting; using conditions to stimulate participation; strengthening nutrition goals and actions, and optimizing nutrition for women, time, physical and mental health, and empowerment of women (Ruel, Alderman and Group, 2013) (BOX 2, in the previous section), are ways to enhance the nutrition-sensitivity of social protection programmes. Also, implementing complementary policies for healthier food environments improves dietary habits and choices (BOX 3), as consumer patterns depend not only on the cost of nutritious foods, but also on the consumer's preferences and knowledge related to the impact of unhealthy diets on long-term health. In other words, consumers' decisions depend on their motivations, capacities and opportunities (Kissick, Keats and LeBlanc, 2021), as well as how much of their household budget is spent on food. The inclusion of consumer behaviour change communication strategies favourably influences the effectiveness of cash transfer programmes (Malney, Alderman and Gentilini, 2022), just as food and nutrition education enhances the effectiveness of other social protection policies. For these reasons, different ways of improving the nutrition sensitivity of social protection programmes need to be analysed according to national contexts (BOX 4).

BOX 3
FOP AND SSB TAXES

Front-of-pack nutrition labelling (FOPNL) and sugar-sweetened beverage (SSB) taxes have been implemented in several countries in the region. Nutritional labelling such as FOPNL is accurate, standardized and comprehensible information about the content of food items included on the packaging to facilitate healthy choices (WHO, 2004). Taxation is a way governments can recoup the direct and indirect costs that arise from excessive consumption of SSBs (UNICEF, 2021b).

Ten countries in Latin America and the Caribbean have enacted laws or regulations on FOPNL. Seven of these countries have implemented, or are in the process of implementing, nutritional warnings with black octagons (Argentina, Chile, Colombia, Mexico, Peru, Uruguay and the Bolivarian Republic of Venezuela) (FAO, PAHO and UNICEF, 2022). Ecuador has a traffic-light system, which is not necessarily placed on the front of the package. Brazil will apply a system with black rectangles and a magnifying glass. And the Plurinational State of Bolivia has approved a traffic-light system, but has yet to implement it (FAO, PAHO, UNICEF, 2022).

Nutritional warnings with black octagons effectively reduce the purchase intention of products with excessive calories, sugar, sodium and saturated fats,[1], [2] help consumers make healthier choices,[3] and contribute to the reformulation of food products (Zancheta Riccardo *et al.*, 2021). All of these benefits have no effect on jobs, salaries, wages, physical production, nor on the profits of the food production sector (Corvalán *et al.*, 2021; FAO, PAHO and UNICEF, 2022). FOPNL could also prove to be effective in reducing energy consumption, leading to a decrease in the prevalence of obesity, and thus saving fiscal resources in healthcare costs (Basto-Abreu *et al.*, 2020).

In turn, 21 out of the 33 Latin American and Caribbean countries apply excise taxes on SSBs (PAHO and WHO, 2022). Excise taxes can be used to increase retail prices (World Bank Group, 2020; Andreyeva *et al.*, 2022; PAHO and WHO, 2020) and can reduce demand for taxed SSB by between 15 percent[4] (Andreyeva *et al.*, 2022) to 24 percent (PAHO and WHO, 2020; World Bank Group, 2020; Cawley et al., 2019); causing a decrease in their consumption (PAHO, 2015). Taxes on SSBs also improve population health and generate public budget revenue (World Bank Group, 2020; PAHO and WHO, 2020).

An assessment carried out in Mexico showed that after the implementation of SSB taxes in 2014, there was no decrease in employment in the sectors associated with the measure, neither in the manufacturing sector, nor in commercial stores selling food and beverages and national unemployment rates did not increase overall (Guerrero-López, Molina and Colchero, 2017).

Considering that taxes would reduce the consumption of SSBs, a simulation study by Colchero, Paraje and Popkin (2021) showed that a country's economic well-being could improve by taxing

[1] In Peru, research found that consumers between 22 and 40 years old easily understand the black octagons over the traffic light with a guideline daily amount (58.4 percent versus 38.7 percent, respectively) (Valverde-Aguilar *et al.*, 2018) .
[2] In Chile, purchases of sugar-sweetened cereal and beverages decreased by 25 percent and 9 percent, respectively (Instituto de Nutrición y Tecnología de los Alimentos (INTA) de la Universidad de Chile, 2018).
[3] In Uruguay, a study showed that 58 percent of participants changed their purchase decision when they saw the octagons (UNICEF and Universidad de la República, 2020).
[4] The articles incorporated in this systematic review includes some Latin America and the Caribbean countries: Mexico, Chile and Barbados.

food and beverages of high energy density and minimal nutritional value.[5] The authors simulated the impact of taxing food and beverages with FOPNL warning labels in Chile. The researchers estimated revenue in three tax scenarios: taxes of 10, 20 or 30 percent, where revenues could reach between USD 528 million (10 percent tax) and USD 950 million (30 percent tax).

Evidence suggests that when the price of foods with excess calories, sugar, sodium and saturated fats are subject to high levels of taxation, sales of these products decrease to a degree proportional to the tax levied. A tax on these foods of USD 2.53 per kilogram of saturated fat (USD 0.0025 per gram) would slightly reduce the intake of saturated fat (Navarro-Rosenblatt, Kuhn-Barrientos and García-Celedón 2021). Indeed, substantial evidence exists on some of the impacts of the implementation of these policies (FOPNL and SSB taxes). However, it is important to analyse the impact of the implementation of these policies in relation to the affordability of healthy diets on a national level. Gathering and generating more evidence for monitoring and assessing policy implementation is crucial for promoting a comprehensive set of policies to achieve healthy diets for all (FAO. 2022j and PAHO. 2022).

[5] The simulation included six groups of labelled food and beverages (with a warning label based on the regulation) and unlabelled (with no warning label): 1) unlabelled beverages, 2) labelled beverages, 3) unlabelled cereal-based products, 4) labelled cereal based products, 5) labelled meat and fish, and 6) labelled sweet snacks and desserts.

BOX 4
ANALYSIS TO ADDRESS NUTRIENT DEFICIENCIES

Fill-the-Nutrient-Gap analysis aims to support the identification of strategies to increase the availability, access, and choice of nutritious foods to improve nutrient intake (Bose *et al.*, 2019). This analysis was carried out in the Dominican Republic to better understand the nutritional gaps in the country, and to look for ways of improving nutrition among the population through existing or new public policies and programmes. The analysis included a review of the "Supérate" and "Stay at Home" programme.

The main finding was that in this country, a nutrient-adequate diet* that provides adequate calories as well as nutrients was between three and five times more costly than an energy-sufficient diet. This means that one in three households did not have financial access to a nutrient-adequate diet. A transfer received through the *Stay at Home* and *Supérate* programmes covered 34 to 57 percent of the monthly cost of a nutrient-adequate diet modelled for a five-member household. If, however, there were mandatory mass fortification of rice, the cost of a nutrient-adequate diet would decrease to the point where the *Stay at Home* and *Supérate* transfer would cover 45 to 67 percent of the cost of a nutrient-adequate diet.

A rice fortification strategy would contribute to the micronutrient requirements of vulnerable groups such as children under 2 years of age, adolescent girls and pregnant or breastfeeding women. The greatest reduction in the cost of a nutrient-adequate diet is observed for adolescent girls and lactating women, who are highly vulnerable to malnutrition because of their high nutritional requirements. For adolescent girls, fortification could reduce the cost of a nutrient-adequate diet by up to 48 percent, as well as reduce their vulnerability to micronutrient deficiencies.

* The cost of the nutrient-adequate diet discussed here follows the methodological approach used by WFP (2019) and is not equivalent to the cost of a healthy diet as analysed in the previous sections. It is estimated here using a household that typically includes five individuals, and it is then expressed as a per capita average. Unaffordability is measured by the proportion of households, in this case in the Dominican Republic, where food expenditure is not sufficient to afford a nutrient adequate diet in their local environment.

Three examples analysed below demonstrate positive effects on the affordability of healthy diets. The first is a social protection programme consisting of a food voucher that helped the most vulnerable families to maintain their access to nutritious food during the pandemic. The second corresponds to improvements in the nutritional content of the menus of school feeding programmes in the region. The third refers to fiscal policy to increase taxes on foods of high energy density and minimal nutritional value and to reduce taxes on nutritious foods.

"Alimentar" card for vulnerable households

The National Plan Argentina Against Hunger (PACH) was created before the COVID-19 pandemic, within the orbit of the Ministry of Social Development of Argentina, whose objective is to guarantee food security for the whole population, with special attention to the most economically vulnerable sectors (Ministry of Social Development of Argentina, 2020).

The original objective of the *Alimentar* programme was to raise household incomes and promote frequent consumption of nutritious foods. It was a cash transfer granted to socially and economically vulnerable households to ensure they had economic access to a diverse range of foods,[21] excluding alcoholic beverages, and to improve access to nutritious foods, especially in households with children up to 14 years old. Households receive a monthly allowance (after the onset of the COVID-19, pandemic funds were transferred electronically to the cardholders). Beneficiaries of the programme received a prepaid card if they cared for one child, or a special food card if they cared for two or more children under six years, or if the funds were for a person with disabilities or for a pregnant woman. The food card scheme covered 27.7 percent of a basic food basket, and 11.5 percent of a total basic basket[22] for an average household (SIEMPRO, 2020). In 2021, the programme had more than four million beneficiaries (FAO, 2022i) and in February 2021, the allowances increased by 50 percent[23] (SIEMPRO, 2021).

Studies show that in an inflationary environment with rising food prices, families benefiting from the programme had access to more or the same amount of food they had before, but of a greater variety and quality. Fruit and dairy intake increased among beneficiaries of the food card, especially among children (Ministerio de Desarrollo Social de la Argentina, 2021).

One year after the *Alimentar* programme implementation, a study conducted jointly by FAO, the Argentinean Federation of Nutrition Graduates (FAGRAN), and the Ministry of Social Development, investigated food consumption among the programme's beneficiaries. A list of 13 groups of foods and beverages were differentiated according to whether they were "recommended" or "not recommended", according to the dietary guidelines for the Argentinean population. The study showed that foods recommended by the programme accounted for half of all purchases (meat and dairy were the most purchased foods). Foods purchases not recommended by the programme included mainly soft drinks and other SSB, flour and sugary cereals. The study found that in most households, and homogenously in all provinces, it was mainly mothers who both

[21] After 2021, households were able to use the voucher to buy food and other goods.
[22] The total basic basket is calculated from the basic food basket including non-food goods and services, such as clothing, transportation, education, health, among others.
[23] The basic card went from ARS 4 000 to ARS 6 000, while the special card went from ARS 6 000 to ARS 9 000.

oversaw food decision-making and who purchased food for the whole family. This task, according to study participants, was considered "women's work" or "mothers' work" because they were at home and taking care of their children, although almost 70 percent of women said that they had a paid job at the time of the interview (FAO, FAGRAN and Ministerio de Desarrollo Social de la Argentina, 2022).

