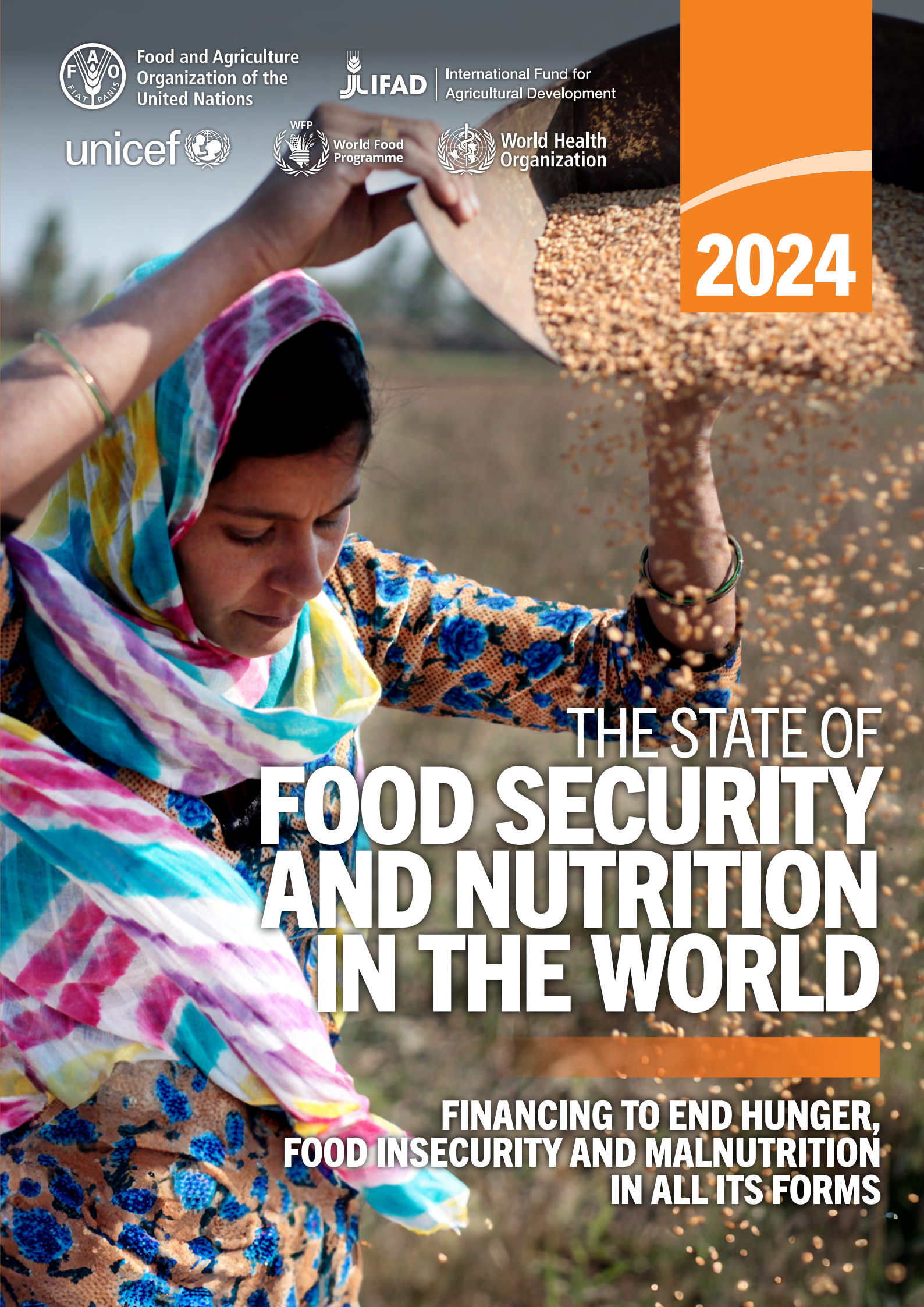
Food and Agriculture Organization of the United Nations
IFAD
International Fund for Agricultural Development
unicef
WFP
World Food Programme
World Health Organization
2024
THE STATE OF
FOOD SECURITY AND NUTRITION IN THE WORLD
FINANCING TO END HUNGER, FOOD INSECURITY AND MALNUTRITION IN ALL ITS FORMS

This flagship publication is part of **The State of the World** series of the Food and Agriculture Organization of the United Nations.

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INDIA. Winnowing wheat: scaling up financing flows will accelerate the vital transformation of agrifood systems.

ISSN 2663-8061

2024

THE STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD

FINANCING TO END HUNGER, FOOD INSECURITY AND MALNUTRITION IN ALL ITS FORMS

Food and Agriculture Organization of the United Nations
International Fund for Agricultural Development | United Nations Children's Fund
World Food Programme | World Health Organization

Rome, 2024

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The supplementary material to *The State of Food Security and Nutrition in the World 2024* is available at: https://doi.org/10.4060/cd1254en-supplementary

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FOREWORD

Achieving the Sustainable Development Goals (SDGs) is the responsibility of all countries. Our five organizations support transformative efforts to progress towards a world free from hunger, food insecurity and malnutrition in all its forms by 2030. We are encouraged by the commitment of national governments, partners all over the world and the global community towards this common goal.

While we have made some progress, improvements have been uneven and insufficient. We have seen improvement in more populous countries with growing economies, but hunger, food insecurity and malnutrition continue to increase in many countries around the world. This is affecting millions of people especially in rural areas, where extreme poverty and food insecurity remain deeply entrenched. Vulnerable populations, particularly women, youth and Indigenous Peoples, are disproportionately affected. A continuation of the past trends means that by 2030, millions of people will still be undernourished, millions of children will still be affected by malnutrition in its different forms, and the world will still be falling short of reaching the global nutrition targets.

Conflict, climate variability and extremes, economic slowdowns and downturns, lack of access to and unaffordability of healthy diets, unhealthy food environments, and high and persistent inequality continue to drive food insecurity and malnutrition all over the world. The policies and investments needed to transform agrifood systems and address these drivers along the rural–urban continuum have been identified in previous editions of *The State of Food Security and Nutrition in the World*. In preparing for this year's report, we wanted to address the reasons why such policies and investments have not been implemented at scale.

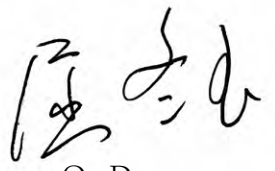
A central reason is finance and financial inclusion, which are among the means of implementation of the SDGs and need more consistent political commitment. The countries with the highest levels of food insecurity and multiple forms of malnutrition, and affected by the major drivers of these problems, are the countries with the least access to financing.

Our five organizations are committed to taking comprehensive stock of how much financing for food security and nutrition is available globally, and how much more is needed to support the policies and investments necessary to address all the causes and the major drivers of food insecurity and malnutrition along the rural–urban continuum. This report provides a definition of financing for food security and nutrition and the guidance to implement it. To support such implementation, our five organizations commit to advocate for, and support, data development for a better global accounting system of financing for food security and nutrition.

Estimating the gap in financing for food security and nutrition and mobilizing innovative ways of financing to bridge it must be among our top priorities. Policies, legislation and interventions to end hunger and ensure all people have access to safe, nutritious and sufficient food (SDG Target 2.1), and to end all forms of malnutrition (SDG Target 2.2) need significant resource mobilization. They are not only an investment in the future, but our obligation. We strive to guarantee the right to adequate food and nutrition of current and future generations.

FOREWORD

In the run-up to the Summit of the Future 2024, and the Fourth International Conference on Financing for Development in 2025, the theme of this year's report is particularly timely. We hope that governments, partners and stakeholders will be inspired by, and act upon, the report's concrete recommendations on how to source, and make better use of, financing to achieve Zero Hunger. We also hope that the calls made in this report are noted and discussed in the relevant intergovernmental processes supporting the implementation of the 2030 Agenda in the High-Level Political Forum on Sustainable Development, including the Financing for Development Forum.



Qu Dongyu
FAO Director-General

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IFAD President

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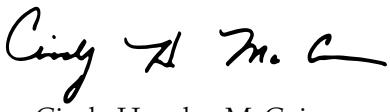

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WFP Executive Director

Tedros Adhanom Ghebreyesus
WHO Director-General

METHODOLOGY

The State of Food Security and Nutrition in the World 2024 has been prepared by the FAO Agrifood Economics and Policy Division in collaboration with the Statistics Division of the Economic and Social Development stream and a team of technical experts from the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the World Food Programme (WFP) and the World Health Organization (WHO).

A senior advisory team consisting of designated senior managers of the five United Nations publishing partners guided the production of the report. Led by FAO, this team decided on the outline of the report and defined its thematic focus. Further, it gave oversight to the technical writing team composed of experts from each of the five co-publishing agencies. Background technical papers were prepared to support the research and data analysis undertaken by the members of the writing team.

The writing team produced a number of interim outputs, including an annotated outline, first draft and final draft of the report. These were reviewed, validated and cleared by the senior advisory team at each stage in the preparation process. A Financial Technical Advisory Committee, formed by a group of external financial experts coordinated by the Shamba Centre for Food & Climate, provided overall guidance and reviewed the interim products. The final report underwent a rigorous technical review by senior management and technical experts from different divisions and departments within each of the five United Nations agencies, both at headquarters and in Decentralized Offices. Finally, the report underwent executive review and clearance by the heads of agency of the five co-publishing partners.

ACKNOWLEDGEMENTS

The State of Food Security and Nutrition in the World 2024 was jointly prepared by the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the World Food Programme (WFP) and the World Health Organization (WHO).

The publication was carried out under the direction of David Laborde, Marco V. Sánchez Cantillo and José Rosero Moncayo, with the overall coordination of Cindy Holleman, Editor of the report, and the overall guidance of Máximo Torero Cullen, all of whom are from the FAO Economic and Social Development stream. The development of the report was guided by a Steering Committee consisting of agency representatives from the five co-publishing partners: Marco V. Sánchez Cantillo (Chair), Sara Savastano (IFAD), Victor Aguayo (UNICEF), Arif Husain (WFP) and Francesco Branca (WHO). Tisorn Songsermsawas (IFAD), Mauro Brero and Chika Hayashi (UNICEF), Eric Branckaert (WFP), and Luz Maria De Regil and Katrina Lundberg (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.

Chapter 1 of the report was written by Cindy Holleman (FAO), with inputs from Anne Kepple, José Rosero Moncayo and Marco V. Sánchez Cantillo (FAO).

Chapter 2 of the report was coordinated by Anne Kepple (FAO). Section 2.1 was written by Carlo Cafiero, Anne Kepple, José Rosero Moncayo and Sara Viviani, with key inputs from Giles Hanley Cook, Simone Gie, Bridget Holmes, Adeeba Ishaq, Lynnette Neufeld and Firas Yassin (FAO). Section 2.2 was written by Valentina Conti, with inputs from Carlo Cafiero and Anne Kepple (FAO), and Yan Bai (World Bank). Olivier Lavagne d'Ortigue (FAO) provided data visualization and editorial support for Sections 2.1 and 2.2. Section 2.3 was written by Richard Kumapley, Ann Mizumoto and Elaine Borghi (WHO), with inputs from Monica Flores Urrutia, Lisa Rogers, Gretchen Stevens, Katrina Lundberg and Leanne Riley (WHO), Chika Hayashi and Mauro Brero (UNICEF), Saskia de Pee (WFP), and Trudy Wijnhoven and Anne Kepple (FAO). Olivier Lavagne d'Ortigue (FAO) provided data visualization for Section 2.3. José Rosero Moncayo provided technical guidance and editorial support to the sections of this chapter.

Chapter 3 of the report was written by Cindy Holleman (FAO), with inputs from Mali Eber-Rose, Kamal El Harty and Carin Smaller (Shamba Centre for Food & Climate); with further inputs from Giovanni Carrasco Azzini, Jérôme Camier, Lucia Latino, Yuan-Ting Meng, Valentina Pernechele, Clara Picanyol, Carine Tuyishime and Trudy Wijnhoven (FAO), Sarah Lowder, Jyotsna Puri and Alessandro Rosi (IFAD), Mauro Brero (UNICEF), Friederike Greb, Divya Mehra, Stefan Meyer and Trula Rael (WFP), Kaia Engesveen, Katrina Lundberg and Luz Maria De Regil (WHO), and Lysiane Lefebvre (Shamba Centre for Food & Climate). Marco V. Sánchez Cantillo provided technical guidance and editorial support to the sections of this chapter.