The same study shows that certain conditions, like proximity to home, price, and the possibility of using the food card to pay, were the main criteria for selecting food vendors (FAO, FAGRAN and Ministerio de Desarrollo Social de la Argentina, 2022). Having the *Alimentar* food card made it possible to plan purchases in the most convenient places. Purchases of dairy and meat products from supermarkets and wholesalers particularly increased, mainly because these vendors offer better prices or because products can be bought in bulk. The study shows that beneficiaries frequently looked out for good prices and special offers on fruits and vegetables in greengrocers close to home.

Some beneficiaries chose to buy fruits and vegetables from other commercial channels, like supermarkets or wholesalers who offer better prices or sell in bulk, due to the absence of open-air markets, or because they did not know when the markets were set up. Beneficiaries noted that supermarkets and outdoor markets did not always accept the food card as a valid payment, or they added a surcharge for this method of payment (FAO, FAGRAN and Ministerio de Desarrollo Social de la Argentina, 2022).

Some recommendations that can contribute to the successful implementation of such policies include limiting or excluding foods with high energy density and minimal nutritional value, positioning food and nutrition education as an essential component, as well as providing continuity in programme monitoring and evaluation (FAO, 2022l).

Recently, the Argentinean Ministry of Social Development announced a 40 per cent increase, compared to the previous month, in the amounts allocated to beneficiaries as of December 2022. This increase is intended to lessen the impact of inflation, and those who need to register do not need to complete formalities due to the cross-checking of information by the National Social Security Administration (ANSES) to determine who is eligible for the "*Alimentar"* card (Estado Argentino, 2022).

Nutritious menus in school feeding programmes

School feeding programmes have traditionally been associated with benefits to health, nutrition and education. There are also potential benefits spanning at least four major sectors: health, education, social protection and agriculture. A cost-benefit analysis of school feeding programmes in 14 countries, including Brazil, Chile, Ecuador and Mexico (Verguet *et al.*, 2020) showed that potential human capital returns on investment came to USD 180 billion; health and nutrition, USD 24 billion; and USD 156 billion from education. Additionally, potential social protection benefits are estimated at USD 7 billion, as well as a potential USD 23 billion for the agricultural economy (Verguet *et al.*, 2020).

Recently, FAO and University of the West Indies (2021) carried out a cost-benefit analysis of school feeding programmes in Caribbean countries.[24] Results for Dominica, Jamaica, and Saint Kitts and Nevis showed that the benefits dwarfed the costs: the cost-benefit ratio in the three countries was on average USD 1.50, meaning that for every dollar spent, the return was USD 1.5. In Dominica, the ratio was USD 1.64, while in Jamaica it was slightly higher at USD 1.67. Lastly, Saint Kitts and Nevis, at USD 1.76, had the best cost-benefit ratio of the Caribbean countries under study. The study also found that the school feeding programme in Saint Kitts and Nevis benefited from its centralized nature and economy of scale (the programme feeds a large number of students). Also, the high cost-benefit ratio is related to the very high minimum wage[25] in this country, and the sensitivity of the cost-benefit ratio to the value of a basic wage[26] (FAO and University of the West Indies, 2021).

In the context of the consolidation of School Feeding Programmes in Latin America and the Caribbean, the Sustainable School Feeding Network (RAES), created in 2018, is an example of international cooperation developed by the Brazilian Cooperation Agency (ABC/MRE) and the National Fund for the Development of Education (FNDE/MEC), with the support of FAO. RAES helps the countries of the region to implement their school feeding programmes, helping to ensure that they are adequate and that they can fulfill the human right to food. In Latin America and the Caribbean, 21 countries are part of RAES, which organizes training courses, gives technical assistance and arranges exchange workshops. As of 2021, the sustainable schools methodology is reported to have been implemented in 15 countries, 536 municipalities and 23 385 schools, benefiting about 1 668 739 students and more than 9 356 family farmers, who provide local procurement (FAO, ABC/MRE and FNDE/MEC, 2022).

In line with FAO's School Food and Nutrition Framework (FAO, 2019), the sustainable schools methodology helps to make school feeding more efficient and effective at the national level. To effectively implement it, countries and policymakers need to identify which schools will include one or more of the following programme components: national and local governance and acts (BOX 5); an active educational community (social participation); adequate and nutritious school menus; school food and nutrition education actions through pedagogical school gardens; repurposing of kitchens, cafeterias and storage rooms; and the direct purchase of food from family farmers.

Some Caribbean countries are developing healthier and tastier menus for school feeding programmes. In several countries of the subregion, chefs lend their expertise to school feeding programmes by modifying the appearance of nutritious foods to make them more palatable to children. Antigua and Barbuda has made some adjustments to serve dishes from the local cuisine, even offering a vegetarian alternative. Chefs tried to introduce vegetables, like spinach, in unique ways to improve receptivity – but without success–, raising the challenge that increasing the affordability of healthy diets not only requires the incorporation of nutritious foods, but is also associated with the acceptability of the food preparation served in schools. In

[24] The methodology used for this study, known as net annual benefit, incorporates the Kaldon-Hicks principle. It considers, in theory, that people could be compensated, though this compensation does not necessarily happen. This methodology is useful to identify if direct and indirect transfers of money to vulnerable groups can improve the well-being of society as a whole.
[25] Saint Kitts and Nevis has the highest minimum wage in the world (FAO and University of the West Indies, 2021).
[26] The annual net benefit analysis for the study requires the use of a country's "basic wage" to assess the increase in productivity that can arise from better health and educational or academic performance because of a school feeding programme.

the case of Antigua and Barbuda, decoration of the site is used to positively influence the acceptance of Caribbean fruits and vegetables, with attractive pictures and curtains (FAO and University of the West Indies, 2021).

In Saint Lucia, menus are adapted after consultation with cooks, school directors or teachers in charge of feeding programmes, in order to increase the use of local products more readily accepted by children (FAO and University of the West Indies, 2021).

In Jamaica and in Saint Kitts and Nevis, school cooks incorporated meat from the island's slaughterhouse and added locally produced fruits and vegetables to the menu. In Grenada, since children begin consuming vegetables at nurseries (day care centres), they appreciate vegetables as they grow up. Children over 6 months are given local produce until they are three years old, and begin attending government child education programmes (FAO and University of the West Indies, 2021).

In Saint Vincent and the Grenadines, the government has put in place a programme to improve food production that contributes to the population's food security and nutrition and provides a local food supply for the decentralized school feeding programmes, where women from the community are trained and hired as cooks and kitchen assistants to prepare and serve meals in primary schools. Their involvement has improved food acceptability among students, reduced food waste, and ensured that students receive adequate quantities of food (FAO and University of the West Indies, 2021).

In the Dominican Republic with the support of FAO, improvements have been incorporated to increase the nutritional quality of school menus, including the reduction of sodium and fat and the exclusion of nectars, due to their high sugar content, while working on a public procurement pilot for family farming for the delivery of fruits to replace them.

Public procurement from family farming is another important component that promotes the inclusion of nutritious foods in school menus. Several countries in Latin America are implementing measures to include purchases from small-scale producers and family farmers for school feeding programmes.

By purchasing directly from family farming, school feeding programmes can contribute to local economic development and serve as an entry point for the promotion of better diets (Swensson and Tartanac, 2020; FAO, UNDP and UNEP, 2021; WHO, 2021d). The predictable demand from schools and other public institutions, such as local hospitals, can improve the livelihoods of farmers as well as the broader community.

Public procurement from family farming can enhance access to healthy diets for schoolchildren and other consumers, and can promote more sustainable food systems. It also has the potential to decrease rural poverty by stimulating the development of markets, providing a regular and reliable source of income for family farmers, and helping these farmers overcome barriers that prevent them from enhancing their productivity (WFP, FAO, IFAD, NEPAD, GCNF and PCD, 2018; Singh and Fernandes, 2018; Swensson and Tartanac, 2020; FAO, UNDP and UNEP, 2021). For example, since 2009, Brazilian municipalities must, by law, buy at least 30 percent of products originating from family farms to feed their students.

It is important to note that public procurement is not inherently inclusive and must also respond to transparency requirements. Although targeting family farmers through such schemes can encourage local economic development and reduce poverty, production capacity for low-income farmers may be limited. Inclusive procurement can include vulnerable or marginalized actors by responding to their specific needs (FAO, 2015). In El Salvador, the development of a National Technical Committee, bringing together multiple agencies, identified barriers to participation by small-scale producers. Shifting away from certain contractual requirements (which required six months to two years of delay, from the tender to the actual purchase of the produce) and towards direct purchase has made it possible for small-scale producers to participate (FAO, 2015). In 280 schools in El Salvador (5.4 percent of the schools receiving school meals), a project has been implemented to strengthen school meals through the purchase of food from local producers, incorporating fruits, vegetables and eggs. Notably, parents report that these school feeding programmes save them USD 0.50 daily (Raboso and González, 2021).

Changes in school feeding programmes in El Salvador were achieved by implementing culturally appropriate, nutritious, and adequate menus whose ingredients are purchased directly from family farmers. One of the most meaningful changes in El Salvador is greater food diversity in school meals, which now include fruits, vegetables, legumes, meats, fish, dairy, and cereal grains purchased from family farmers (Raboso and González, 2021).

BOX 5
SCHOOL FEEDING REGULATIONS

In Latin America and the Caribbean, ten countries have enacted school feeding laws and regulations: Bolivia (Plurinational State of), Brazil, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Paraguay, Peru and Uruguay. In Panama, Law 115, creating the "Study without hunger" programme, was enacted in 2019. Particular attention must be paid to regulatory coherence concerning areas beyond the scope of food and nutrition in schools that are regulated by their own sets of laws, notably food safety, public procurement and nutrition standards. Ensuring links and coherence among these is a vital aspect of any effective school food and nutrition law and its implementation (FAO, 2020e).

In Ecuador, the new Law on School Food (2020) includes natural, fresh and varied foods, taking into account the interculturality of the student population and the development of the local economy and family farming. The regional government of Manabí has developed, with the support of FAO, a new, decentralized procurement programme that overcomes the challenges imposed by the centralized procurement systems by linking school food to local and family farming production. As a result of this pilot initiative, over 82 000 000 servings of local fruits have been delivered to students, benefiting family farmers, including women producers, (Zambrano and Benavides, 2021; FAO, 2021; FAO, 2022k). The initiative is currently being scaled up for other regions in the country.

For more than 12 years, FAO, the Spanish Agency for International Development Cooperation (AECID) and the Mexican Agency for International Development Cooperation (AMEXID) have promoted, with permanent technical assistance from prestigious national and international institutions, numerous legislator platforms in 21 national and four regional parliaments in Latin America and the Caribbean. These efforts have been aimed at convincing legislators to prioritize in their agendas the struggle against hunger and malnutrition in all its forms and to pass laws that help to meet SDG2, Zero Hunger. Guatemala's 2017 school feeding law

was passed thanks to the efforts of the Parliamentary Front Against Hunger (PFH) and the support of the Brazilian cooperation ABC and FAO.

The national chapter of the PFH in Guatemala not only worked to ensure the school feeding law was enacted, but also to monitor its implementation, with the support of FAO, IFAD and WFP, and to encourage participation among communities. They even used their "Mobile Front", a vehicle that travelled the country informing the population about the law.

The School Feeding Law in Guatemala establishes that 50 percent of food is to be sourced from family farmers. The school feeding programme is decentralized and operationalized through each school's parent association, which is responsible for purchasing food for the school. This decentralized model provides flexibility and allows for social audit and community participation. Developing diverse and nutritious menus adapted to the agricultural production and culture of each region is essential to promoting sourcing from local family famers, while providing children with access to a balanced and healthy diet.

In September 2021, the law in Guatemala was updated by Decree 12/2021, which mandated a budget increment to keep school feeding programmes running even if schools closed, for any reason, and it extended the benefit to other educational levels. For this reason, the programme will cover 3.6 million students by 2023. Another new rule established that the state must provide nutritious food and beverages to students, thus ensuring food security and nutrition (Congreso de la República de Guatemala, 2021; Méndez and Paredes, 2021).

Meanwhile, in the Dominican Republic, a draft of a school feeding law has been prepared and will be presented to the National Congress. For the revision and validation of the draft, the participation of the different actors of the national education system, including student representation, has been of vital importance. The components of the measure are the institutional framework; intersectoral articulation and participation; food production and procurement; sustainability of school feeding; healthy eating; nutrition, safety, food preparation; financing; and accountability and sanctions.

Basic Tax Basket with nutritional elements

In 2019, Costa Rica enacted the Decree Nº 41615-MEIC-H, a regulation that approved the Basic Tax Basket (CBT, by its acronym in Spanish). This basket establishes a rate reduced to 1 percent value-added tax for goods listed in this basket, as opposed to other goods and services not listed which are subject to 13 percent value-added tax (VAT). The objective of CBT is to provide economic protection, through a reduced rate of VAT to foods, basic goods and services, for the most vulnerable population in the country.

The introduction of VAT and the creation of a CBT with nutritional criteria could reduce the gap between the prices of foods of high energy density and minimal nutritional value and nutritious foods that contribute to healthy diets (Ministerio de Salud de Costa Rica and FAO, 2020).

Costa Rica's Ministry of Health developed a methodology for selecting the nutritious foods that are included in the CBT, a task facilitated by the technical support of UNICEF and FAO (Ministerio de Salud de Costa Rica and FAO, 2020). On Friday, 11 November, 2022, a new tax basket composed of technical criteria for food selection, nutritional components of all food groups, and guaranteeing a balanced diet was published in Costa Rica by decree N° 43790-H-MEIC-S (Presidency of the Republic of Costa Rica, 2022).

CBT is managed by the ministries of Finance, and of Economy, Industry and Commerce, and of Health, and is designed according to the effective consumption of essential goods and services by the two lower-income deciles, according to the National Household Income and Expenditure Survey (ENIGH, by its acronym in Spanish), that provides data and measures of household consumption, expenses, and income.

A study conducted by the Ministry of Health and FAO (2020) estimated the income elasticities of demand for products that can be part of CBT.[27] It revealed how much the quantity demanded of a food varies in response to changes in VAT. (Ministerio de Salud de Costa Rica and FAO, 2020; Dal *et al.*, 2022). The study concluded that the most elastic food categories (those where consumption decreases when taxes or prices rise) were bread, cereals, soft drinks and fruit and vegetable juices, as well as milk, cheese and eggs. And for the meat group, quantities consumed also decrease as prices rise.

The research also concluded that there are substitution effects between the following groups: fruits, oils and fats, bread and cereals. This means that an increase in the price of bread and cereals contributes to an increase in fruit consumption. Conversely,

[27] For this analysis, the 11 food and beverage groups of the classification of individual consumption by purpose (COICOP) were used because they correspond to the major food categories of interest. The COICOP groups, rather than nutritional groups, are used to give an economic balance representing an individual's consumption. Food expenditure percentages were calculated for each household by adding the expenditures within each group and then dividing by the total expenditure for the 11 categories.
Uncompensated price elasticities, which consider the influence of prices and income on the utility maximization of different food groups for Costa Rican households, were also estimated using the ENIGH 2018 and using a Quadratic Almost Ideal Demand System (QUAIDS) model. Measuring price elasticities is fundamental because it:

i Provides knowledge of the extent food demand reacts to price changes;
ii allows the anticipation of changes in quantities demanded as a result of changes in fiscal policy;
iii allows possible substitution and complementarity effects between food groups to be measured; and
iv allows possible nutritional effects of fiscal policies to be measured (Dal *et al.*, 2022).

an increase in fruit prices will increase the consumption of oils and fats. If the price of fruit were to rise, in addition to lower consumption, consumption of vegetables and fish would also fall, while consumption of sugar, and oils and fats would rise (Ministerio de Salud de Costa Rica and FAO, 2020).

There is a substitution effect between milk, cheese and eggs, and oils and fats. This means that increasing the price of milk, cheese and eggs contributes to an increase in the consumption of oils and fats. Conversely, the consumption of oils and fats, and of sweets and chocolates, decreases when the price of bread and cereals increases, since they are complementary goods (Ministerio de Salud de Costa Rica and FAO, 2020).

In terms of tax collecting, the study indicates some trade-offs. Incorporating foods into the CBT already established (decreasing consumer tax burden from 13 to 1 percent) would have a negative impact on tax collection, regardless of the nutritional characteristics of the foods. Whereas excluding foods from the CBT (increasing their tax burden from 1 to 13 percent) would have a positive impact on tax collection (Ministerio de Salud de Costa Rica and FAO, 2020).

To manage the trade-offs of tax collection while improving the affordability of healthy diets in the population, an option to explore is to include nutritious foods in CBT, and apply a reduced VAT to them, and at the same time apply an increased VAT to foods of high energy density and minimal nutritional value.

The complex context of economic stagnation, increasing poverty, income inequalities and high levels of food inflation require effective and efficient policy responses to support the most vulnerable of the population, many of whom face severe constraints in accessing healthy diets.

This chapter has analysed some measures implemented in Latin America and the Caribbean that can play a key role in making healthy diets affordable for the entire population. This chapter showed how improving diversification in the production of family farming, creating local supply plans and linking them to public procurement mechanisms can increase the affordability of healthy diets. Also, this chapter confirmed the relevance of market and trade information systems for increasing transparency in food prices and availability to encourage better decisions by producers and consumers. Furthermore, ensuring the access to nutritious food through social protection programmes such as food vouchers and school feeding programmes, designed with nutrition-sensitive considerations, or implementing the CBT for nutritious foods in order to apply a reduced value-added tax, are policies that can increase the affordability of healthy diets.

These are only some policies among several other interventions that can be implemented at the producer, market and trade or consumer levels, to reduce the cost and improve the affordability of healthy diets. Nevertheless, these examples, while adjusted to different national contexts, share important features that can be considered by Latin American and the Caribbean countries. Implementation in countries of the region have already shown in several instances to have positive impacts in food security and nutrition, and can also play a key role towards the objective of supporting healthy diets.

Taking advantage of the similarities of some countries and subregions for promoting dialogue, integration and regional cooperation to advance concrete actions, especially in the current challenging context, can help the region get back on track towards the achievement of the SDG 2. One key message of the 2022 edition of *The State of Food Security and Nutrition in the World* is that countries can do more with the same amount of resources. If formulated and implemented with food security and nutrition objectives, the policies discussed in this report can certainly be part of the needed policy shift in the region to transform agrifood systems, which is an essential step for eradicating hunger, food insecurity and malnutrition in all its forms.

CONCLUSIONS

As shown in this report, the prevalence of undernourishment is increasing and is now higher than in 2015, when countries first agreed to eradicate hunger by 2030 as one of the targets of the SDGs. In Latin America and the Caribbean 56.5 million people were undernourished in 2021. This is an increase of 13.2 million compared to 2019, and 20.6 million compared to 2015.

Moderate or severe food insecurity in the world has risen constantly since 2014. In Latin America and the Caribbean it is rising more rapidly than in the rest of the world. Moreover, moderate or severe food insecurity in the region exceeds the world's average (29.3 percent) by 11.3 percentage points, and the gap between men and women is also higher (4.3 percentage points in the world in 2021, compared to 11.3 percentage points in the region).

The average cost of a healthy diet in the region is estimated at USD 3.89, which is the highest compared to other regions in the world and is higher than the world average (USD 3.54). More than 131 million people in Latin America and the Caribbean could not afford a healthy diet in 2020.

Multiple forms of malnutrition continue to be a challenge in the region. The prevalence of child stunting in the region has decreased over the last 20 years, reaching 11.3 percent in 2020, half of the prevalence for the world (22 percent); however, the rate of reduction of stunting has slowed. The prevalence of low birthweight has been rising in the Caribbean and South America over the last 20 years – and is higher than the SDG target of 3 percent. Nevertheless, little progress has been made towards halting the rise in obesity in adults. Rather, the prevalence in the region rose from 8.7 percent in 2000 a 24.2 percent in 2016, showing an increase in all subregions.