Chapter 4 of the report was written by Marco V. Sánchez Cantillo (FAO). Section 4.1 was written with inputs from Jérôme Camier, Brian Carisma, Hannah Gerits, Gary Jones, Atang Moletsane, Valentina Pernechele, Clara Picanyol, Carine Tuyishime and Trudy Wijnhoven (FAO), Mauro Brero (UNICEF), Jean-Sébastien Kouassi (WFP), Sarah Lowder, Mauro Martini, Tharani Mediwaka and Liliana Miro Quesada (IFAD), and Richard Kumapley and Katrina Lundberg (WHO). Section 4.2 was written with inputs from Jérôme Camier, Brian Carisma, Carola Fabi, Hannah Gerits, Eun-Jeong Lee, Christian Mongeau, Luis Silva e Silva and Pan Xueyao (FAO). Section 4.3 was written with inputs from Jérôme Camier and Trudy Wijnhoven (FAO), Mauro Brero (UNICEF), Jean-Sébastien Kouassi, Friederike Greb and Stefan Meyer (WFP), and Richard Kumapley and Katrina Lundberg (WHO).

Chapter 5 of the report was coordinated by Giovanni Carrasco Azzini (FAO). Section 5.1 was written by Giovanni Carrasco Azzini (FAO), with inputs from Cindy Holleman, Lucia Latino and Yuan-Ting Meng (FAO), Rahul Antao, Daniel Higgins, Martina Improta, Mariatu Kamara, Athur Mabiso, Emime Ndihokubwayo, Tamara Nicodeme, Robinson H. Toguem and Natalia Toschi (IFAD), Friederike Greb, Divya Mehra, Stefan Meyer and Trula Rael (WFP), Mauro Brero (UNICEF), Luz Maria De Regil and Katrina Lundberg (WHO), Asma Lateef (SDG2 Advocacy Hub/Alliance to End Hunger), Sarah Zoubek (Food FutureZ/North Carolina State University), and Kamal El Harty, Lysiane Lefebvre, Oshani Perera and Carin Smaller (Shamba Centre for Food & Climate). Section 5.2 was written by Giovanni Carrasco Azzini and Yuan-Ting Meng (FAO), with inputs from Niclas Benni, Azeta Cungu and Ilaria Sisto (FAO), Frew Behabtu, Roshan Cooke, Ilaria Firmian, Marup Hossain, Nirajan Khadka, Margherita Loddoni, Laura Mattioli, Vibhuti Mendiratta, Stella Okot, Claus Reiner, Pinreak Sous and Rick van der Kamp (IFAD), Friederike Greb, Divya Mehra, Stefan Meyer, Jean-Sébastien Kouassi and Trula Rael (WFP), Mauro Brero (UNICEF), Fahdi Dkhimi, Kaia Engesveen, Katrin Engelhardt, Luz Maria De Regil, Katrina Lundberg, Lina Mahy, Robyn Melville Landais and Angeli Rayner (WHO), Asma Lateef (SDG2 Advocacy Hub/Alliance to End Hunger), Sarah Zoubek (Food FutureZ/North Carolina State University), and Kamal El Harty, Lysiane Lefebvre, Oshani Perera and Carin Smaller (Shamba Centre for Food & Climate). Section 5.3 was written by Giovanni Carrasco Azzini (FAO), with inputs from Cindy Holleman and Yuan-Ting Meng (FAO), Nadine Gbossa, Francisco Gimbitzki Marques, João Manoel Dos Santos, Stefania Lenoci, Lucas Lindfors and Ricardo Rendon Cepeda (IFAD), Friederike Greb, Divya Mehra, Stefan Meyer and Trula Rael (WFP), Mauro Brero (UNICEF), Luz Maria De Regil, Katrina Lundberg and Lina Mahy (WHO), Asma Lateef (SDG2 Advocacy Hub/Alliance to End Hunger), Sarah Zoubek (Food FutureZ/North Carolina State University), and Kamal El Harty, Lysiane Lefebvre, Oshani Perera and Carin Smaller (Shamba Centre for Food & Climate). Marco V. Sánchez Cantillo provided technical guidance and editorial support to the sections of this chapter.

Chapter 6 of the report was written by Cindy Holleman and Marco V. Sánchez Cantillo (FAO), with inputs from Anne Kepple and José Rosero Moncayo (FAO).

Numerous colleagues from different technical units and departments across the five co-publishing agencies provided valuable technical comments and input to the report. An agency-wide technical clearance process facilitated a comprehensive review by many technical experts from the five co-authoring agencies. Listing each of the contributions would be challenging and furthermore increase the risk of important omissions.

Data inputs

Firas Yassin (FAO) was responsible for preparing undernourishment data in Section 2.1 and Annex 1A, with inputs from Amadou Ba, Filippo Gheri, Adeeba Ishaq, Talent Manyani, Ana Moltedo, Abdul Sattar and Sara Zakaryan, and under the supervision of Carlo Cafiero (FAO). The contribution of Vaishali Bansal (FAO) in the analysis of food consumption data to revise key parameters for prevalence of undernourishment estimation is especially acknowledged. Supporting data were provided by the Crops, Livestock and Food Statistics team, led by Piero Conforti, of the FAO Statistics Division. David Laborde prepared the 2030 projections of undernourishment (FAO). Sara Viviani (FAO) was responsible for preparing the food security data in Section 2.1 and Annex 1A, with inputs from Vaishali Bansal, Filippo Gheri, Adeeba Ishaq, María Rodríguez, Abdul Sattar, Firas Yassin and Sara Zakaryan (FAO). Adeeba Ishaq and Sara Viviani (FAO) were responsible for the analyses in Box 3, with inputs from Giles Hanley Cook, Simone Gie and Bridget Holmes (FAO) and inputs and data provided by Ty Beal (Global Alliance for Improved Nutrition), Anna Herforth (Harvard T. Chan School of Public Health) and Zacc Ritter (Gallup). Valentina Conti (FAO) was responsible for preparing the estimates of the cost and of the unaffordability

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of a healthy diet in Section 2.2 and Annex 1A, with inputs from Carlo Cafiero, David Laborde and José Rosero Moncayo (FAO), Yan Bai and Marko Olavi Rissanen (World Bank), Anna Herforth (Food Prices for Nutrition), and William A. Masters (Tufts University). Inputs provided by Amadou Ba, Adeeba Ishaq, Talent Manyani, Ana Moltedo, Abdul Sattar and Sara Zakaryan (FAO) for the analysis of household survey data are also acknowledged. Richard Kumapley, Gretchen Stevens and Ann Mizumoto (WHO) were responsible for the analyses in Section 2.3. Richard Kumapley (WHO) and Vrinda Mehra (UNICEF) were responsible for consolidating nutrition data in Annex 1A, with inputs from the UNICEF-WHO-WB Joint Child Malnutrition (JME) Group, Monica Flores Lisa Rogers, Gretchen Stevens and Leanne Riley (WHO), and Joel Conkle (UNICEF). Lucia Latino was responsible for conducting the data analysis of the countries affected by major drivers in Section 3.2. Updated agroclimate analyses were provided by Felix Rembold and Andrea Toreti (European Commission – Joint Research Centre), Michele Meroni (Seidor Consulting and under contract with the European Commission, Joint Research Centre) and Vojnović Petar (Fincons and under contract with the European Commission, Joint Research Centre), while updates to climatology indicators were provided by Pierre Kloppers, with inputs from Olivier Crespo, Christopher Jack and Mark Tadross (University of Cape Town). For Chapter 4, Jérôme Camier, Brian Carisma, Hannah Gerits, Gary Jones, Atang Moletsane, Valentina Pernechele, Clara Picanyol and Carine Tuyishime (FAO) contributed several data inputs, particularly on international development finance flows and public spending presented and analysed in Section 4.1. Mali Eber-Rose and Kamal El Harty and (Shamba Centre for Food & Climate) contributed to the comparison of modelling studies on the financing gap in Section 4.2, and Marco V. Sánchez Cantillo, Lucia Battaglia, Martin Cicowiez and Valentina Pernechele (FAO) contributed to the background paper on repurposing budget allocations which was used to develop Box 11 of Section 4.3. For Chapter 5, Asma Lateef (SDG2 Advocacy Hub/Alliance to End Hunger) and Sarah Zoubek (Food FutureZ/North Carolina State University) provided inputs based on rapid evidence assessment and qualitative data coming from the systematization of interviews with financial experts. In addition, the chapter received overall guidance and inputs from a Financial Technical Steering Committee, coordinated by the Shamba Centre for Food & Climate and composed of Danny Bradlow (University of Pretoria), Paul Clements Hunt (Mischon de Reya and Blended Capital Group), Sylvain Coutu (AXA Insurance), Mary D'Alimonte (Results for Development – R4D), Greg S. Garrett (Access to Nutrition Initiative), Hamid Hamirani (EHA Advisory and Food Systems for the Future), Daniel Hulls (AgDevCo), Agnes Johan (Rabobank), Oluwatoyin Oyekenu (Climate Bonds Initiative), Michael Kühn (Welthungerhilfe), John Mundy (One Acre Fund), Maurizio Navarra (Global Donor Platform for Rural Development), Tom Osborne (Skyline Partners), Liliana Rojas (IFPRI), Niraj Shah (International Finance Corporation), Meera Shekar (World Bank) and Jerry Skees (Global Parametrics).

Support for report production came from Christin Campbell (consulting editor) and Daniela Verona in the FAO Economic and Social Development stream.

The Language Branch of the FAO Governing Bodies Servicing Division carried out the translations, in addition to the contributors mentioned above. The translations of the report benefited from a technical review by Firas Yassin (Arabic), Juan Feng and Lan Li (Chinese), Olivier Lavagne d'Ortigue, Thibault Meilland and Aurelien Mellin (French), Evgeniya Koroleva (Russian), and Verónica Boero, Giovanni Carrasco Azzini and Eduardo Nakasone Uechi (Spanish), all of whom are from FAO.

The Publications and Library Branch of the FAO Office of Communications provided editorial support, design and layout, as well as production coordination, for editions in all six official languages.

ABBREVIATIONS

3FS	Financial Flows to Food Systems
AARR	average annual rate of reduction
ADER	average dietary energy requirement
AfDB	African Development Bank
AFSI	L'Aquila Food Security Initiative
AGRA	Alliance for a Green Revolution in Africa
AI	artificial intelligence
ARCAFIM	Africa Rural Climate Adaptation Finance Mechanism
ARIMAX	Autoregressive Integrated Moving Average with External Explanatory Variable
ASAP	Anomaly hot Spots of Agriculture Production
ASF	animal source food
ASIS	Agriculture Stress Index System
AYII	Area Yield Index Insurance
BMI	body mass index
BRD	Development Bank of Rwanda
CGE	computable general equilibrium
CIT	corporate income tax
CNF	Child Nutrition Fund
CoAHD	cost and affordability of a healthy diet
COFOG	Classification of the Functions of Government
CoHD	cost of a healthy diet
COP	Conference of the Parties to the United Nations Framework Convention on Climate Change
CPI	consumer price index
CRS	Creditor Reporting System
CV	coefficient of variation
CV|r	CV due to energy requirements
CV|y	CV due to income
DAC	Development Assistance Committee
DAI	Digital Adoption Index
DBM	double burden of malnutrition
DEC	dietary energy consumption
DEGURBA	Degree of Urbanization
DES	dietary energy supply
DFI	development finance institution
DHS	Demographic and Health Survey
DQQ	Diet Quality Questionnaire
DSF	Debt Sustainability Framework
DSSI	Debt Service Suspension Initiative
ENE	estimates of national expenditure
ESG	environmental, social and governance practices
EUROSTAT	Statistical Office of the European Union
FAO	Food and Agriculture Organization of the United Nations
FBDGs	food-based dietary guidelines
FBS	Food Balance Sheet
FDI	foreign direct investment
FIES	Food Insecurity Experience Scale
FIES-SM	Food Insecurity Experience Scale Survey Module
$FI_{mod+sev}$	prevalence of moderate or severe food insecurity
FI_{sev}	prevalence of severe food insecurity
FPO	farmer producer organization
GDP	gross domestic product
GEA	government expenditure on agriculture
GFS	Government Finance Statistics
GHG	greenhouse gas