This report explores in depth the current challenges to affording healthy diets in the region. The increasing poverty as a consequences of the COVID-19 pandemic, slow GDP growth, high income inequality, and high food inflation are making healthy diets even less affordable. In addition, the increases in prices for food and fertilizers because of the conflict in Ukraine have affected the region. And despite a decline in international food prices in the last few months, levels are still above 2021 levels and consumer food inflation in the region is still high, mainly affecting the most vulnerable populations.

The region has the world's highest cost of a healthy diet, but the amount differs widely by subregion and country. Thorough analysis shows that cost differences are related to production, exports, and import dependency for specific food groups. Animal-source foods are on average less expensive in countries that produce and export animal source proteins; similarly, fruit is on average less expensive in countries that are net exporters of tropical fruit, while it is more expensive in the Caribbean and countries that are highly dependent on fruit imports for a healthy diet. Countries with high levels of poverty, lower income and higher inequality have higher levels of unaffordability of a healthy diet. Overall, results indicate that when fewer people can afford healthy diets,

the prevalence of hunger, anaemia among women aged 15 to 49 years, and stunting are all higher.

Especially for the most vulnerable population, urgent actions are needed to improve the affordability of healthy diets. Numerous factors determine the consumer prices of nutritious foods, which is why governments must consider the most cost-effective and efficient solutions, considering the country context and the limited resources available.

Improving economic access to nutritious food will require transformation of agrifood systems supported by a variety of measures. Producer-oriented, trade and market, and consumer-oriented policies, such as those implemented by some countries in the region, can help to make healthy diets affordable for all. Examples of producer-oriented policies from countries of the region aim to increase the diversity of food production towards nutritious foods, which can reduce the cost of healthy diets. They have improved production's diversity by focusing on strengthening family farming and shortening food supply chains, and by creating linkages between family farming and public procurement initiatives. Supporting family farmers can improve producers' household incomes and reduce the cost of nutritious foods such as fruits and vegetables.

Countries in the region are using technology to increase market transparency and efficiency, and for monitoring food availability and prices. Modernizing the technical and operational management of wholesale markets and implementing a digital agricultural market monitoring system for all actors in food value chains can improve the functioning of food markets, which can lower costs of nutritious foods.

The affordability of healthy diets depends not only on the cost of nutritious foods, but also on the income of the consumers. Social protection mechanisms are one of the policy options that governments in the region have successfully implemented to reduce poverty in the last decades. If designed with nutrition-sensitive considerations, these mechanisms can improve diet quality. In addition, well designed fiscal policies could make nutritious foods more affordable than foods of high energy density and minimal nutritional value. Efforts to promote and improve the consumption of healthy diets are complex and depend on many variables, so it is important to consider food environment policies, such as front-of-pack nutrition labelling (FOPNL).

While these are important steps, the region needs more context-specific measures and actions to reduce the cost of a healthy diet. Analysing the effects that some policies, such as the ones included in this report, have on the cost and affordability of healthy diets is a first step towards tackling the drivers of the cost of healthy diets in the region. Yet more studies and evaluations are needed to know how policies can most effectively reduce the cost of a healthy diet and make healthy diets affordable for all.

The affordability of healthy diets is a challenge for all stakeholders in the agrifood system. Governments, international organizations, academia, civil society and the private sector must join efforts and work together during the remaining years of the United Nations Decade of Action on Nutrition (2016–2025) and The Sustainable Development Agenda. Otherwise, the goal of eradicating hunger, food insecurity and malnutrition in all its forms in Latin America and the Caribbean will remain out of reach.

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ANNEXES

ANNEX I
DATA TABLES

Table A-1: Prevalence of undernourishment (percent)

	2000–2002	2004–2006	2009–2011	2014–2016	2017–2019	2018–2020	2019–2021
World	**13.1**	**12.2**	**8.9**	**7.9**	**7.8**	**8.3**	**9.0**
Latin America and the Caribbean	10.7	9.3	6.9	5.9	6.6	7.1	7.8
Caribbean	18.3	18.7	15.9	14.3	14.9	15.6	16.0
Mesoamerica	7.4	7.9	7.4	7.5	7.8	7.9	8.0
South America	11.2	8.8	5.7	4.5	5.2	5.9	6.8
Argentina	3.0	3.7	3.1	<2.5	3.4	3.5	3.7
Barbados	6.4	6.1	4.3	4.3	4.1	3.7	3.4
Belize	5.8	5.7	6.5	7.8	6.7	6.8	7.4
Bolivia (Plurinational State of)	27.9	26.8	20.4	14.3	12.1	11.9	13.9
Brazil	10.7	6.5	3.7	<2.5	<2.5	2.6	4.1
Chile	3.4	3.1	3.4	3.1	2.7	2.6	2.6
Colombia	8.7	11.2	12.9	6.5	6.2	7.2	8.2
Costa Rica	4.7	4.4	4.6	4.1	3.2	3.4	3.4
Cuba	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Dominica	3.7	5.4	4.8	5.3	5.7	6.5	6.9
Dominican Republic	20.4	19.2	13.0	7.4	6.1	7.0	6.7
Ecuador	21.0	22.4	12.3	9.0	11.6	13.7	15.4
El Salvador	7.2	9.1	10.5	10.6	8.4	8.3	7.7
Guatemala	22.2	18.9	16.4	17.3	16.2	16.3	16.0
Guyana	6.5	7.1	8.7	6.8	5.4	5.0	4.9
Haiti	50.7	52.9	44.4	42.4	45.4	46.4	47.2
Honduras	21.9	22.3	15.8	14.5	13.1	13.3	15.3
Jamaica	7.4	7.4	9.7	9.7	8.1	7.5	6.9
Mexico	3.3	4.4	4.8	5.0	6.0	6.0	6.1
Nicaragua	27.5	23.3	20.0	19.0	17.4	17.5	18.6
Panama	24.5	21.6	10.9	8.1	6.0	5.4	5.8
Paraguay	10.5	9.5	7.7	7.4	7.8	8.2	8.7
Peru	21.5	18.8	8.7	5.9	7.6	8.1	8.3
Saint Vincent and the Grenadines	13.4	7.9	5.8	5.9	5.5	6.6	7.6
Suriname	11.8	9.7	7.3	7.8	8.0	8.0	8.2
Trinidad and Tobago	10.0	11.1	8.2	6.8	7.0	7.3	7.5
Uruguay	3.6	3.9	<2.5	<2.5	<2.5	<2.5	<2.5
Venezuela (Bolivarian Republic of)	14.9	8.4	<2.5	11.3	22.7	24.9	22.9

SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

Table A-2: Number of undernourished people (millions)

	2000–2002	2004–2006	2009–2011	2014–2016	2017–2019	2018–2020	2019–2021
World	**816.7**	**798.9**	**620.6**	**581.8**	**594.1**	**643.5**	**702.7**
Latin America and the Caribbean	56.7	51.6	40.8	37.1	42.2	46.0	50.7
Caribbean	7.0	7.4	6.5	6.1	6.4	6.8	7.0
Mesoamerica	10.2	11.6	11.7	12.6	13.7	13.9	14.4
South America	39.5	32.6	22.6	18.4	22.1	25.3	29.3
Antigua and Barbuda							
Argentina	1.1	1.4	1.3	n.r.	1.5	1.6	1.7
Bahamas							
Barbados	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Belize	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bolivia (Plurinational State of)	2.4	2.5	2.0	1.6	1.4	1.4	1.6
Brazil	18.9	12.1	7.3	n.r.	n.r.	5.4	8.6
Chile	0.5	0.5	0.6	0.5	0.5	0.5	0.5
Colombia	3.5	4.8	5.8	3.1	3.1	3.6	4.2
Costa Rica	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Cuba	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Dominica	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dominican Republic	1.8	1.7	1.3	0.8	0.6	0.7	0.7
Ecuador	2.7	3.1	1.8	1.5	2.0	2.4	2.7
El Salvador	0.4	0.6	0.7	0.7	0.5	0.5	0.5
Grenada							
Guatemala	2.6	2.5	2.4	2.8	2.8	2.9	2.9
Guyana	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Haiti	4.4	4.9	4.4	4.5	5.0	5.2	5.4
Honduras	1.5	1.7	1.3	1.3	1.3	1.3	1.5
Jamaica	0.2	0.2	0.3	0.3	0.2	0.2	0.2
Mexico	3.3	4.7	5.5	6.1	7.6	7.7	7.8
Nicaragua	1.4	1.3	1.2	1.2	1.1	1.1	1.2
Panama	0.8	0.7	0.4	0.3	0.2	0.2	0.2
Paraguay	0.6	0.6	0.5	0.5	0.5	0.6	0.6
Peru	5.8	5.2	2.5	1.8	2.4	2.6	2.7
Saint Kitts and Nevis							
Saint Lucia							
Saint Vincent and the Grenadines	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Suriname	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trinidad and Tobago	0.1	0.1	0.1	<0.1	<0.1	0.1	0.1
Uruguay	0.1	0.1	n.r.	n.r.	n.r.	n.r.	n.r.
Venezuela (Bolivarian Republic of)	3.7	2.2	n.r.	3.4	6.6	7.1	6.5

NOTE: n.r. = data not reported as the prevalence is less than 2.5 percent.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited June 2022. https://www.fao.org/faostat/en/#data/FS

Table A-3: Prevalence of food insecurity (percent)