ABBREVIATIONS

GSSS	green, social, sustainability and sustainability-linked bonds
GWP	Gallup© World Poll
HDB	Healthy Diet Basket
HIC	high-income country
ICP	International Comparison Program
IDA	International Development Association
IDB	Inter-American Development Bank
IFA	iron and folic acid
IFAD	International Fund for Agricultural Development
IFI	international financial institution
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IPAF	Indigenous Peoples Assistance Facility
IPC/CH	Integrated Food Security Phase Classification/Cadre Harmonisé
JME	Joint Child Malnutrition Estimates
KNOMAD	Global Knowledge Partnership on Migration and Development
LDC	least developed country
LIC	low-income country
LIC DSF	Debt Sustainability Framework for Low-Income Countries
LMIC	lower-middle-income country
LSMS	Living Standards Measurement Study
M&A	mergers and acquisitions
MACC	marginal abasement cost curve
MAC-SRDSF	Sovereign Risk and Debt Sustainability Framework for Market Access Countries
MAFAP	Monitoring and Analysing Food and Agricultural Policies
MCMC	Markov Chain Monte Carlo
MDAs	ministries, departments and agencies
MDB	multilateral development bank
MDD-W	Minimum Dietary Diversity for Women
MDER	minimum dietary energy requirement
MFI	Multilateral Financial Institution
MIC	middle-income country
MNE	multinational enterprise
N3F	Nutritious Foods Financing Facility
NCD	non-communicable disease
NoU	number of undernourished
NUA	number of people unable to afford a healthy diet
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
OOF	other official flows
PAL	physical activity level
PIP	Poverty and Inequality Platform
PoU	prevalence of undernourishment
PPP	purchasing power parity
PPPs	public–private partnerships
PRGT	Poverty Reduction and Growth Trust
PUA	prevalence of unaffordability
R&D	research and development
RBF	results-based financing
RST	Resilience and Sustainability Trust
SALW	small arms and light weapons
SD	standard deviation
SDI	sociodemographic index
SDGs	Sustainable Development Goals

SDR	special drawing right
SMART	Standardized Monitoring and Assessment of Relief and Transition
SME	small and medium enterprise
SSB	sugar-sweetened beverage
STD	sexually transmitted disease
SUAS	Unified Social Assistance System
TOSSD	Total Official Support for Sustainable Development
UID	unique identifier
UMIC	upper-middle-income country
UNCTAD	United Nations Trade and Development
UN DESA	United Nations Department of Economic and Social Affairs
UNGA	United Nations General Assembly
UN-Habitat	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund
VMNIS	Vitamin and Mineral Nutrition Information System
WDI	world development indicators
WFP	World Food Programme
WGI	Worldwide Governance Indicators
WHA	World Health Assembly
WHO	World Health Organization
ZEF	Center for Development Research of the University of Bonn
ZVF	zero vegetable or fruit

KEY MESSAGES

➔ The world is still far off track to achieve Sustainable Development Goal (SDG) 2, Zero Hunger, with the global prevalence of undernourishment persisting at nearly the same level for three consecutive years after having risen sharply in the wake of the COVID-19 pandemic. Between 713 and 757 million people may have faced hunger in 2023 – one out of 11 people in the world, and one out of every five in Africa. Hunger is still on the rise in Africa, but it has remained relatively unchanged in Asia, while notable progress has been made in the Latin American and Caribbean region.

➔ Progress towards the broader goal of ensuring regular access to adequate food for all has also stalled; the prevalence of moderate or severe food insecurity has remained unchanged for three consecutive years at the global level, although it is important to highlight progress in Latin America. In 2023, an estimated 28.9 percent of the global population – 2.33 billion people – were moderately or severely food insecure.

➔ Focusing on economic access to nutritious foods, updated and improved estimates show that more than one-third of people in the world – about 2.8 billion – could not afford a healthy diet in 2022. Inequalities are evident, with low-income countries having the largest percentage of the population that is unable to afford a healthy diet (71.5 percent) compared with lower-middle-income countries (52.6 percent), upper-middle-income countries (21.5 percent) and high-income countries (6.3 percent).

➔ The lack of improvement in food security and the uneven progress in the economic access to healthy diets cast a shadow over the possibility of achieving Zero Hunger in the world, six years away from the 2030 deadline. It is projected that 582 million people will be chronically undernourished at the end of the decade, more than half of them in Africa. There is the need to accelerate the transformation of our agrifood systems to strengthen their resilience to the major drivers and address inequalities to ensure that healthy diets are affordable for and available to all.

➔ There has been some progress towards the goal of ending all forms of malnutrition, with improvements in the global prevalence of stunting and wasting among children under five years of age and of exclusive breastfeeding among infants under six months of age. The global prevalence of low birthweight and that of childhood overweight have been stagnant, while anaemia in women aged 15 to 49 years has increased. The world is not on track to reach any of the seven global nutrition targets by 2030.

➔ Improvements in stunting, wasting and exclusive breastfeeding lay the groundwork for children to achieve their full potential for growth and development, but rising rates of obesity – exacerbating the double burden of malnutrition – foreshadow major challenges for the health and well-being of all age groups. Double-duty actions are needed which simultaneously tackle undernutrition, micronutrient deficiencies, overweight and obesity by leveraging the common drivers shared by all forms of malnutrition.

➔ Meeting SDG Targets 2.1 and 2.2 to end hunger, food insecurity and malnutrition requires increased and more cost-effective financing, but there is currently no clear picture of the financing for food security and nutrition – neither that available nor that additionally needed – for meeting these targets.

➔ The wide range of definitions of financing for food security and nutrition, and the differences among them, lead to inconsistent estimates, causing issues in identifying underfinanced areas, ensuring accountability, and tracking intervention impacts. Therefore, both a common definition and mapping of financing for food security and nutrition are urgently needed, as current efforts lack adequate attention and clarity.

➔ This report defines financing for food security and nutrition as the public and private financial resources, both domestic and foreign, that are directed towards eradicating hunger, food insecurity and all forms of malnutrition. They are targeted to ensure the availability, access, utilization and stability of nutritious and safe foods, and practices that favour healthy diets, as well as health, education and social protection services that enable these, and they include the financial resources that are directed towards strengthening the resilience of agrifood systems to the major drivers and underlying structural factors of hunger, food insecurity and malnutrition.

➔ The universal adoption of a new definition and a standardized approach to mapping financing flows oriented to meet SDG Targets 2.1 and 2.2 – as provided in this report – must capture the multidimensional nature of food security and nutrition, shifting away from the typical sector-defined boundaries that are common to these definitions.

➔ A robust number for the total financing available and additionally needed to support all the efforts towards meeting SDG Targets 2.1 and 2.2 is not yet quantifiable. Financing for food security and nutrition is mostly trackable for public and official flows, but not for several private flows.

➔ Public spending on food security and nutrition mostly targets food consumption, especially to support food availability and access, based on data for ten low- and middle-income countries. Governments in low-income countries appear to have low spending capacity to address the major drivers of food insecurity and malnutrition.

➔ Food security and nutrition take less than a quarter of total official development assistance and other official flows. In the period from 2017 to 2021, these flows amounted to USD 76 billion per year, of which only 34 percent helped address the major drivers of food insecurity and malnutrition. These flows overwhelmingly grew more for Africa (across regions) and for lower-middle-income countries (across income groups).

➔ Private financing from philanthropy, cross-border remittances from migrants invested in agrifood systems, and foreign direct investment may reach a combined total of USD 95 billion per year over the period from 2017 to 2022. Blended finance accounts for modest amounts, and net banking loans to agriculture, forestry and fishing show an almost continuous decline.

➔ Irrespective of what the exact amount of financing needed might be to make the necessary progress towards SDG Targets 2.1 and 2.2, the financing gap could amount to several trillion USD. Not bridging this gap will result in social, economic and environmental consequences requiring solutions that will also cost several trillion USD. More effective use of existing financing will help reduce the financing gap.

➔ Innovative, inclusive and equitable solutions are needed to scale up financing for food security and nutrition in countries with high levels of hunger and malnutrition. However, many low- and middle-income countries face significant constraints in accessing affordable financing flows.

➔ Countries with limited or moderate ability to access financing flows show, on average, a higher prevalence of undernourishment and stunting in children below five years of age, whereas a higher average of childhood overweight is observed in countries with high ability to access financing flows. Most of these countries are affected by one or more major drivers of food insecurity and malnutrition, with climate extremes the most common at all levels of ability to access financing flows.

➔ For countries with limited ability to access financing flows, grants and concessional loans are the most suitable options, while countries with moderate ability can increase domestic tax revenues, linking taxation to food security and nutrition outcomes. Fostering of collaborative financing partnerships following a blended finance approach is essential, as the level of financial risk can make other sources of financing too expensive. Countries with a high ability to access financing can embed food security and nutrition objectives in instruments such as green, social, sustainable and sustainability-linked bonds.

➔ The current food security and nutrition financing architecture is highly fragmented and needs a shift from a siloed approach to a more holistic perspective. Enhanced coordination among actors is needed on what is essential considering national and local policy priorities. To that aim, transparency and harmonizing data collection are crucial for improving coordination and targeting financing effectively.

➔ Donors and other international actors need to increase their risk tolerance and be more involved in de-risking activities, while governments must fill the gaps not addressed by private commercial actors by investing in public goods, reducing corruption and tax evasion, increasing food security and nutrition expenditure and considering repurposing policy support.

EXECUTIVE SUMMARY

The reverse in progress and the persistently high levels of hunger, food insecurity and malnutrition in recent years have put the world off track to meet Sustainable Development Goal (SDG) Targets 2.1 and 2.2 – to end hunger, food insecurity and all forms of malnutrition by 2030. Previous editions of this report have repeatedly highlighted the intensification of several major drivers of food insecurity and malnutrition, specifically conflict, climate variability and extremes, and economic slowdowns and downturns, combined with the well-established underlying factors that contribute to food insecurity and malnutrition, such as lack of access to and unaffordability of healthy diets, unhealthy food environments, and high and persistent inequality. Not only are these major drivers increasing in frequency and intensity, they are occurring concurrently more often, and in combination with the underlying factors, resulting in increasing numbers of hungry and food-insecure people. Depending on the major driver or combination of drivers affecting food security and nutrition in a country, addressing them will require a portfolio of policies across six transformative pathways, as outlined in detail in *The State of Food Security and Nutrition in the World 2021*.

To attain the scale of actions needed, sufficient levels of and equal access to financing to address food security and nutrition challenges are essential. The theme of this year's report focuses on the financing to meet SDG Targets 2.1 and 2.2 – financing to end hunger, food insecurity and malnutrition in all its forms.

FOOD SECURITY AND NUTRITION AROUND THE WORLD

Food security indicators: latest updates and progress towards ending hunger and ensuring food security

The assessment of global hunger in 2023, measured by the prevalence of undernourishment (PoU) (SDG Indicator 2.1.1) reveals a continuing lack of progress towards the goal of Zero Hunger. After rising sharply from 2019 to 2021, the proportion of the world population facing hunger persisted at virtually the same level for three consecutive years, with the latest estimates indicating a global PoU of 9.1 percent in 2023. In terms of population, between 713 and 757 million people (8.9 and 9.4 percent of the global population, respectively) were estimated to be undernourished in 2023. Considering the mid-range estimate (733 million), about 152 million more people may have faced hunger in 2023 compared to 2019.

Africa is the region with the largest percentage of the population facing hunger – 20.4 percent, compared with 8.1 percent in Asia, 6.2 percent in Latin America and the Caribbean, and 7.3 percent in Oceania. However, Asia is still home to the largest number: 384.5 million, or more than half of all those facing hunger in the world. In Africa, 298.4 million people may have faced hunger in 2023, compared with 41.0 million in Latin America and the Caribbean, and 3.3 million in Oceania. There is a clear trend of rising PoU in Africa, whereas progress is being made in Latin America and the Caribbean, and it is relatively unchanged in Asia. In all regions, the PoU is still above pre-COVID-19 pandemic levels.

Updated projections show that 582 million people will be chronically undernourished in 2030, pointing to the immense challenge of achieving SDG 2 (Zero Hunger). This is about 130 million more undernourished people than in a scenario that reflected the world economy before the COVID-19 pandemic. By 2030, 53 percent of the global population facing hunger will be concentrated in Africa.

Going beyond hunger, the global prevalence of moderate or severe food insecurity (SDG Indicator 2.1.2) also remains far above pre-pandemic levels, with little change in four years, after the sharp increase from 2019 to 2020 during the pandemic. In 2023, an estimated

28.9 percent of the global population – 2.33 billion people – were moderately or severely food insecure, meaning they did not have regular access to adequate food. These estimates include 10.7 percent of the population – or more than 864 million people – who were severely food insecure, meaning they had run out of food at times during the year and, at worst, gone an entire day or more without eating. The prevalence of severe food insecurity at the global level rose from 9.1 percent in 2019 to 10.6 percent in 2020 and has remained stubbornly unchanged since then.

The prevalence of moderate or severe food insecurity in Africa (58.0 percent) is nearly double the global average, whereas in Latin America and the Caribbean, Asia and Oceania, it is closer to the global estimate – 28.2, 24.8 and 26.8 percent, respectively.

One guiding principle of the vision put forth by the 2030 Agenda is to ensure that no one will be left behind. More detailed information about the food insecurity of different population groups helps monitor progress towards the realization of this vision. Results for 2023 show a pattern of decreasing food insecurity with an increasing degree of urbanization at the global level. The prevalence of moderate or severe food insecurity was 31.9 percent in rural areas compared with 29.9 percent in peri-urban areas and 25.5 percent in urban areas. A comparison of the food-insecurity status of men and women shows that the prevalence of food insecurity has remained consistently higher among women than among men, globally and in all regions, since data first became available in 2015, although the gender gap has narrowed in most regions in the last two years.

Cost and affordability of a healthy diet

The cost of a healthy diet (CoHD) indicator provides national-level estimates of the cost of acquiring the cheapest possible healthy diet in a country, defined as a diet comprising a variety of locally available foods that meet energy and nutritional requirements. The CoHD is then compared with national income distributions to estimate the prevalence of unaffordability and the number of people unable to afford a healthy diet. In this year's edition of the report, the indicators are updated to 2022.[a] New food price data and methodological improvements have resulted in updated estimates of the cost and more accurate estimates of the affordability of a healthy diet, leading to a revision of the entire series of both sets of indicators.

The CoHD has risen worldwide since 2017 (the first year for which FAO disseminates estimates) and continued to rise in 2022, peaking at an average of 3.96 PPP dollars per person per day in 2022. This represents a surge in the global average CoHD, from a 6 percent increase between 2020 and 2021 to an 11 percent increase the following year.

When compared across regions in 2022, the CoHD was highest in Latin America and the Caribbean (4.56 PPP dollars) followed by Asia (4.20 PPP dollars), Africa (3.74 PPP dollars), Northern America and Europe (3.57 PPP dollars), and Oceania (3.46 PPP dollars).

Despite the increase in the CoHD, the number of people in the world unable to afford a healthy diet fell for two consecutive years, from 2020 to 2022. Worldwide, an estimated 35.5 percent of people in the world (2.83 billion) were unable to afford a healthy diet in 2022, compared with 36.5 percent (2.88 billion) in 2021.

a Estimates for 2023 are not provided due to the lack of updated income distribution data, detailed food prices, and purchasing power parity (PPP) conversion factors at the country level.

However, the recovery has been uneven across regions. The number of people unable to afford a healthy diet dropped below pre-pandemic levels in Asia, and Northern America and Europe, while increasing substantially in Africa, where it rose to 924.8 million in 2022, up by 24.6 million from 2021, and by 73.4 million from 2019. A comparison across country income groups shows that the recovery path has been slower for low-income countries, where a healthy diet was out of reach for 503.2 million people in 2022 – the highest number since 2017.

The lack of improvement in food security and the uneven progress in the economic access to healthy diets cast a shadow over the possibility of achieving Zero Hunger in the world, six years away from the 2030 deadline. There is the need to accelerate the transformation of our agrifood systems to strengthen their resilience to the major drivers and address inequalities to ensure that healthy diets are affordable for and available to all.

The state of nutrition: progress towards global nutrition targets

Turning to the trends for the seven global nutrition targets, virtually no progress has been made for low birthweight among newborns, with a prevalence of 15 percent in 2012 and 14.7 percent in 2020. It is projected that 14.2 percent of newborns will have low birthweight in 2030, falling short of the 2030 global target of a reduction of 30 percent.

Progress has been made in increasing the global exclusive breastfeeding rate among infants under six months of age, rising from 37.1 percent in 2012 to 48 percent in 2022. However, the world is off track to achieve the 2030 target rate of 70 percent.

Among children under five years of age, the global stunting prevalence declined from 26.3 percent in 2012 to 22.3 percent in 2022. It is projected that 19.5 percent of all children under five will be stunted in 2030. The global wasting prevalence declined from 7.5 percent in 2012 to 6.8 percent in 2022. With 6.2 percent of children under five projected to be wasted in 2030 – more than double the 3 percent global target – the world remains off track for this indicator. The global prevalence of overweight has stagnated and stood at 5.6 percent in 2022. By 2030, 5.7 percent of children under five are projected to be overweight – almost double the 2030 global target of 3 percent.

Globally, the prevalence of anaemia in women aged 15 to 49 years increased from 28.5 percent in 2012 to 29.9 percent in 2019 and is projected to reach 32.3 percent by 2030 – far from the 2030 target of a 50 percent reduction.

New estimates of adult obesity show a steady increase over the last decade, from 12.1 percent in 2012 to 15.8 percent in 2022. The world is off track to achieve the 2030 global target to halt the rise, with more than 1.2 billion obese adults projected for 2030.

More countries are off track than on track for most of the seven 2030 global nutrition targets.

Compared with the global estimates, least developed countries have much higher levels of stunting in children under age five and of anaemia in women aged 15 to 49 years, and the same worrying rise in adult obesity.

The double burden of malnutrition – the co-existence of undernutrition together with overweight and obesity – has surged globally across all age groups. Thinness and underweight have declined in the last two decades, while obesity has risen sharply. Double-duty actions will simultaneously tackle undernutrition, overweight and obesity by leveraging the common drivers shared by all forms of malnutrition.

A NEW DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION

A wide range of estimates of the cost of meeting SDG Targets 2.1 and 2.2 exist. However, there is no coherent picture of the total amount of financial resources being spent on food security and nutrition and its decomposition, nor of the cost of meeting SDG Targets 2.1 and 2.2, in part due to the absence of an agreed upon definition of financing for food security and nutrition. Without a standardized definition, it will not be possible to assess adequately the existing levels and gaps in financing for food security and nutrition.

Challenges in defining and measuring financing for food security and nutrition

Currently, several definitions of financing for food security and nutrition are applied, leading to stark differences in estimations of the current levels of financing. For example, even in the case of official development assistance (ODA), which is the most advanced in terms of having a global tracking system and a standardized common aid database, there is no standard definition of, nor gauge for, the measurement of financing going to support food security and nutrition. This void results in vastly divergent estimates of how much money is being spent, and where and with what efficiency it is spent, on food security and nutrition, negatively impacting the subsequent analysis of trends and outcomes needed to assess the path towards meeting SDG Targets 2.1 and 2.2.

Disentangling what constitutes financing for food security and nutrition remains a non-trivial and challenging exercise. This predicament poses a multitude of challenges, not only in tracking the current levels of financing going to food security and nutrition, but also in identifying under-financed areas, ensuring accountability of institutions, and tracking the impact of interventions financed.

Food security and nutrition are complex multidimensional concepts that do not neatly fit into sector-defined frameworks. Interventions to achieve food security and nutrition span various sectors and dimensions of economic, health, social and environmental development, among others. However, financing flows and budgets are normally defined and classified by sector and, within each sector, by purpose. In shifting from a sector-based classification system to an outcome-based measure, complex issues arise regarding the contribution of sector-based resources to food security and positive nutrition outcomes.

There is now a broadened understanding of food security and nutrition and how they are critically linked, despite the limited consensus on the scope of interventions that contribute to food security and nutrition. Healthy diets and health status are main determinants of nutritional status, but multiple factors related to food security (e.g. availability and affordability of nutritious foods), practices (e.g. related to food and feeding, care, and health seeking) and services (e.g. clean water, health, education and social protection) all influence the ability and mechanisms through which individuals can achieve healthy diets and adequate health. However, to date there have been limited efforts to include this range of interventions in comprehensive measures of financing for food security and nutrition.

Importantly, the current definitions do not include the financing of interventions more specifically designed to address the major drivers behind the trends in hunger, food insecurity and malnutrition that have been identified in past editions of this report – conflict, climate variability and extremes, and economic slowdowns and downturns, combined with structural underlying factors: lack of access to and unaffordability of nutritious foods, unhealthy food environments, and high and persistent inequality.

A new definition of financing for food security and nutrition

Financing is the process of providing funds for the public and private sector to engage in economic activities, make purchases or carry out investments. Financial resources may be provided by one or a combination of four sources: i) public domestic, ii) public foreign, iii) private domestic, and iv) private foreign. Each source may provide financing through a range of financial instruments to finance short-term and long-term interventions on commercial or concessional terms (e.g. grants or loans below market rates).

The new definition of financing for food security and nutrition presented in this report comprises core and extended definitions. The core definition includes the financing flows that support efforts addressing the main determinants of food security and nutrition. The extended definition builds on this, to include financing flows that contribute to addressing the major drivers and underlying structural factors behind recent increases in food insecurity and malnutrition.

Financing for food security and nutrition refers to the process of providing or obtaining financial resources to ensure that all people, at all times, have stable, physical, social and economic access to sufficient, safe and nutritious foods that meet their dietary needs and food preferences for an active and healthy life, and suitable food preparation and handling, feeding, caring, and health-seeking practices, and access to health, water and sanitation services to ensure a continued adequate nutritional status. Additionally, it covers expenditures and investments that aim to ensure that all individuals are protected against short-term or long-term instability in food security and nutrition, caused by various climatic, economic, social, commercial and political factors. Financing therefore encompasses all the interventions aligned with the six transformative policy pathways designed to strengthen the resilience of agrifood systems to the major drivers behind hunger, food insecurity and malnutrition – namely conflict, climate variability and extremes, and economic slowdowns and downturns – and address the underlying structural factors: lack of access to and unaffordability of nutritious foods, unhealthy food environments, and high and persistent inequality.

To generate a framework for increased financing and improved finance targeting, it is imperative to gain an understanding of the major drivers of food insecurity and malnutrition, and of the countries affected by these major drivers. In the last ten years, the frequency and intensity of conflict, climate extremes and economic downturns have increased, undermining food security and nutrition around the world. Furthermore, high levels of income inequality exacerbate the effects of these drivers.

While each of these major drivers is unique, they often interact to create multiple compounding impacts transmitted through agrifood systems to the detriment of food security and nutrition. As a result, all dimensions of food security are likely to be affected, including food availability, access, utilization and stability, as well as the other determinants of nutrition, specifically practices (e.g. caring, feeding, health-seeking and intra-household resource allocations), and health services and environmental health (e.g. immunization, water and sanitation, and availability and affordability of, and access to health services). This is corroborated by the association found between the occurrence of these drivers and the food security and nutrition indicators.

Alarmingly, the majority of low- and middle-income countries are affected by at least one of the major drivers, and where there are multiple drivers occurring, the compounding impacts lead to the highest increases in hunger and food insecurity.

To move from the definition of financing for food security and nutrition to an application of this definition to measure levels of financing for food security and nutrition requires an understanding of how financing flows are categorized and reported, and then the development of guidelines for mapping these flows to the definition. For this report, initial mapping and guidance have been developed and applied to arrive at partial estimates of financing for food security and nutrition and their patterns.

Data to apply the new definition of financing for food security and nutrition exist only for some of the financing flows; hence, it is not possible to take a realistic stock of how much financing is available, let alone calculate the financing gap to support efforts to meet SDG Targets 2.1 and 2.2. Therefore, data sources and methodologies must be advanced to ensure there are better data for evidence-based decisions on financing for food security and nutrition. This report thus also calls for universal adoption and transparency in the use of a standardized approach for operationalizing the new definition in its mapping and application to financial data.

CURRENT LEVELS OF AND GAPS IN FINANCING TO END HUNGER, FOOD INSECURITY AND MALNUTRITION

Available data mostly allow for tracking only public spending flows, official development assistance (ODA) and other official flows (OOF). Private financing flows are generally more difficult to track.

Irrespective of exactly how much financing is needed to meet SDG Targets 2.1 and 2.2, the cost of not mobilizing it can be significant and detrimental.

Tracking current levels of funding for food security and nutrition

General domestic government expenditure on agriculture per rural inhabitant at the global level barely changed between 2010 and 2021 in low-income countries (LICs) and only saw a very slight increase in lower-middle-income countries (LMICs) towards the last years of the period. In these two country income groups, public spending on agriculture was only USD 8 and USD 37, respectively, per rural inhabitant, on average, in the period from 2010 to 2019. It was much higher in upper-middle income countries (UMICs) and high-income countries (HICs) and it increased systematically only in UMICs.

Public spending data are not readily available for all countries to enable application of the core and extended definitions of financing for food security and nutrition.

In two LICs, Benin and Uganda, public spending on food security and nutrition seems to have been growing. On average over the periods of analysis, 65 percent of the total public spending on food security and nutrition in Benin and 73 percent in Uganda was allocated to food consumption and health status; the remaining share addressed the major drivers behind recent increases in hunger, food insecurity and malnutrition.

Eight MICs also show an absolute increase in their public spending on food security and nutrition. The share of public spending on food security and nutrition that goes to the major drivers of food insecurity and malnutrition tends to be on average higher for these MICs.

Global ODA and OOF flows for food security and nutrition amounted to USD 77 billion in 2021, of which the majority corresponds to ODA. Not even a quarter of these flows for all aid sectors were allocated to food security and nutrition between 2017 and 2021.

The composition of ODA and OOF flows for food security and nutrition is, by and large, very stable over time and, by 2021, most resources were flowing to food consumption (USD 35 billion out of USD 77 billion), and fewer were allocated to addressing the major drivers of food insecurity and malnutrition (USD 27 billion), and even fewer to health status (USD 15 billion).