	Moderate or severe food insecurity				Severe food insecurity			
	2014–2016	2017–2019	2018–2020	2019–2021	2014–2016	2017–2019	2018–2020	2019–2021
World	**21.8**	**24.8**	**26.6**	**28.1**	**7.7**	**8.9**	**9.7**	**10.7**
Latin America and the Caribbean	27.6	32.0	34.2	37.3	7.9	9.7	10.7	12.3
Caribbean	n.a.	n.a.	64.8	65.0	n.a.	n.a.	35.2	33.6
Mesoamerica	29.3	27.8	29.9	32.1	6.4	6.8	7.2	7.5
South America	23.4	30.6	32.9	36.6	6.0	8.4	9.7	12.1
Antigua and Barbuda	n.a.	n.a.	n.a.	33.0	n.a.	n.a.	n.a.	7.1
Argentina	19.2	35.8	35.8	37.0	5.8	12.9	12.6	13.0
Bahamas	n.a.	n.a.	n.a.	17.2	n.a.	n.a.	n.a.	3.4
Barbados	n.a.	n.a.	n.a.	31.1	n.a.	n.a.	n.a.	7.4
Belize	n.a.	35.7	39.0	42.3	n.a.	6.1	6.0	6.0
Bolivia (Plurinational State of)								
Brazil	18.3	20.6	23.5	28.9	1.9	1.6	3.5	7.3
Chile	10.8	15.3	17.3	17.4	2.9	3.6	3.6	3.8
Colombia								
Costa Rica	12.2	14.5	15.3	15.9	1.8	2.4	2.6	2.8
Cuba	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dominica								
Dominican Republic								
Ecuador	20.7	29.2	32.7	36.8	6.0	9.9	11.6	12.8
El Salvador	42.2	42.2	45.1	46.5	13.8	14.6	15.1	14.7
Grenada	n.a.	23.6	23.6	22.3	n.a.	8.3	8.3	7.5
Guatemala	42.7	45.2	49.7	55.9	16.1	18.1	19.2	20.7
Guyana	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Haiti	n.a.	n.a.	82.7	82.5	n.a.	n.a.	48.8	45.2
Honduras	41.6	40.9	45.6	49.9	14.2	14.0	14.6	17.9
Jamaica	48.3	45.8	48.4	50.3	25.3	23.0	23.3	23.1
Mexico	25.6	23.0	24.6	26.1	3.6	3.7	3.9	3.7
Nicaragua								
Panama								
Paraguay	8.3	21.3	24.0	25.3	1.2	4.1	5.2	5.6
Peru	37.2	44.9	47.8	50.5	13.5	18.0	19.2	20.5
Saint Kitts and Nevis	21.1	21.1	24.0	26.9	8.1	8.1	7.2	6.4
Saint Lucia	22.2	n.a.	n.a.	n.a.	4.5	n.a.	n.a.	n.a.
Saint Vincent and the Grenadines	n.a.	33.3	33.3	33.3	n.a.	10.3	10.3	10.3
Suriname	n.a.	n.a.	n.a.	35.8	n.a.	n.a.	n.a.	7.2
Trinidad and Tobago	n.a.	n.a.	n.a.	43.3	n.a.	n.a.	n.a.	10.2
Uruguay	21.6	23.2	23.5	23.0	6.8	6.4	6.7	7.3
Venezuela (Bolivarian Republic of)								

NOTE: n.a. = data not available.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited 7 November 2022. https://www.fao.org/faostat/en/#data/FS

Table A-4: Number of food insecure people (millions)

	Moderately or severely food insecure				Severely food insecure			
	2014–2016	2017–2019	2018–2020	2019–2021	2014–2016	2017–2019	2018–2020	2019–2021
World	**1609.1**	**1888.9**	**2053.0**	**2187.4**	**569.3**	**675.4**	**751.5**	**830.2**
Latin America and the Caribbean	172.4	205.5	221.7	243.8	49.2	62.3	69.4	80.4
Caribbean	n.a.	n.a.	28.1	28.3	n.a.	n.a.	15.3	14.6
Mesoamerica	49.5	48.8	53.1	57.8	10.9	12.0	12.7	13.5
South America	96.6	129.6	140.5	157.7	24.8	35.6	41.4	52.3
Antigua and Barbuda	n.a.	n.a.	n.a.	<0.1	n.a.	n.a.	n.a.	<0.1
Argentina	8.3	15.9	16.0	16.7	2.5	5.7	5.7	5.9
Bahamas	n.a.	n.a.	n.a.	<0.1	n.a.	n.a.	n.a.	<0.1
Barbados	n.a.	n.a.	n.a.	<0.1	n.a.	n.a.	n.a.	<0.1
Belize	n.a.	0.1	0.2	0.2	n.a.	<0.1	<0.1	<0.1
Bolivia (Plurinational State of)								
Brazil	37.5	43.1	49.6	61.3	3.9	3.4	7.5	15.4
Chile	1.9	2.9	3.3	3.3	0.5	0.7	0.7	0.7
Colombia								
Costa Rica	0.6	0.7	0.8	0.8	<0.1	0.1	0.1	0.1
Cuba	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dominica								
Dominican Republic								
Ecuador	3.4	5.0	5.7	6.5	1.0	1.7	2.0	2.3
El Salvador	2.7	2.7	2.9	3.0	0.9	0.9	1.0	1.0
Grenada	n.a.	<0.1	<0.1	<0.1	n.a.	<0.1	<0.1	<0.1
Guatemala	6.9	7.8	8.7	10.0	2.6	3.1	3.4	3.7
Guyana	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Haiti	n.a.	n.a.	9.3	9.4	n.a.	n.a.	5.5	5.2
Honduras	3.8	3.9	4.4	4.9	1.3	1.3	1.4	1.8
Jamaica	1.4	1.3	1.4	1.5	0.7	0.7	0.7	0.7
Mexico	31.2	29.0	31.3	33.7	4.4	4.6	4.9	4.8
Nicaragua								
Panama								
Paraguay	0.6	1.5	1.7	1.8	<0.1	0.3	0.4	0.4
Peru	11.3	14.4	15.5	16.6	4.1	5.8	6.2	6.8
Saint Kitts and Nevis	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Saint Lucia	<0.1	n.a.	n.a.	n.a.	<0.1	n.a.	n.a.	n.a.
Saint Vincent and the Grenadines	n.a.	<0.1	<0.1	<0.1	n.a.	<0.1	<0.1	<0.1
Suriname	n.a.	n.a.	n.a.	0.2	n.a.	n.a.	n.a.	<0.1
Trinidad and Tobago	n.a.	n.a.	n.a.	0.6	n.a.	n.a.	n.a.	0.1
Uruguay	0.7	0.8	0.8	0.8	0.2	0.2	0.2	0.3
Venezuela (Bolivarian Republic of)								

NOTE: n.a. = data not available.
SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited June 2022. https://www.fao.org/faostat/en/#data/FS

Table A-5: Prevalence of stunting among children under 5 (percent)

	2000	2005	2010	2015	2018	2019	2020
World	**33.1**	**30.7**	**27.7**	**24.4**	**22.9**	**22.4**	**22.0**
Latin America and the Caribbean	18.0	15.7	13.5	12.0	11.6	11.4	11.3
Caribbean	15.7	14.5	13.7	12.6	12.1	11.9	11.8
Mesoamerica	25.5	22.1	18.8	17.4	17.1	16.8	16.6
South America	14.7	12.8	10.9	9.3	8.8	8.7	8.6
Argentina	10.5	9.0	8.0	7.8	7.7	7.7	7.8
Barbados	8.3	8.0	7.9	7.2	6.8	6.6	6.6
Belize	25.2	22.8	19.0	15.6	14.1	13.7	13.3
Bolivia (Plurinational State of)	33.4	28.8	22.4	17.2	14.2	13.4	12.7
Brazil	9.8	7.5	6.6	6.1	6.1	6.1	6.1
Chile	2.9	2.3	2.0	1.8	1.6	1.6	1.6
Colombia	17.5	15.4	13.3	12.4	11.8	11.6	11.5
Costa Rica	7.7	6.6	6.7	7.5	8.2	8.4	8.6
Cuba	7.2	7.3	7.1	7.1	7.1	7.0	7.0
Dominican Republic	10.6	9.0	8.4	7.4	6.6	6.2	5.9
Ecuador	28.2	27.9	25.4	23.3	23.5	23.4	23.1
El Salvador	28.8	23.0	17.6	13.5	12.0	11.6	11.2
Guatemala	53.8	53.0	49.1	46.2	44.7	43.6	42.8
Guyana	15.0	16.9	16.0	11.9	10.0	9.5	9.0
Haiti	30.9	27.6	25.1	22.3	21.2	20.7	20.4
Honduras	37.5	30.4	24.1	21.9	20.9	20.4	19.9
Jamaica	7.4	6.2	6.4	7.5	8.1	8.3	8.5
Mexico	20.3	16.4	13.5	12.4	12.4	12.2	12.1
Nicaragua	25.3	21.6	18.4	16.0	14.7	14.4	14.1
Panama	18.5	20.7	20.9	18.1	16.0	15.4	14.7
Paraguay	18.3	16.5	11.5	7.3	5.5	5.0	4.6
Peru	31.7	28.0	21.8	15.0	12.1	11.4	10.8
Saint Lucia	3.8	3.1	2.8	2.6	2.7	2.7	2.8
Suriname	13.9	10.9	9.1	8.5	8.3	8.2	8.0
Trinidad and Tobago	5.9	7.0	8.2	8.6	8.7	8.7	8.7
Uruguay	14.6	12.2	9.8	7.8	6.9	6.7	6.5
Venezuela (Bolivarian Republic of)	17.8	16.7	13.6	11.2	10.7	10.6	10.6

SOURCE: UNICEF, WHO and World Bank. 2021. UNICEF-WHO-World Bank: Joint child malnutrition estimates - Levels and trends (2021 edition).: https://data.unicef.org/resources/jme-report-2021.

Table A-6: Prevalence of wasting among children under 5 (percent)

	2000	2005	2010	2015	2018	2019	2020
World							6.7
Latin America and the Caribbean							1.3
Caribbean							2.8
Mesoamerica							0.9
South America							1.4
Argentina		1.2				1.6	
Belize				1.8			
Colombia	1.0	1.6	0.9				
Costa Rica					1.8		
Cuba	2.4					2.0	
Dominican Republic	1.5						
Ecuador						3.7	
Guatemala	3.7			0.8			
Guyana	12.1						
Haiti	5.5						
Jamaica	3.0		4.8				
Mexico				1.0		1.4	
Paraguay		1.1					
Peru	1.1	1.0	0.7	0.6	0.5	0.4	
Suriname	7.0		5.0		5.5		
Trinidad and Tobago	5.2						
Uruguay					1.4		
Venezuela (Bolivarian Republic of)	3.9	4.8					

SOURCE: UNICEF, WHO and World Bank. 2021. *UNICEF-WHO-World Bank: Joint child malnutrition estimates - Levels and trends (2021 edition).*: https://data.unicef.org/resources/jme-report-2021.