On a per capita basis, on average, over the period from 2017 to 2021, ODA and OOF flows amounted to USD 30 in LICs, compared with USD 10 in LMICs and USD 8 in UMICs. Official development assistance and other official flows for food security and nutrition, from 2017 to 2021, overwhelmingly grew more for Africa across regions and for LMICs across income groups.

Under "private sector", non-commercial private financing and commercial private financing are lumped together.

Philanthropic flows to food security and nutrition amounted to only USD 4 billion per year on average between 2017 and 2021, mostly to support food consumption and health. Cross-border remittances are estimated at USD 735 billion on average over the period from 2017 to 2022 (at current prices). Of these flows, nearly half were allocated to uses that likely contributed to food security and nutrition. Most of this sum was used for food consumption, rather than investments in agriculture and other food systems activities.

According to United Nations Trade and Development, between 2017 and 2022, foreign direct investment amounted to an average of USD 19 billon for "food and agriculture". The 2023 edition of *State of Blended Finance* estimates that, on average over the period from 2020 to 2022, 26 percent of blended finance transactions, amounting to USD 1.2 billion per year, were "aligned" with SDG 2. Net banking loans amounted to an average of USD 10 billion between 2017 and 2021, and exhibit an almost continuous decline.

The cost of policies and interventions to end hunger and malnutrition by 2030

Due to existing data gaps, economic models are often used to estimate the necessary additional investments, mostly to reduce hunger, but also to address nutrition concerns.

Studies provide different cost estimates. The findings are that policies and interventions to get on track towards meeting SDG Targets 2.1 and 2.2 would require additional resources from now until 2030 ranging from USD 176 billion to USD 3 975 billion to eradicate undernourishment, plus an additional USD 90 billion to meet selected global undernutrition targets. Estimates jump sharply to USD 15.4 trillion when adding the types of transformational policies that would require financing in order to increase the affordability of healthy diets for millions while still reducing undernourishment.

The cost of inaction or slow action

The cost of not bridging the financing gap is that millions of people, by 2030 and beyond, will still be hungry, food insecure, malnourished and unable to afford a healthy diet, with medium- to long-term socioeconomic and health repercussions.

Acute and chronic food insecurity are affecting the people in most need of food assistance. Failing to fund this assistance will have negative consequences for individuals, local communities and donor countries. Furthermore, failing to finance the actions that will address the structural drivers of food insecurity and malnutrition will result in higher social, economic and environmental costs.

The double burden of malnutrition confers a serious and negative economic impact on individuals and populations. Severe levels of this double burden are shifting towards the poorest countries.

Although transformative policies may cost billions of USD, the cost of not financing them would easily be in the trillions of USD. The Food and Land Use Coalition's Global Consultation Report estimated that current food and land-use systems generate worldwide health, nutrition and environmental costs amounting to USD 12 trillion a year in 2018 prices. The 2020 edition of this report provided evidence that under current food consumption patterns, diet-related health costs linked to mortality and non-communicable diseases are projected to exceed USD 1.3 trillion per year by 2030. *The State of Food and Agriculture 2023* found that the global quantified hidden costs of agrifood systems amount to USD 10 trillion or more, with the dominant quantified hidden costs arising from dietary patterns that increase the risk of diseases and may lead to lower labour productivity.

Governments in many countries find it difficult to execute the budgets they have funded. Some of the financing available may not be utilized in the most cost-effective, equitable and environmentally sustainable manner.

The 2022 edition of this report showed that repurposing some of the worldwide support to food and agriculture, which accounted for almost USD 630 billion per year, on average over the period from 2013 to 2018, can result in making a healthy diet less costly and more affordable, globally and particularly in MICs.

A study developed for six sub-Saharan African countries shows that the opportunity of achieving higher agrifood output, creating thousands of off-farm jobs in rural areas and allowing millions of people to get out of poverty and afford a healthy diet will be lost unless these countries' governments optimize the way in which they allocate their budget across the agriculture and livestock sectors.

WHAT IS NEEDED TO CATALYSE SCALABLE FINANCING TO FILL THE GAP?

Scaling up financing flows to food security and nutrition

Sixty-three percent of the low- and middle-income countries analysed (119 in total) have limited or moderate ability to access financing, while the minority (37 percent) have high ability to access financing. The prevalence of undernourishment (PoU) is, on average, much higher in countries with limited ability to access financing (23.1 percent) compared to countries with moderate (10.4 percent) and high (6.9 percent) ability to access financing. A similar trend is observed for stunting in children below five years of age, although the stunting average of countries with limited and moderate access to financing is much closer (23.9 and 20.9 percent, respectively).

On the other hand, 74 percent of all countries analysed are affected by one or multiple major drivers, and 66 percent of these countries have limited or moderate ability to access financing (most of them limited, 42 percent). The high proportion of countries affected by at least one major driver builds the case for mainstreaming food security and nutrition objectives across other sector financing where the priorities do not always include meeting SDG Targets 2.1 and 2.2.

However, in most cases, countries that are the most in need, in terms of both hunger and food insecurity levels, as well as in terms of how they are affected by the major drivers, are facing structural limitations to increase financing for food security and nutrition options. Even if, formally speaking, all countries have access to most of the existing options for financing, their ability to access financing is driven by levels of perceived financial risk and the associated costs. The obvious risk aversion of all financial stakeholders, especially private, commerce-oriented ones, renders their engagement practically impossible in the most financially risky countries.

Therefore, countries with limited ability to access financing may rely only on grants or low- to no-interest loans from international development flows (e.g. ODA), as other financial instruments may not be available – or, more precisely, financial stakeholders may not be interested due to the country's high financial risk profile.

Mobilizing domestic tax revenues is more feasible in countries with moderate ability to access financing. The potential expansion of tax revenues has income as a strong determinant (the higher the GDP per capita, the higher the tax potential), in addition to other factors such as the composition and formalization of national economies, and institutional and governance mechanisms.

As financial risk decreases, more financing flows are available for countries. Countries with a high ability to access financing will tap into equity investments, commercial rate loans and bonds from private financing flows such as company investments, banking systems and capital markets, with many fewer de-risking activities needed from donors or the public sector.

Innovative financing approaches and tools to bridge the financing gap for SDG Targets 2.1 and 2.2

While grants and low- or no-interest loans are certainly among the most traditional concessional finance instruments, they can be designed in more innovative ways to collaborate with de-risking initiatives to increase private financing flows, as part of blended finance strategies. Grants and/or loans, jointly implemented with technical assistance, can be leveraged to address the main limitations for accessing private financing flows – poor bankability and lack of operational readiness to access finance – often faced by food security and nutrition initiatives.

Blended finance is a de-risking tool for private investors, used when there is a high perception of risk by private investors, thereby channelling financial resources that can take on more risk and a longer horizon on return for their investment. Especially when there is a substantial development benefit, actors such as governments and donors can use blended finance as a vehicle to channel the needed financing flows to achieve that outcome. The objective is that, over time, the risk perception will diminish due to the initial support of the more risk-tolerant capital, and that commercial finance can then replace the grants or concessional financing which played a crucial and catalytic role in the initial stage.

Green, social, sustainability and sustainability-linked bonds are debt instruments that can be issued by governments, multilateral development banks (MDBs), commercial banks and local corporates; they are linked with development goals, and can be especially relevant for targeting financing for countries that are affected by some of the major drivers of food insecurity and malnutrition, such as climate extremes and/or economic downturns.

Even if, through the innovative instruments described above, financing for food security and nutrition could be scaled up, within countries there are population groups that have historically faced important constraints in accessing financial services.

Increasing women's access to financial services would contribute not only to women's social and economic empowerment, but also to improving the overall livelihoods of their households and communities, including food security and nutrition outcomes. From a macro perspective, women's inclusion would bring overall positive economic growth effects, which could increase the country's resilience to economic slowdowns and downturns.

Despite the wide recognition that Indigenous Peoples are indispensable partners for reaching the targets of the Paris Agreement, the Global Biodiversity Framework and the 2030 Agenda, the corresponding funding strategies do not

necessarily reflect their crucial role. The lack of access to financial services can also diminish the potential contribution of smallholder farmers and small and medium agrifood enterprises to achieving food security and improving nutrition, for instance, by limiting their capacities to offer safe and nutritious foods. Despite their vital role in agrifood systems, they are often underserved, as investors are hesitant to finance local market producers in local currencies, preferring to avoid the risks associated with exchange rates and serve more export-oriented producers instead.

How to achieve better alignment with and synergies in different sources of financing

The current financing architecture for food security and nutrition is highly fragmented: The lack of consensus about what should be financed and the different objectives among stakeholders have led to a proliferation of actors that often step outside their mandates instead of collaborating with each other. This results in many small, uncoordinated aid activities, driven principally by bilateral donors.

Increased coordination between large, medium and small stakeholders should be encouraged, as sometimes large donors do not coordinate with or co-finance activities led by other minor actors, since there are no incentives to do so. In addition, there is a crucial need for donors and philanthropic foundations to align their spending priorities with countries' priorities: Since the current architecture is extremely dominated by HICs and large development agencies, the priorities of recipient countries and communities are not always considered.

Certainly, this increased coordination would require stronger and more solid national governments, which, however, face several challenges. Political economy issues and unpredictable government decision-making can affect the capacity of alignment between the sources of financing flows and a country's priorities and create a perception of higher risk for private investors. The absorptive capacity and technical efficiency of expenditure are important, but good governance and strong national institutions are also necessary.

Finally, lack of data, transparency and accountability is another key characteristic of the current financial landscape, and it actually increases the perception of financial risk. Making financial data more reliable and widely available can reinforce the "investment case" for food security and nutrition interventions, as is already happening in areas such as regenerative agriculture.

Even before making structural changes in the financing architecture for food security and nutrition, one essential initial step for scaling up financing for food security and nutrition is to make the objective of meeting SDG Targets 2.1 and 2.2 a priority in the international policy agenda. Adopting a food security and nutrition lens, considering its intersectoral nature and highlighting the short- and long-term returns of investing in areas such as nutrition are essential conditions for a successful reform of the financing architecture for food security and nutrition.

The term "food security and nutrition" has been used to emphasize the achievement of the four dimensions of food security and its tight link with the achievement of nutrition security, as well as the need to adopt complementary actions to achieve food security and nutrition. Nevertheless, it might be the case to recognize the overall objective of achieving "food and nutrition security" as a single indivisible policy goal.

One essential step for effective coordination is putting national and local actors and their priorities in the "driver's seat". However, this is not always a straightforward task, considering power and capability imbalances among actors, lack of donor coordination at the global level that does not adequately support coordination efforts

at national levels, and the data gap that might make it difficult to build the case for shifting donors' priorities, among other challenges.

In addition to enhancing coordination, financial stakeholders should take steps towards improving their role for scaling up financing for food security and nutrition. Development partners such as donors, including international financial institutions, multilateral development banks and development finance institutions, should take the lead in de-risking activities, for instance, increasing the allocation of ODA oriented to mobilizing private investments, through blended finance or other financial instruments.

An open question is the inclusion of the private sector in improved food security and nutrition financing architecture. Private actors must incorporate health, environmental and social risks into their financial decision-making, to shift financing flows from potentially harmful investments to others that work towards the achievement of health, environmental and social outcomes.

National governments can further mobilize domestic tax revenues, increase priority sector expenditures on food security and nutrition and consider repurposing policy support. Countries that already have a higher ability to access financing must enact stronger controls on tax havens and money laundering, which often allow tax evasion from countries with limited access to financing.

Finally, filling the information gap will require bold steps from the international community; otherwise, the likelihood of achieving development goals cannot be realistically estimated and projected.

THE WAY FORWARD

While global levels of hunger and food insecurity have essentially not changed for two years, there has been encouraging progress in many subregions of the world. With respect to nutrition, the rising trends in adult obesity and anaemia among women aged 15 to 49 years are worrying, yet in many countries, fewer children are affected by stunting and wasting, increasing their chances of achieving their full potential for growth and development. This is the potential we need to harness: the potential for positive change and the full realization of the right to adequate food and a standard of living that guarantees the dignity, health and well-being of all people, especially future generations.

A serious problem is the lack of a common definition or standard for measuring financing for food security and nutrition. It is hard – if not impossible – to manage what cannot be adequately measured. In the case of financing for food security and nutrition, it is not possible to adequately assess the existing levels and gaps, let alone monitor progress or setbacks in financing efforts to meet SDG Targets 2.1 and 2.2.

This report has taken an important step forward by advancing a definition of financing for food security and nutrition together with detailed guidance to implement it. This is a very important step; yet, the report has starkly shown that the current structure and availability of financial data impede the application of the newly proposed definition and its protocols to the public and private financing flows globally available for food security and nutrition. In other words, due to serious data constraints, it is not possible to arrive at the global measurement of the financing for food security and nutrition that is currently available and of the financing gap that must be bridged to support efforts towards meeting SDG Targets 2.1 and 2.2. Addressing this gap must be a top priority, and this report sends a strong and urgent call for global and national actions to address this problem as part of the SDG global agenda for action.