Table A-7: Prevalence of overweight among children under 5 (percent)

	2000	2005	2010	2015	2018	2019	2020
World	**5.4**	**5.7**	**5.6**	**5.6**	**5.7**	**5.7**	**5.7**
Latin America and the Caribbean	6.8	7.1	7.2	7.4	7.4	7.5	7.5
Caribbean	5.8	6.1	6.3	6.5	6.6	6.6	6.6
Mesoamerica	6.7	6.8	6.7	6.4	6.3	6.3	6.3
South America	7.0	7.3	7.6	7.9	8.1	8.1	8.2
Argentina	11.6	12.1	12.3	12.5	12.8	12.9	12.9
Barbados	7.8	9.1	10.4	11.2	11.4	11.4	11.4
Belize	9.0	9.4	9.2	8.6	8.2	8.1	8.0
Bolivia (Plurinational State of)	8.5	9.0	9.1	8.9	8.9	8.9	8.8
Brazil	6.2	6.5	6.8	7.1	7.2	7.2	7.3
Chile	11.3	11.3	10.6	10.1	9.9	9.9	9.8
Colombia	4.7	4.8	5.1	5.4	5.6	5.7	5.8
Costa Rica	8.5	8.6	8.4	8.2	8.1	8.1	8.1
Cuba	7.8	8.6	9.0	9.5	9.8	9.9	10.0
Dominican Republic	6.8	7.4	7.8	7.7	7.7	7.7	7.6
Ecuador	4.5	5.3	6.6	8.3	9.3	9.6	9.8
El Salvador	4.7	5.3	5.8	6.3	6.5	6.5	6.6
Guatemala	6.0	5.9	5.5	5.2	5.1	5.1	5.1
Guyana	4.1	4.9	5.6	6.3	6.5	6.5	6.6
Haiti	3.7	3.6	3.6	3.6	3.7	3.7	3.7
Honduras	3.7	4.2	4.8	5.3	5.5	5.6	5.7
Jamaica	6.0	6.8	7.2	7.2	7.0	6.9	6.8
Mexico	7.2	7.2	6.9	6.5	6.4	6.3	6.3
Nicaragua	6.4	6.8	7.1	7.3	7.4	7.5	7.5
Panama	8.4	9.3	9.9	10.5	10.7	10.8	10.8
Paraguay	7.2	8.3	9.6	10.9	11.6	11.8	12.0
Peru	9.8	9.5	9.0	8.4	8.1	8.1	8.0
Saint Lucia	5.8	6.1	6.4	6.6	6.8	6.8	6.9
Suriname	3.5	3.6	3.7	3.9	4.0	4.0	4.0
Trinidad and Tobago	5.9	7.3	8.9	10.4	10.9	10.9	11.0
Uruguay	9.0	9.4	9.6	10.0	10.2	10.3	10.3
Venezuela (Bolivarian Republic of)	5.3	5.6	6.2	6.6	6.7	6.7	6.7

SOURCE: UNICEF, WHO and World Bank. 2021. *UNICEF-WHO-World Bank: Joint child malnutrition estimates - Levels and trends (2021 edition).*: https://data.unicef.org/resources/jme-report-2021.

Table A-8: Prevalence of anaemia among women aged 15 to 49 years (percent)

	2000	2005	2010	2015	2017	2018	2019
World	**31.2**	**29.9**	**28.6**	**28.8**	**29.3**	**29.6**	**29.9**
Latin America and the Caribbean	25.6	22.8	19.3	17.3	17.1	17.1	17.2
Caribbean	34.8	32.0	29.2	28.6	28.8	29.0	29.2
Mesoamerica	22.5	19.0	16.1	14.5	14.3	14.4	14.6
South America	25.9	23.4	19.6	17.4	17.2	17.2	17.3
Antigua and Barbuda	22.0	19.6	17.1	16.6	16.9	17.0	17.2
Argentina	16.2	15.5	13.4	12.1	11.9	11.8	11.9
Bahamas	17.4	15.5	13.9	13.4	13.7	14.1	14.5
Barbados	20.6	19.1	17.3	16.7	16.7	16.8	17.0
Belize	27.2	24.5	21.9	20.6	20.5	20.5	20.5
Bolivia (Plurinational State of)	33.1	32.6	30.0	26.7	25.1	24.6	24.4
Brazil	26.9	24.2	19.9	16.8	16.3	16.2	16.1
Chile	9.2	8.3	7.9	8.0	8.3	8.5	8.7
Colombia	30.3	27.5	23.3	21.1	20.9	21.0	21.2
Costa Rica	16.1	14.1	12.4	12.6	13.0	13.3	13.7
Cuba	28.5	25.1	21.0	19.5	19.3	19.2	19.3
Dominica	25.8	22.0	20.6	19.9	20.1	20.4	20.8
Dominican Republic	36.8	33.0	28.9	27.3	26.6	26.5	26.4
Ecuador	25.1	21.4	18.3	17.0	17.0	17.1	17.2
El Salvador	11.4	10.5	10.0	9.9	10.1	10.4	10.6
Grenada	24.6	21.6	19.6	18.7	18.8	19.0	19.2
Guatemala	22.4	17.7	12.9	8.9	7.9	7.6	7.4
Guyana	44.1	40.3	35.9	32.7	32.0	31.8	31.7
Haiti	53.8	50.8	48.2	47.4	47.5	47.6	47.7
Honduras	21.5	18.4	16.8	16.9	17.3	17.6	18.0
Jamaica	24.8	22.0	20.0	19.4	19.5	19.6	19.9
Mexico	23.5	19.8	16.8	15.1	15.0	15.1	15.3
Nicaragua	19.5	15.2	13.5	13.9	14.6	15.1	15.7
Panama	28.5	26.2	23.0	21.3	21.1	21.2	21.2
Paraguay	24.1	23.8	22.2	22.4	23.0	23.0	23.0
Peru	32.4	27.4	22.0	20.1	20.2	20.4	20.6
Saint Kitts and Nevis	20.6	18.6	17.0	14.9	14.8	15.1	15.4
Saint Lucia	19.0	17.0	14.9	13.7	13.9	14.1	14.3
Saint Vincent and the Grenadines	24.6	20.7	18.0	16.9	16.7	16.8	17.0
Suriname	27.6	24.5	21.1	20.2	20.5	20.7	21.0
Trinidad and Tobago	25.5	21.8	18.8	17.4	17.4	17.5	17.7
Uruguay	13.4	14.2	13.3	13.8	14.4	14.7	15.0
Venezuela (Bolivarian Republic of)	27.4	25.0	21.3	21.9	23.0	23.7	24.2

SOURCE: WHO. 2021. Global anaemia estimates, Edition 2021. In: *Global Health Observatory (GHO) data repository*. Geneva. Cited 25 May 2021. www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-anaemia-in-women-of-reproductive-age-(-)

Table A-9: Prevalence of obesity among adults (percent)

	2000	2005	2010	2013	2014	2015	2016
World	**8.7**	**9.9**	**11.2**	**12.1**	**12.5**	**12.8**	**13.1**
Latin America and the Caribbean	16.6	18.9	21.2	22.7	23.2	23.7	24.2
Caribbean	15.2	17.8	20.8	22.7	23.4	24.0	24.7
Mesoamerica	19.1	21.6	24.1	25.7	26.2	26.7	27.3
South America	15.8	18.0	20.2	21.6	22.1	22.5	23.0
Antigua and Barbuda	12.7	14.4	16.2	17.5	18.0	18.4	18.9
Argentina	20.7	23.0	25.3	26.8	27.3	27.8	28.3
Bahamas	23.9	26.2	28.5	30.0	30.5	31.0	31.6
Barbados	15.1	17.4	19.8	21.4	22.0	22.5	23.1
Belize	16.4	18.7	21.0	22.5	23.0	23.6	24.1
Bolivia (Plurinational State of)	13.2	15.2	17.4	18.8	19.3	19.7	20.2
Brazil	14.5	16.8	19.2	20.6	21.1	21.6	22.1
Chile	20.6	22.8	25.1	26.5	27.0	27.5	28.0
Colombia	15.4	17.4	19.5	20.9	21.4	21.9	22.3
Costa Rica	14.8	18.0	21.4	23.6	24.3	25.0	25.7
Cuba	17.3	19.4	21.7	23.1	23.6	24.1	24.6
Dominica	19.4	21.8	24.5	26.2	26.8	27.3	27.9
Dominican Republic	16.0	19.3	23.0	25.3	26.1	26.9	27.6
Ecuador	13.2	15.2	17.2	18.5	19.0	19.4	19.9
El Salvador	15.6	18.4	21.1	22.8	23.4	24.0	24.6
Grenada	13.5	15.7	18.1	19.6	20.2	20.7	21.3
Guatemala	12.9	15.3	17.8	19.5	20.0	20.6	21.2
Guyana	11.9	14.3	16.8	18.4	19.0	19.6	20.2
Haiti	10.9	13.9	17.7	20.2	21.0	21.8	22.7
Honduras	12.6	15.0	17.8	19.5	20.1	20.8	21.4
Jamaica	15.9	18.4	21.1	22.9	23.5	24.1	24.7
Mexico	20.8	23.3	25.8	27.3	27.8	28.3	28.9
Nicaragua	15.6	17.9	20.4	22.0	22.5	23.1	23.7
Panama	14.7	17.2	19.6	21.1	21.6	22.2	22.7
Paraguay	12.3	14.7	17.2	18.7	19.2	19.8	20.3
Peru	13.5	15.3	17.3	18.5	18.9	19.3	19.7
Saint Kitts and Nevis	14.4	16.7	19.3	21.0	21.6	22.3	22.9
Saint Lucia	12.9	14.8	16.5	18.0	18.5	19.1	19.7
Saint Vincent and the Grenadines	14.6	17.2	20.0	21.8	22.4	23.1	23.7
Suriname	18.9	21.2	23.5	24.9	25.4	25.9	26.4
Trinidad and Tobago	10.6	12.9	15.3	16.9	17.4	18.0	18.6
Uruguay	20.6	22.8	25.1	26.5	27.0	27.5	27.9
Venezuela (Bolivarian Republic of)	19.4	21.4	23.3	24.4	24.8	25.2	25.6

SOURCE: WHO. 2020. Global Health Observatory (GHO) data repository. In: *World Health Organization*. Geneva. Cited 28 April 2020. https://apps.who.int/gho/data/node.main.A900A?lang=en

Table A-10: Prevalence of exclusive breastfeeding among infants 0–5 months of age (percent)