Ending hunger, food insecurity and all forms of malnutrition is also unnecessarily in competition with many other development objectives. Considering the complex and multisectoral nature of food security and nutrition, the financing landscape must shift from a siloed approach towards a more holistic perspective, in which financial stakeholders can streamline food security and nutrition objectives into broader financing flows and investments.

It is hoped that this report's calls to action will inform the sustainable development and financing discussions at the Summit of the Future in September 2024 and all the upcoming SDG global discussions, including the political processes of the Fourth International Conference on Financing for Development in 2025. A world without hunger, food insecurity and malnutrition is a world worth saving, and a world worth financing and investing in. ■

COUNTRY NOT SPECIFIED
Fruits and vegetables on a farmers' market: improved access to nutritious foods is vital for food security and nutrition.

CHAPTER 1
INTRODUCTION

The reverse in progress and the persistently high levels of hunger, food insecurity and malnutrition in recent years have taken the world off track to achieve Sustainable Development Goal (SDG) Targets 2.1 and 2.2 – end hunger, food insecurity and all forms of malnutrition by 2030. Progress to address many drivers has been slow, and the increasing occurrence and intensity of several of these drivers will keep us on a worsening trajectory unless the risks are firmly addressed.

Previous editions of this report have repeatedly highlighted the intensification of several major drivers of food insecurity and malnutrition, specifically conflict, climate variability and extremes, and economic slowdowns and downturns, combined with the well-established underlying factors that contribute to food insecurity and malnutrition, such as lack of access to and unaffordability of nutritious foods, unhealthy food environments, and high and persistent inequality.[1–4] Not only are the major drivers increasing in frequency and intensity, they are occurring concurrently more often, and in combination with the underlying factors, resulting in increasing numbers of hungry and food-insecure people (see **Chapter 3**).[5] In this report, these known and intensifying factors, and the complex combinations of them that are behind persistently high levels of hunger, food insecurity and malnutrition, are referred to as "major drivers", unless specified otherwise in the text.

Drivers external to agrifood systems (e.g. conflict, climate extremes) and internal (e.g. low productivity and inadequate supply of nutritious foods, notably fruits and vegetables, and excessive offer of cheap, highly processed energy-dense foods, high in fats, sugars and/or salt) are driving up the cost of nutritious foods, increasing the unaffordability of healthy diets.[5,6] This cost increase is challenging food security and nutrition not only in rural areas, but also across the rural–urban continuum, as is shown in last year's edition of this report.[6] Depending on the major driver or combination of drivers affecting food security and nutrition in a country, addressing them will require a portfolio of policies across six transformative pathways, as outlined in detail in *The State of Food Security and Nutrition in the World 2021*.[5]

To attain the scale of actions needed, sufficient levels of and equal access to financing to address food security and nutrition challenges are essential. As highlighted in the 2022 edition of this report, repurposing current food and agricultural policy support is essential to be more cost effective and efficient and to align with the goal of ending hunger, food insecurity and all forms of malnutrition.[7] Much of the food and agriculture support is not always aligned to this goal and sometimes inadvertently undermines food security and nutrition and related health outcomes. Repurposing current public budgets alone is not enough to reach SDG 2 Targets 2.1 and 2.2. Mobilizing, allocating and safeguarding finance to address the main determinants of food security and nutrition and the major drivers behind recent trends is critical.

The theme of this year's report focuses on the financing to achieve SDG Targets 2.1 and 2.2 – financing to end hunger, food insecurity and malnutrition in all its forms. After providing the latest estimates of food security and various nutrition indicators around the world in **Chapter 2**, the report tries to answer urgent questions related to the current state of financing to achieve food security and address all forms of malnutrition. Despite having a commonly agreed upon definition of food security and nutrition, there are stark differences in the estimates of its current levels of financing. In **Chapter 3,** the report explores the reasons for these discrepancies and proposes a new definition and methodology for measuring financing for food security and nutrition. This new definition and methodology address the main determinants and major drivers of hunger, food insecurity and malnutrition in all its forms.

Applying this new definition and methodology, **Chapter 4** provides estimates of the current levels of financing for food security and nutrition and outlines the financing gap to achieve SDG Targets 2.1 and 2.2. Closing this sizeable financing gap will require innovative, inclusive and scalable financing options targeting the main determinants and major drivers of hunger, food insecurity and malnutrition in all its forms. **Chapter 5** takes a deep dive into the options for innovative and synergetic scalable financing based on a typology of countries defined by their food security and nutrition situation and ability to obtain financing. It also looks at how to achieve better alignment and synergies between different sources of financing to achieve SDG Targets 2.1 and 2.2, including climate finances, emergency funding and development finances, and the changes needed in the current financing architecture to achieve the scalable and innovative financing needed to achieve food security and address all forms of malnutrition. ■

VIET NAM
Farmers working on rice terraces: reducing climate-related risks.
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CHAPTER 2
FOOD SECURITY AND NUTRITION AROUND THE WORLD

This chapter presents an updated global assessment of food security and nutrition up to the year 2023 and a report on progress towards meeting SDG Targets 2.1 and 2.2 – ending hunger and ensuring access to safe, nutritious and sufficient food for all people all year round and eradicating all forms of malnutrition by 2030.

Section 2.1 presents an updated assessment of the state of food security and progress towards achieving the hunger and food insecurity target (SDG Target 2.1). It includes global, regional and subregional estimates of the two SDG Target 2.1 indicators updated to 2023: the prevalence of undernourishment (PoU) and the prevalence of moderate or severe food insecurity based on the Food Insecurity Experience Scale (FIES). Updated global and regional estimates of the prevalence of food insecurity by sex and by degree of urbanization are also provided. **Section 2.2** presents improved estimates of the cost and of the affordability of a healthy diet, covering 2017 to 2022, contributing information about economic access to diverse, nutritious foods globally. This year's assessment reflects the latest food price data released by the International Comparison Program (ICP) and the methodological refinements to improve the estimates of affordability. **Section 2.3** presents analyses of the state of nutrition in the world and progress towards the global nutrition targets that were defined by the World Health Assembly (WHA) in 2012 and the 2030 Agenda for Sustainable Development (SDG Target 2.2). Updates are provided this year for exclusive breastfeeding and adult obesity. The section also includes spotlights on progress in the least developed countries and on the double burden of malnutrition.

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

KEY MESSAGES

➔ After rising sharply from 2019 to 2021, global hunger, measured by the prevalence of undernourishment (PoU), has persisted at nearly the same level for three consecutive years, still affecting 9.1 percent of the population in 2023 compared with 7.5 percent in 2019.

➔ It is estimated that between 713 and 757 million people, corresponding to 8.9 and 9.4 percent of the global population, respectively, may have faced hunger in 2023. Considering the mid-range (733 million), this is about 152 million more people than in 2019.

➔ Trends at the regional level differ considerably. While hunger is still on the rise in Africa, it has remained relatively unchanged in Asia, and there is notable progress in Latin America. From 2022 to 2023, hunger increased in Western Asia, the Caribbean and in most subregions of Africa.

➔ Africa remains the region with the largest estimated proportion of the population facing hunger – 20.4 percent, compared with 8.1 percent in Asia, 6.2 percent in Latin America and the Caribbean, and 7.3 percent in Oceania. However, Asia is still home to more than half of all those facing hunger in the world, about 385 million people. Hunger also affected almost 300 million people in Africa, over 40 million in Latin America and the Caribbean, and more than 3 million in Oceania in 2023.

➔ It is projected that 582 million people will be chronically undernourished at the end of the decade and that more than half of them will be in Africa. This is about 130 million more undernourished people than in a scenario reflecting the world economy before the COVID-19 pandemic.

➔ Going beyond hunger, the prevalence of moderate or severe food insecurity remains above pre-pandemic levels, with little change in four years. In 2023, an estimated 28.9 percent of the global population – 2.33 billion people – were moderately or severely food insecure, meaning they did not have regular access to adequate food. These estimates include 10.7 percent of the population – 864 million people – who were food insecure at severe levels, posing grave risks to their health and well-being.

➔ In 2023, the prevalence of moderate or severe food insecurity in Africa (58.0 percent) was nearly double the global average, whereas in Asia, Latin America and the Caribbean, and Oceania, the prevalence is closer to the global estimate – 24.8, 28.2 and 26.8 percent, respectively.

➔ The prevalence of moderate or severe food insecurity remained virtually unchanged in Africa, Asia, and Northern America and Europe from 2022 to 2023, and it worsened in Oceania. In contrast, notable progress occurred in Latin America.

➔ Food insecurity affects women more than men, although the gender gap, which widened sharply from 2019 to 2021, began to narrow in 2022 and continued to grow smaller in 2023. Globally, the percentage-point difference in the prevalence of moderate or severe food insecurity between men and women fell from 3.6 in 2021 to 2.3 in 2022 and narrowed further to 1.3 in 2023.

➔ Globally and in all regions except Northern America and Europe, the prevalence of food insecurity is consistently higher in rural areas than in urban areas, while the prevalence in peri-urban areas compared to rural areas differs among regions.

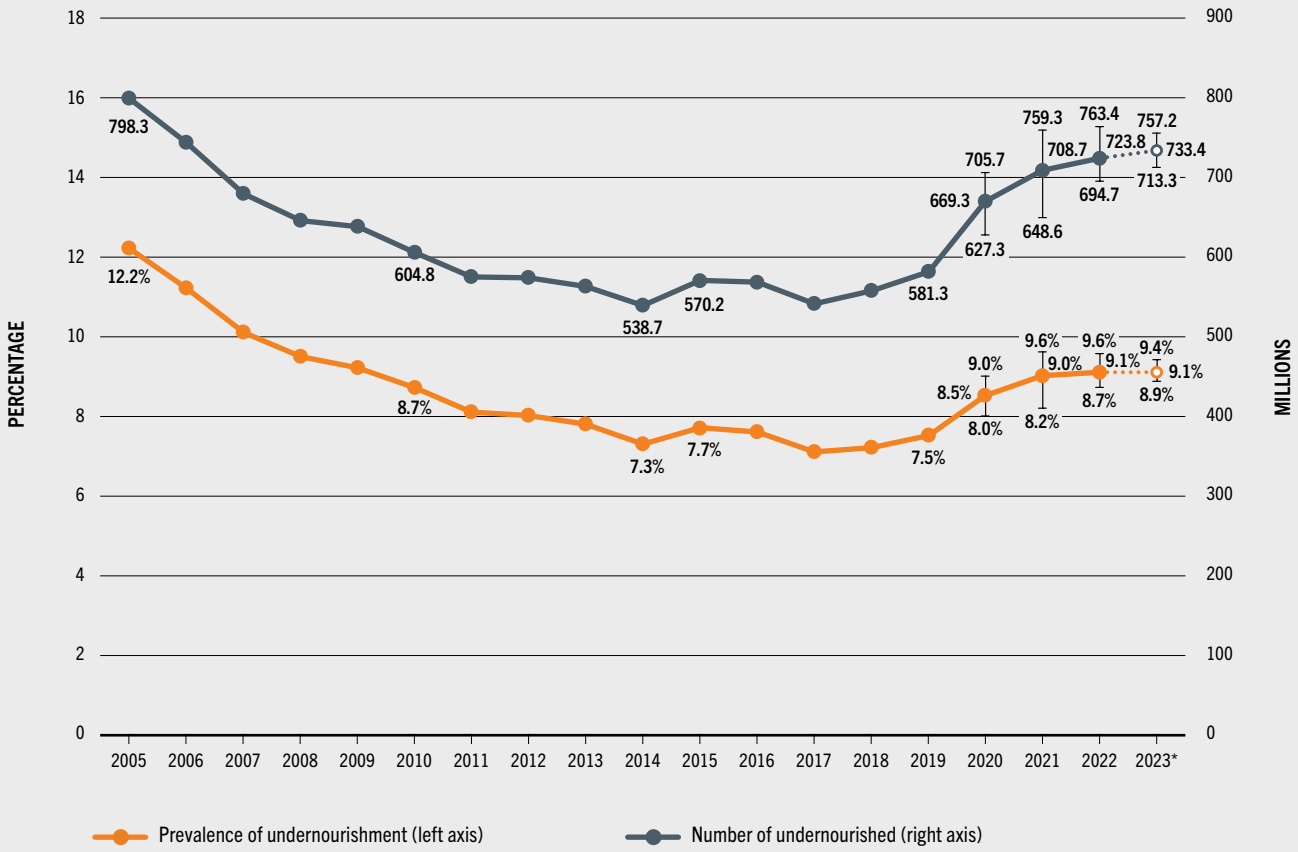
SDG Indicator 2.1.1 Prevalence of undernourishment

The assessment of global hunger in 2023, measured by the prevalence of undernourishment (PoU) (SDG Indicator 2.1.1), reveals a continuing lack of progress towards the goal of Zero Hunger. Inflationary pressures, in particular increases in the relative prices of food, continue to erode economic gains for many people's access to food in many countries, as the world is still struggling to recover from the global pandemic, hampered by a growing number of conflicts and extreme weather events.

After rising sharply from 2019 to 2021, the proportion of the world population facing hunger persisted at virtually the same level for three consecutive years, with the latest estimates indicating a global PoU of 9.1 percent in 2023 (Figure 1) (see Box 1). In terms of population, between about 713 and 757 million people (8.9 and 9.4 percent of the global population, respectively) were estimated to be undernourished in 2023. Considering the mid-range estimate (733 million), about 152 million more people may have faced hunger in 2023 compared to 2019.

Africa is the region with the largest PoU – 20.4 percent, compared with 8.1 percent in Asia, 6.2 percent in Latin America and the Caribbean, and 7.3 percent in Oceania (Table 1). However, Asia is still home to the largest number: 384.5 million, or more than half of all those facing hunger in the world. In Africa, 298.4 million people may have faced hunger in 2023, compared with 41.0 million in Latin America and the Caribbean and 3.3 million in Oceania (Table 2).

FIGURE 1 GLOBAL HUNGER ROSE SHARPLY FROM 2019 TO 2021 AND PERSISTED AT THE SAME LEVEL TO 2023



NOTES: Bars show lower and upper bounds of the estimated range. * Projections based on nowcasts for 2023 are illustrated by dotted lines.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.
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https://doi.org/10.4060/cd1254en-fig01

While there was no change in the prevalence of hunger at the global level, the trends across and within regions varied. The PoU for Africa increased continuously from 2015 to 2023, whereas hunger has been on the decline in Latin America and the Caribbean since 2021 and remained relatively unchanged in Asia in the same period (Table 1, Table 2 and Figure 2).

In **Africa**, hunger has been rising steadily since 2015. More than one person out of five living in Africa may have faced hunger in 2023. Hunger increased in most subregions of Africa from 2022 to 2023, with the exception of Eastern Africa and Southern Africa. After having risen steadily since 2015, the PoU in Eastern Africa fell by 1 percentage point in 2023 to 28.6 percent (138.5 million people). Still, nearly half of the people facing hunger in Africa in 2023 live in this subregion. In Southern Africa, the PoU remained relatively unchanged from 2022 to 2023 after three consecutive years of increases. In Middle Africa, on the other hand, the PoU rose sharply from 2022 to 2023, increasing by 3.3 percentage points – the largest percentage-point increase in any subregion of the world – to reach 30.8 percent (62.2 million people) in 2023. The situation also deteriorated in Western Africa, where the PoU

BOX 1 UPDATES IN THE SERIES OF PREVALENCE OF UNDERNOURISHMENT ESTIMATES

As in every edition of this report, rather than just adding a new data point to the existing series, the entire series of prevalence of undernourishment (PoU) estimates from 2000 has been revised to reflect revised or additional data and information FAO has received since last year's publication. In some cases, the new information pertains to past years, a reason why the entire series must be revised, and readers are urged to avoid comparing figures across different editions of the report.

In this edition, the major revision entailed reflecting revised estimates of the degree of inequality in food access within national populations, as captured by the coefficient of variation due to income (CV|y) parameter that enters into the formula to compute the PoU. Since the last edition of this report, FAO's Statistics Division has gained access to the full microdata sets of 14 surveys from 13 countries, which have been processed to update the CV|y for the following country/year combinations: Armenia (2022), Costa Rica (2019), Côte d'Ivoire (2022), India (2011/12 and 2022/23), Jordan (2017), Kazakhstan (2022), Maldives (2016), Mali (2022), Mexico (2022), Niger (2022), Republic of Moldova (2022), Senegal (2022) and Timor-Leste (2015).

The newly estimated CV|y parameters replaced previous values for those countries and years, which may have been based on interpolation or on modelling. This often also requires a revision of the same parameter in the same country for the preceding and subsequent years, in order to reconcile the old and the new information through consistent interpolations and extrapolations (see **Annex 1B**).

In addition to the revision of the PoU series for the countries where new survey data are available and the corresponding revisions of the underlying regional and global aggregates, one very visible effect of the availability of new data from nine surveys conducted after 2021 is the reduction in the uncertainty that surrounds the estimates of the PoU for 2022 and 2023. This is so, given the introduction in the analysis of direct evidence on the degree of inequality in food access for those countries. In previous editions of this report, the relatively higher level of uncertainty induced by the lack of national data to reflect the effects of the pandemic resulted in the need to introduce upper and lower bounds to the series in 2020, 2021 and 2022 (see Supplementary material to Chapter 2). While the uncertainty around what the real situation was in those years will never disappear, we hope that access to more frequent information on food consumption from more countries will continue to be available in the future, to make our assessments of the state of food insecurity in the world always more reliable.

rose sharply from 2019 to 2020 followed by a smaller increase in 2021, and then rose faster again for two consecutive years, reaching 16.0 percent (70.4 million people) in 2023. Hunger also increased, albeit more slowly, in the subregion with the lowest PoU in the continent, Northern Africa, affecting 7.8 percent of the population (20.7 million people) in 2023.

The trend in hunger in **Asia** mirrored that at the global level, characterized by a sharp increase from 2019 to 2021, followed by two years of virtually no change, with 8.1 percent of the population still facing hunger in 2023.

In Central Asia, following an increase from 2.6 percent in 2019 to 3.2 percent in 2020, the PoU decreased slightly in subsequent years to 3.0 percent in 2023. In South-eastern Asia, the PoU increased slowly from 5.5 percent in 2019 to 6.1 percent in 2022 and remained unchanged in 2023. In Southern Asia, encouraging progress was seen for two years in a row. Following a sharp rise from 2019 to 2021, the PoU decreased from 14.5 percent in 2021 to 13.9 percent in 2023 – the equivalent of 7.7 million fewer people facing hunger. In contrast, the situation continued to deteriorate in Western Asia, where hunger has been on the rise since 2015, reaching 12.4 percent in 2023.

In **Latin America and the Caribbean**, the two-year rise in hunger in the wake of the COVID-19 pandemic mirrored the global

TABLE 1 PREVALENCE OF UNDERNOURISHMENT, 2005–2023

	Prevalence of undernourishment									
	2005	2010	2015	2017	2018	2019	2020*	2021*	2022*	2023*
	(%)									
WORLD	**12.2**	**8.7**	**7.7**	**7.1**	**7.2**	**7.5**	**8.5**	**9.0**	**9.1**	**9.1**
AFRICA	**19.9**	**15.9**	**16.0**	**16.7**	**17.1**	**17.4**	**18.8**	**19.3**	**19.9**	**20.4**
Northern Africa	7.8	6.2	5.6	6.2	6.2	6.0	6.2	7.1	7.4	7.8
Sub-Saharan Africa	23.0	18.2	18.4	19.2	19.6	20.0	21.7	22.1	22.7	23.2
Eastern Africa	32.2	24.4	24.5	26.3	26.5	27.4	28.5	29.0	29.6	28.6
Middle Africa	33.7	22.7	23.3	23.8	24.5	25.1	27.8	28.2	27.5	30.8
Southern Africa	4.7	7.1	8.3	6.9	7.0	7.1	8.1	9.1	9.5	9.6
Western Africa	12.2	11.6	11.5	11.5	12.0	11.8	13.7	13.8	15.0	16.0
ASIA	**13.9**	**9.3**	**7.5**	**6.3**	**6.3**	**6.6**	**7.8**	**8.2**	**8.2**	**8.1**
Central Asia	13.8	6.4	3.9	3.4	2.9	2.6	3.2	3.2	3.1	3.0
Eastern Asia	6.9	2.7	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
South-eastern Asia	17.0	11.6	7.8	5.9	5.7	5.5	5.6	5.8	6.1	6.1
Southern Asia	20.2	14.9	12.7	10.2	10.2	11.1	13.6	14.5	14.2	13.9
Western Asia	8.7	6.8	9.3	10.2	10.6	10.7	11.0	11.4	12.1	12.4
Western Asia and Northern Africa	*8.3*	*6.5*	*7.6*	*8.3*	*8.6*	*8.5*	*8.8*	*9.4*	*9.9*	*10.3*
LATIN AMERICA AND THE CARIBBEAN	**8.9**	**6.1**	**5.2**	**5.7**	**5.9**	**5.6**	**6.5**	**6.9**	**6.6**	**6.2**
Caribbean	18.1	14.3	12.8	12.9	13.7	13.8	15.5	15.4	16.8	17.2
Latin America	8.2	5.5	4.6	5.2	5.3	5.0	5.8	6.3	5.9	5.4
Central America	7.7	6.4	6.4	6.0	6.0	5.6	5.6	5.8	5.9	5.8
South America	8.4	5.1	3.9	4.9	5.0	4.8	5.9	6.5	5.9	5.2
OCEANIA	**6.9**	**7.3**	**6.9**	**6.8**	**7.1**	**7.0**	**6.7**	**7.5**	**7.1**	**7.3**
NORTHERN AMERICA AND EUROPE	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**

NOTES: For country compositions of each regional/subregional aggregate, see Notes on geographic regions in statistical tables at the end of the report. * Values are based on the point estimates; the values of upper and lower bounds of the estimated ranges for 2020 to 2023 can be found in the Supplementary material to Chapter 2.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

trend, but the recovery has been considerably stronger. After increasing from 5.6 percent in 2019 to 6.9 percent in 2021, the PoU fell for two consecutive years, reaching 6.2 percent in 2023 – a decrease equivalent to 4.3 million people in two years, driven mainly by improvements in South America. The progress is encouraging, although the PoU is still far above pre-pandemic levels.

At the same time, there is a notable disparity in progress at the subregional level, with hunger affecting a much larger proportion of the population, and rising, in the Caribbean. The PoU in the Caribbean was more than three times that in Latin America in 2023, and it showed a marked increase from 15.4 percent in 2021 to 17.2 percent in 2023. This contrasts with the trend in Central America, where the PoU increased only slightly from 5.6 percent in 2019 to 5.9 percent in 2022, and then showed a marginal decline in 2023. The most progress has been made in South America, where the PoU fell for two consecutive years by a total of 1.3 percentage points, down to 5.2 percent in 2023, after increasing sharply from 4.8 percent

TABLE 2 NUMBER OF UNDERNOURISHED PEOPLE, 2005–2023

	Number of undernourished									
	2005	2010	2015	2017	2018	2019	2020*	2021*	2022*	2023*
	(millions)									
WORLD	**798.3**	**604.8**	**570.2**	**541.3**	**557.0**	**581.3**	**669.3**	**708.7**	**723.8**	**733.4**
AFRICA	**184.4**	**167.4**	**192.1**	**211.6**	**221.2**	**231.0**	**256.5**	**269.6**	**284.1**	**298.4**
Northern Africa	14.7	12.8	12.7	14.7	15.0	14.8	15.7	18.3	19.3	20.7
Sub-Saharan Africa	169.7	154.6	179.4	196.9	206.2	216.2	240.8	251.4	264.8	277.7
Eastern Africa	95.7	83.7	96.3	109.0	112.7	119.7	128.1	133.7	139.8	138.5
Middle Africa	38.3	30.4	36.6	40.0	42.5	44.9	51.3	53.7	54.0	62.2
Southern Africa	2.6	4.2	5.3	4.5	4.6	4.7	5.5	6.2	6.5	6.6
Western Africa	33.1	36.4	41.1	43.4	46.5	46.9	56.0	57.8	64.5	70.4
ASIA	**552.6**	**391.4**	**336.3**	**284.9**	**289.6**	**305.7**	**361.7**	**384.6**	**386.5**	**384.5**
Central Asia	8.2	4.1	2.7	2.4	2.1	1.9	2.4	2.5	2.4	2.3
Eastern Asia	105.4	42.8	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
South-eastern Asia	95.7	69.8	49.5	38.5	37.7	36.6	37.3	39.0	41.6	41.7
Southern Asia	325.2	258.4	236.1	194.6	197.3	216.9	268.3	288.6	284.9	280.9
Western Asia	18.2	16.2	24.7	28.0	29.6	30.2	31.5	33.0	35.5	37.1
Western Asia and Northern Africa	*32.9*	*29.0*	*37.3*	*42.7*	*44.6*	*44.9*	*47.2*	*51.3*	*54.8*	*57.8*
LATIN AMERICA AND THE CARIBBEAN	**49.8**	**36.0**	**32.5**	**36.3**	**37.6**	**36.3**	**42.2**	**45.3**	**43.9**	**41.0**
Caribbean	7.2	5.9	5.5	5.6	6.0	6.0	6.8	6.8	7.5	7.7
Latin America	42.6	30.1	27.0	30.7	31.7	30.3	35.4	38.5	36.4	33.3
Central America	11.2	10.0	10.7	10.2	10.4	9.7	9.9	10.3	10.6	10.5
South America	31.4	20.1	16.3	20.5	21.2	20.6	25.4	28.2	25.8	22.8
OCEANIA	**2.3**	**2.7**	**2.8**	**2.8**	**3.0**	**3.1**	**2.9**	**3.3**	**3.2**	**3.3**
NORTHERN AMERICA AND EUROPE	**n.r.**	**n.r.**	**n.r.**	**n.r.**	**n.r.**	**n.r.**	**n.r.**	**n.r.**	**n.r.**	**n.r.**