	2000	2005	2010	2012	2015	2019	2020
World				**37.1**			**43.8**
Latin America and the Caribbean				34.1			37.3
Caribbean				29.7			27.3
Mesoamerica				21.6			31.9
South America				42.0			n.a.
Barbados				19.7			
Belize					33.2		
Bolivia (Plurinational State of)	38.6			64.3			
Colombia	25.1	46.8	42.9				
Cuba	41.2		48.6			40.6	
Dominican Republic	11.0		8.0				
Guatemala					53.2		
Guyana	10.4						
Haiti	23.0			39.3			
Honduras				30.7			
Jamaica		15.2					
Mexico				14.4	30.1	27.1	
Nicaragua				31.7			
Peru	66.6	63.3	68.3	67.4	62.7	65.3	
Saint Lucia				3.5			
Suriname	4.7		2.8				
Trinidad and Tobago	2.3						

SOURCE: UNICEF. 2021. Infant and young child feeding. In: *UNICEF*. New York. Cited 6 April 2022. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

Table A-11: Prevalence of low birthweight (percent)

	2000	2005	2010	2012	2013	2014	2015
World	**17.5**	**16.4**	**15.3**	**15.0**	**14.8**	**14.7**	**14.6**
Latin America and the Caribbean	8.8	8.8	8.8	8.7	8.7	8.7	8.7
Caribbean	10.5	10.3	10.1	10.1	10.0	10.0	9.9
Mesoamerica	9.1	8.9	8.8	8.8	8.7	8.7	8.7
South America	8.5	8.7	8.6	8.6	8.6	8.6	8.6
Antigua and Barbuda	9.4	9.3	9.1	9.1	9.1	9.1	9.1
Argentina	7.4	7.5	7.2	7.1	7.1	7.2	7.3
Bahamas	13.4	13.3	13.3	13.2	13.2	13.2	13.1
Belize	9.0	8.8	8.7	8.7	8.6	8.6	8.6
Bolivia (Plurinational State of)	8.0	7.7	7.4	7.3	7.3	7.3	7.2
Brazil	7.8	8.2	8.4	8.4	8.4	8.4	8.4
Chile	5.2	5.7	5.9	6.0	6.1	6.2	6.2
Colombia	10.5	10.3	10.1	10.0	10.0	10.0	10.0
Costa Rica	7.0	6.8	7.1	7.3	7.4	7.4	7.5
Cuba	6.1	5.4	5.2	5.2	5.2	5.2	5.3
Dominican Republic	11.6	11.6	11.5	11.4	11.4	11.3	11.3
Ecuador	12.0	11.6	11.4	11.3	11.3	11.2	11.2
El Salvador	11.0	10.6	10.5	10.4	10.4	10.3	10.3
Guatemala	12.2	11.6	11.3	11.2	11.1	11.0	11.0
Guyana	16.3	15.9	15.8	15.8	15.7	15.7	15.6
Honduras	11.9	11.5	11.2	11.0	11.0	10.9	10.9
Jamaica	15.3	15.0	14.8	14.7	14.7	14.6	14.6
Mexico	8.2	8.0	7.9	8.0	7.9	7.9	7.9
Nicaragua	11.5	11.2	10.9	10.8	10.8	10.7	10.7
Panama	10.6	10.4	10.2	10.2	10.1	10.1	10.1
Paraguay	8.6	8.4	8.2	8.2	8.2	8.1	8.1
Peru	10.1	9.8	9.6	9.5	9.5	9.4	9.4
Suriname	16.0	15.4	15.0	14.9	14.8	14.7	14.7
Trinidad and Tobago	13.1	12.9	12.6	12.5	12.5	12.4	12.4
Uruguay	7.7	8.7	8.2	7.9	7.8	7.7	7.6
Venezuela (Bolivarian Republic of)	8.6	8.8	8.5	8.6	8.7	8.8	9.1

SOURCE: UNICEF and WHO. 2019. UNICEF-WHO joint low birthweight estimates. In: *United Nations Children's Fund*. New York and Geneva. Cited 6 April 2022. www.unicef.org/reports/UNICEF-WHO-low-birthweight-estimates-2019

Table A-12: Affordability of a healthy diet

	Number of people unable to afford a healthy diet (million)				Percentage of people unable to afford a healthy diet (percent)			
	2017	2018	2019	2020	2017	2018	2019	2020
World	**3 049.1**	**2 973.8**	**2 961.9**	**3 074.2**	**42.9**	**41.5**	**40.9**	**42.0**
Latin America and the Caribbean	126.7	121.7	123.2	131.3	22.4	21.2	21.3	22.5
Caribbean	13.4	13.2	13.5	13.9	51.5	50.3	50.8	52.0
Mesoamerica	41.5	40.5	39.3	43.1	27.7	26.7	25.6	27.8
South America	71.8	68.0	70.5	74.2	18.4	17.2	17.7	18.4
Anguilla	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Antigua and Barbuda	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Argentina	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Aruba	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bahamas	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belize	0.1	0.1	0.1	0.1	39.4	37.4	37.0	36.4
Bolivia (Plurinational State of)	3.4	3.3	2.9	2.9	30.2	28.6	25.4	24.7
Brazil	38.1	36.0	37.0	40.4	18.3	17.2	17.5	19.0
British Virgin Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cayman Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Chile	0.6	0.6	0.6	0.7	3.4	3.3	3.3	3.8
Colombia	12.1	12.1	12.7	13.5	24.7	24.3	25.3	26.5
Costa Rica	0.8	0.8	0.8	0.9	16.2	16.6	16.6	16.8
Curaçao	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dominica	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dominican Republic	2.2	1.9	1.8	2.0	21.2	18.1	17.1	18.3
Ecuador	3.2	3.3	3.7	3.8	18.9	19.4	21.1	21.4
Grenada	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guyana	0.4	0.4	0.3	0.3	47.8	45.5	42.9	43.0
Haiti	9.1	9.2	9.5	9.8	82.7	82.7	84.6	85.9
Honduras	5.1	5.1	5.0	5.1	53.7	53.2	50.9	51.3
Jamaica	1.9	1.9	1.9	2.0	64.7	64.3	65.0	66.2
Mexico	32.6	31.4	30.3	33.9	26.1	24.9	23.7	26.3
Montserrat	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nicaragua	2.1	2.2	2.3	2.4	32.2	34.4	35.5	35.7
Panama	0.9	0.8	0.8	0.8	21.1	18.5	18.0	18.2
Paraguay	1.4	1.3	1.3	1.3	20.1	18.7	17.9	17.8
Peru	7.5	6.7	6.7	6.8	23.7	20.9	20.6	20.5
Saint Kitts and Nevis	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saint Lucia	0.0	0.0	0.0	0.0	20.2	20.1	20.3	20.6
Saint Vincent and the Grenadines	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sint Maarten (Dutch part)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Suriname	0.3	0.3	0.3	0.3	57.6	55.5	56.1	58.8
Trinidad and Tobago	0.1	0.1	0.2	0.2	10.7	10.8	11.0	11.6
Turks and Caicos Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uruguay	0.1	0.1	0.1	0.1	2.7	2.9	3.2	3.6

SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060.

Table A-13: Cost of a healthy diet (USD per person per day)

	2017	2018	2019	2020
World	**3.314**	**3.350**	**3.425**	**3.537**
Latin America and the Caribbean*	3.656	3.687	3.767	3.894
Caribbean*	3.886	3.958	4.062	4.229
Mesoamerica	3.368	3.387	3.400	3.473
South America**	3.417	3.431	3.512	3.607
Antigua and Barbuda	4.112	4.302	4.391	4.504
Argentina	3.340	n.r.	n.r.	n.r.
Bahamas	4.276	4.387	4.364	4.488
Belize	2.476	2.321	2.221	2.140
Bolivia (Plurinational State of)	3.551	3.648	3.769	3.755
Brazil	2.809	2.800	2.882	3.084
Chile	3.053	3.180	3.213	3.402
Colombia	2.863	2.893	2.930	3.065
Costa Rica	3.961	4.000	4.041	4.110
Dominica	4.000	4.146	4.236	4.345
Dominican Republic	3.521	3.608	3.744	3.884
Ecuador	2.788	2.816	2.861	2.928
Grenada	5.382	5.536	5.625	5.796
Guyana	4.629	4.742	4.828	4.889
Haiti	3.930	4.075	4.275	4.490
Honduras	3.360	3.415	3.404	3.486
Jamaica	5.975	6.141	6.398	6.681
Mexico	2.993	3.071	3.075	3.293
Nicaragua	3.191	3.245	3.279	3.335
Panama	4.225	4.268	4.382	4.476
Paraguay	3.430	3.511	3.519	3.543
Peru	3.084	3.061	3.248	3.285
Saint Kitts and Nevis	2.998	3.179	3.310	3.405
Saint Lucia	3.263	3.399	3.517	3.594
Saint Vincent and the Grenadines	4.131	4.232	4.293	4.454
Suriname	4.969	5.223	5.336	5.739
Trinidad and Tobago	3.928	4.028	4.083	4.224
Uruguay	3.073	3.170	3.254	3.414

NOTES: Cost data are not available for Barbados, Cuba, El Salvador, Guatemala, and Venezuela (Bolivarian Republic of). n.r. = data for Argentina are not reported because of insufficient or unreliable information to update cost in 2018-2020. *Regional and subregional statistics on the cost of a healthy diet include Latin American and Caribbean countries listed in this Table, as well as the following areas and territories: Anguilla, Aruba, British Virgin Islands, Cayman Islands, Curaçao, Montserrat, Sint Marteen (Dutch Part) and Turks and Caicos Islands. **The cost of a healthy diet includes Argentina.
SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable.* Rome, FAO. https://doi.org/10.4060.

ANNEX II
DEFINITIONS

Undernourishment

Undernourishment is defined as the condition of an individual whose habitual food consumption is insufficient to provide, on average, the amount of dietary energy required to maintain a normal, active and healthy life. The indicator is reported as a prevalence and is denominated as "prevalence of undernourishment", which is an estimate of the percentage of individuals in the total population who are in a condition of undernourishment.

SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited November 2022. https://www.fao.org/faostat/en/#data/FS

Food insecurity as measured by the Food Insecurity Experience Scale

Food insecurity as measured by the Food Insecurity Experience Scale (FIES) indicator refers to limited access to food, at the level of individuals or households, due to lack of money or other resources. The severity of food insecurity is measured using data collected with the FIES survey module (FIES-SM), a set of eight questions asking respondents to self-report conditions and experiences typically associated with limited access to food. For purposes of annual Sustainable Development Goal (SDG) monitoring, the questions are asked with reference to the 12 months preceding the survey.

The Food and Agriculture Organization of the United Nations (FAO) provides estimates of food insecurity at two different levels of severity: moderate or severe food insecurity and severe food insecurity. People affected by moderate food insecurity face uncertainties about their ability to obtain food and have been forced to reduce, at times during the year, the quality and/or quantity of food they consume due to lack of money or other resources. Severe food insecurity refers to situations when individuals have likely run out of food, experienced hunger and, at the most extreme, gone for days without eating. The prevalence of moderate or severe food insecurity is the combined prevalence of food insecurity at both severity levels.

SOURCE: FAO. 2022. FAOSTAT: Suite of Food Security Indicators. In: *FAO*. Rome. Cited November 2022. https://www.fao.org/faostat/en/#data/FS

Stunting, wasting and overweight in children under 5 years of age

Stunting (children under 5 years of age): Height/length (cm) for age (months) < -2 SD of the World Health Organization (WHO) Child Growth Standards median. Low height-for-age is an indicator that reflects the cumulative effects of undernutrition and infections since and even before birth. It may be the result of long-term nutritional deprivation, recurrent infections, or lack of water and sanitation infrastructures. Stunted children are at greater risk for illness and death. Stunting often adversely affects the cognitive and physical growth of children, making for poor performance in school and reduced intellectual capacity.

Prevalence cut-off values for public health significance are as follows: very low <2.5 percent; low 2.5–<10 percent; medium 10–<20 percent; high 20–<30 percent; very high >=30 percent.

Wasting: Weight (kg) for height/length (cm) < -2 SD of the WHO Child Growth

Standards median. Low weight-for-height is an indicator of acute weight loss or a failure to gain weight and can be the result of insufficient food intake and/or an incidence of infectious diseases, especially diarrhoea. Wasting indicates acute malnutrition and increases the risk of death in childhood from infectious diseases such as diarrhoea, pneumonia and measles.

Prevalence cut-off values for public health significance for wasting are as follows: very low <2.5 percent; low 2.5–<5 percent; medium 5–<10 percent; high 10–<15 percent; very high >=15percent.

Overweight: Weight (kg) for height/length (cm) > +2SD of the WHO Child Growth Standards median. This indicator reflects excessive weight gain for height generally due to energy intakes exceeding children's energy requirements. Childhood overweight and obesity is associated with a higher probability of overweight and obesity in adulthood, which can lead to various non-communicable diseases, such as diabetes and cardiovascular diseases.

Prevalence cut-off values for public health significance for child overweight are as follows: very low <2.5 percent; low 2.5–<5 percent; medium 5–<10 percent; high 10–<15 percent; very high >=15percent.

SOURCE: UNICEF, WHO and World Bank. 2021. UNICEF-WHO-World Bank: Joint child malnutrition estimates - Levels and trends (2021 edition).: https://data.unicef.org/resources/jme-report-2021. , www.who.int/data/gho/data/themes/topics/joint-child-malnutrition-estimates-unicef-who-wb, https://datatopics.worldbank.org/child-malnutrition

Exclusive breastfeeding

Exclusive breastfeeding for infants under 6 months of age is defined as receiving only breastmilk and no additional food or drink, not even water. Exclusive breastfeeding is a cornerstone of child survival and is the best food for newborns, as breastmilk shapes the baby's microbiome, strengthens the immune system and reduces the risk of developing chronic diseases. Breastfeeding also benefits mothers by preventing postpartum haemorrhage and promoting uterine involution, decreasing risk of iron-deficiency anaemia, reducing the risk of various types of cancer and providing psychological benefits.

SOURCE: UNICEF. 2021. Infant and young child feeding. In: UNICEF. New York. Cited 6 April 2022. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

Low birthweight

Low birthweight is defined as a weight at birth of less than 2 500 g (less than 5.51 lbs), regardless of gestational age. A newborn's weight at birth is an important marker of maternal and foetal health and nutrition.

SOURCE: UNICEF and WHO. 2019. UNICEF-WHO joint low birthweight estimates. In: *United Nations Children's Fund*. New York and Geneva. Cited 28 April 2020. www.unicef.org/reports/UNICEF-WHO-low-birthweight-estimates-2019, www.who.int/nutrition/publications/UNICEF-WHO-lowbirthweight-estimates-2019

Adult obesity

The body mass index (BMI) is the ratio of weight-to-height commonly used to classify the nutritional status of adults. It is calculated as the body weight in kilograms divided by the square of the body height in metres (kg/m2). Obesity includes individuals with BMI equal to or higher than 30 kg/m2.

SOURCE: WHO. 2020. Global Health Observatory (GHO) data repository. In: *World Health Organization*. Geneva. Cited 28 April 2020. https://apps.who.int/gho/data/node.main.A900A?lang=en

Anaemia in women aged 15 to 49 years

Definition: percentage of women aged 15–49 years with a haemoglobin concentration less than 120 g/L for non-pregnant women and lactating women, and less than 110 g/L for pregnant women, adjusted for altitude and smoking.

Prevalence cut-off values for public health significance are as follows: no public health problem <5 percent; mild 5–19.9 percent; moderate 20–39.9 percent; severe ≥40 percent.

SOURCE: WHO. 2021. Vitamin and Mineral Nutrition Information System (VMNIS). In: *WHO*. Geneva. Cited 25 May 2021. www.who.int/teams/nutrition-food-safety/databases/vitamin-and-mineral-nutrition-information-system. WHO. 2021. Global anaemia estimates, Edition 2021. In: Global Health Observatory (GHO) data repository. Geneva. Cited 25 May 2021. www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-anaemia-in-women-of-reproductive-age-(-)

Cost and affordability of a healthy diet

The cost of a healthy diet is defined as the cost needed to buy the least expensive locally available foods to meet energy requirements of 2 330 kcal/capita/day, and nutritional standards determined by national food-based dietary guidelines (FBDG) around the world, with sufficient diversity and quantity between and within food groups. The final cost is the sum of the least expensive food items across six identified food groups of a healthy diet: fruits; vegetables; starchy staples; animal-source foods; legumes, nuts, and seeds; and oils and fats. For each country, the cost of a healthy diet is compared with country-specific income distributions available in the Poverty and Inequality Platform (PIP) of the World Bank https://pip.worldbank.org/home. It allows estimating the two affordability indicators that measure, respectively, the percentage and the number of people in a country who are unable to afford a healthy diet since their food budget is below the estimated cost.

SOURCE: FAO. (forthcoming). FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). In: FAO. Rome. Cited 22 August 2022. https://www.fao.org/faostat/en/#data/CAHD

ANNEX III
NOTES

For specific country notes, please refer to Tables A.1.1 and A.1.2 in FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. https://www.fao.org/documents/card/en/c/cc0639en

Prevalence of undernourishment

Regional estimates are included when more than 50 percent of the population was covered. National estimates are reported as three-year moving averages to control for the low reliability of some of the underlying parameters such as the year-to-year variation in food commodity stocks, one of the components of the annual FAO Food Balance Sheets, for which complete and reliable information is scarce. Regional and global aggregates are reported as annual estimates on account of the fact that possible estimation errors are expected not to be correlated across countries.

Food insecurity

Regional estimates are included when more than 50 percent of the population was covered. To reduce the margin of error, national estimates are presented as three-year averages.

FAO estimates refer to the number of people living in households where at least one adult has been found to be food insecure.

Country-level results are presented only for those countries for which estimates are based on official national data or as provisional estimates, based on FAO data collected through the Gallup© World Poll, for countries whose national relevant authorities expressed no objection to their publication. Note that consent to publication does not necessarily imply validation of the estimate by the national authorities involved and that the estimate is subject to revision as soon as suitable data from official national sources are available. Global, regional and subregional aggregates are based on data collected in approximately 150 countries.

The estimates for Latin America and Caribbean from 2014 to 2019 include Caribbean countries whose combined populations represent only 30 percent of the population of that subregion, while the 2020 and 2021 estimates include Caribbean countries whose combined populations represent around 60 and 65 percent, respectively, of the subregional population.

Child stunting, wasting and overweight

The collection of household survey data on child height and weight was limited in 2020 due to the physical distancing measures required to prevent the spread of COVID-19. Only four national surveys included in the database were carried out (at least partially) in 2020. The estimates on child stunting, wasting and overweight are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic.

For regional child wasting estimates, values correspond to the model-predicted estimates for the year 2020 only. Wasting is an acute condition that can change often and rapidly over the course of a calendar year. This makes it difficult to generate reliable trends over time with the input data available. As such, this report provides only the most recent global and regional estimates.

Exclusive breastfeeding

Regional estimates are included when more than 50 percent of the population is covered.

Cost and affordability of a healthy diet

The cost of a healthy diet was estimated in 2017 (benchmark year) using the latest retail price data available from the International Comparison Programme (ICP) led by the World Bank. To update the series for the years 2018–2020, where International Comparison Programme (ICP) data are not available, the 2017 cost indicator was inflated using FAOSTAT data for each country's consumer price index (CPI), and World Development Indicators (WDI) data for purchasing power parity (PPP) exchange rates. Regarding affordability indicators, income distributions in the Poverty and Inequality (PIP) platform are currently available for 2017, 2018 and 2019, but not available for 2020. Thus, the percentage of people who cannot afford a healthy diet in 2020 was computed using the 2020 CPI-inflated cost of the diet and the corresponding 2019 income distributions available in PIP. Therefore, while affordability estimates in 2020 reflect food price shocks induced by COVID-19 pandemic, the income shocks are not yet captured. Regional and country aggregates indicating the share of people unable to afford a healthy diet are expressed as weighted percentages using population weights.

ANNEX IV
COUNTRY GROUPINGS

FAO uses the M49 country and regional groupings, available at **https://unstats.un.org/unsd/methodology/m49**.

In this report, Mesoamerica refers to the M49 Central America grouping.

The groupings are:

- Caribbean: Antigua and Barbuda, the Bahamas, Barbados, Cuba, Dominica, the Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago;
- Mesoamerica: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama; and
- South America: Argentina, the Plurinational State of Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and the Bolivarian Republic of Venezuela.

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