NOTES: n.r. = not reported, as the prevalence is less than 2.5 percent. Regional totals may differ from the sum of subregions, due to rounding and non-reported values. For country compositions of each regional/subregional aggregate, see Notes on geographic regions in statistical tables at the end of the report. * Values are based on the point estimates; the values of upper and lower bounds of the estimated ranges for 2020 to 2024 can be found in the Supplementary material to Chapter 2.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

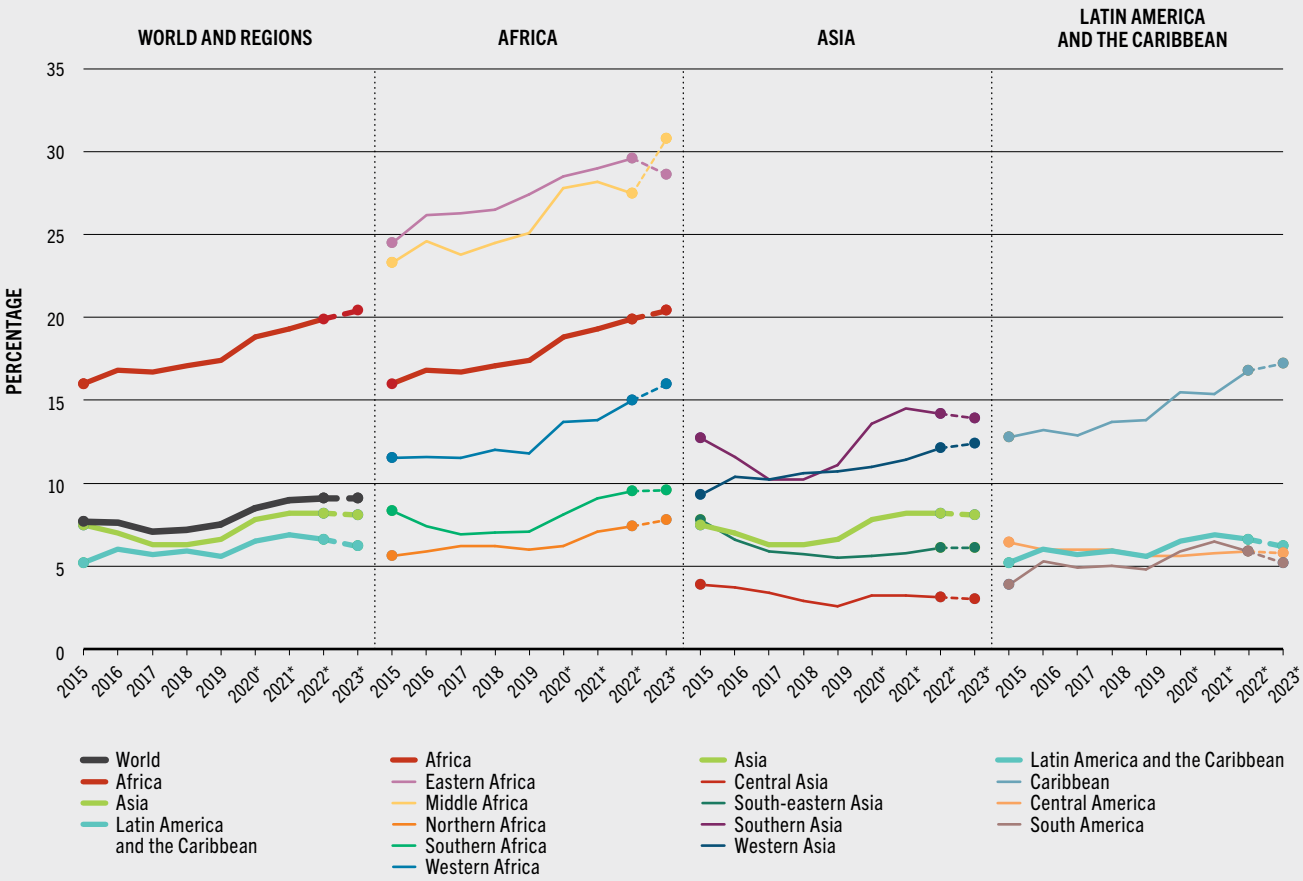
in 2019 to 6.5 percent in 2021, in the wake of the pandemic. That amounts to 5.4 million fewer people facing hunger in South America in 2023 compared to 2021.

When considering these results, it is also important to keep in mind the deteriorating food insecurity situation in countries affected by evolving humanitarian crises which may not be fully reflected in the PoU nowcast for 2023 (see Box 2).

Towards ending hunger (SDG Target 2.1): projections to 2030

As in previous editions of this report, an exercise was conducted to project how many people may be facing hunger in 2030 based on what can be inferred from available forecasts of fundamental demographic, agricultural productivity and economic variables. The projections were obtained by separately projecting each of the parameters that inform the model used to estimate the PoU (see Supplementary material to Chapter 2).

FIGURE 2 **PROGRESS WAS MADE TOWARDS REDUCING HUNGER IN SOME SUBREGIONS OF ASIA AND IN LATIN AMERICA, BUT HUNGER IS STILL ON THE RISE IN WESTERN ASIA, THE CARIBBEAN AND MOST SUBREGIONS OF AFRICA**



NOTES: Only regions for which data were available for all the subregions and the prevalence of undernourishment (PoU) was greater than 2.5 percent are shown. Eastern Asia is not shown because the PoU has been consistently below 2.5 percent since 2010. * Values are based on the projected mid-ranges. The full ranges of the 2020 to 2023 values can be found in the Supplementary material to Chapter 2.

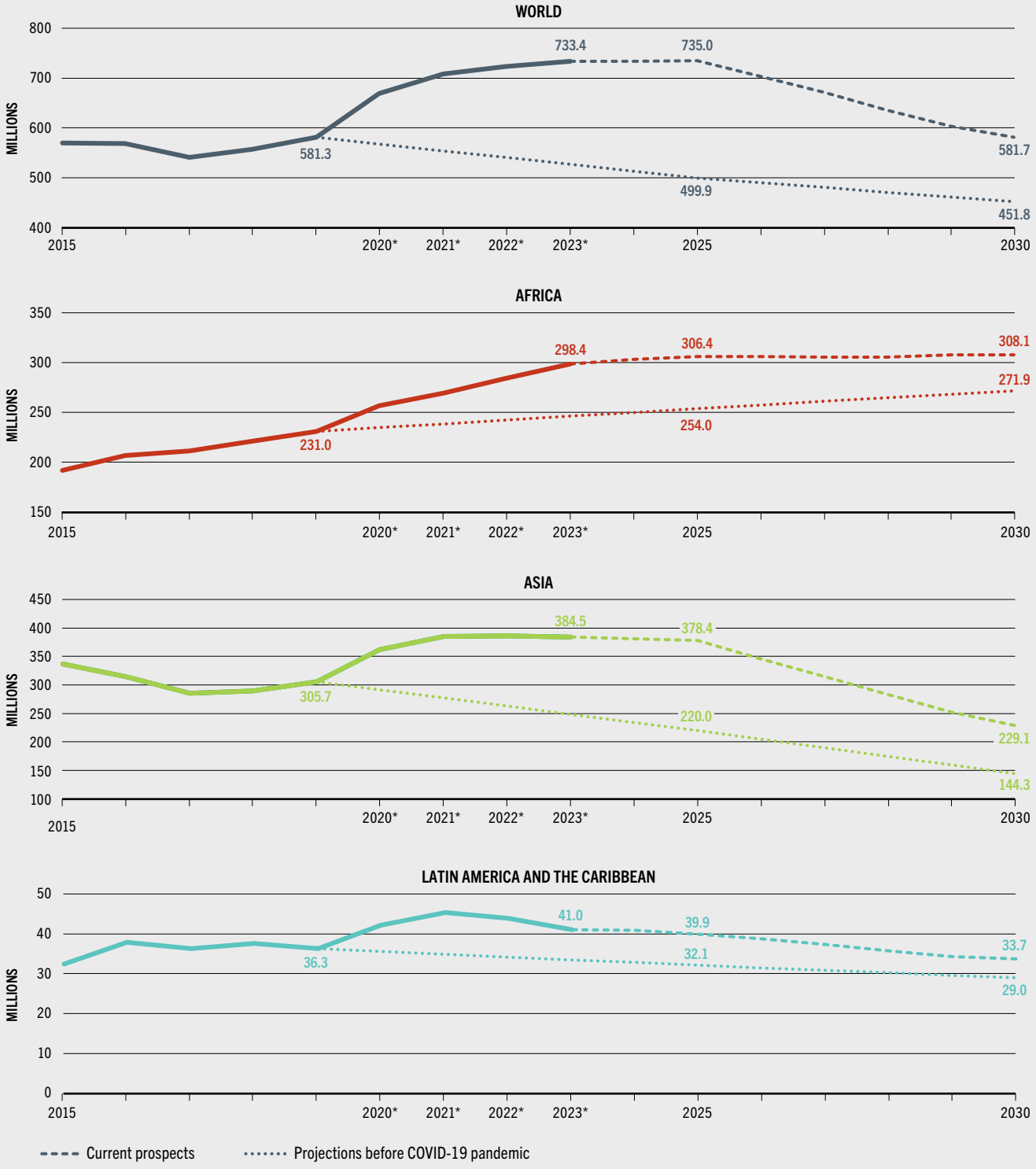
SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

https://doi.org/10.4060/cd1254en-fig02

Trajectories are presented under two scenarios: "current prospects", which aims to capture current projections of the PoU in 2030 based on the world economic prospects presented in the April 2024 edition of the International Monetary Fund World Economic Outlook database;[5] and "projections before COVID-19 pandemic", calibrated to reflect the situation of the world economy before the pandemic, as described by the *World Economic Outlook* published in October 2019.[6]

The current scenario shows that 582 million people, or 6.8 percent of the global population, will be chronically undernourished in 2030, pointing to the immense challenge of achieving SDG 2 (Zero Hunger) (Figure 3). This is about 130 million more undernourished people than in the "projections before COVID-19 pandemic" scenario. »

FIGURE 3 PROJECTED NUMBERS OF UNDERNOURISHED INDICATE THAT THE WORLD IS FAR OFF TRACK TO ACHIEVE ZERO HUNGER BY 2030



NOTES: Only regions for which data were available for all the subregions and the prevalence of undernourishment was above 2.5 percent are shown.
* Values are based on the projected mid-ranges.

SOURCE: Authors' (FAO) own elaboration.

https://doi.org/10.4060/cd1254en-fig03

BOX 2 DEEPENING HUMANITARIAN CRISES INCREASE ACUTE FOOD INSECURITY AND THREATEN THE RIGHT TO ADEQUATE FOOD IN MANY PLACES IN THE WORLD

During the preparation of this edition of *The State of Food Security and Nutrition in the World*, deepening humanitarian crises continued to seriously erode food security and the realization of the right to adequate food in many countries. To inform decision-makers about this evolving situation, the *Global Report on Food Crises*[1] details the acute food insecurity in a set of countries that are currently exposed to food crisis situations. Both *The State of Food Security and Nutrition in the World* and the *Global Report on Food Crises* are multipartnership efforts that provide international analyses of food security, but readers should be aware of their different objectives and geographical scope, as well as their reliance on distinctly different data and methodologies for their analyses.

One important distinction is that, by reporting on SDG 2 indicators, *The State of Food Security and Nutrition in the World* has the broad objective of monitoring *chronic food insecurity* – defined as food insecurity that persists over time, largely due to structural causes – in all countries, on a regular basis. The focus of the *Global Report on Food Crises*, on the other hand, is on *acute food insecurity*, which refers to any manifestation of food insecurity at a specific point in time that is of a severity that threatens lives, livelihoods or both, regardless of the causes, context or duration. Analyses of acute food insecurity reported in the *Global Report on Food Crises* are based mainly on the Integrated Food Security Phase Classification/Cadre Harmonisé (IPC/CH), and they differ considerably from those that inform the SDG indicators.[2] Since timeliness is of the essence in crisis situations, IPC/CH rapid assessments are conducted by local teams of analysts through a consultative process among the main food security partners in the country, including government counterparts, aimed at finding convergence among all pieces of sometimes partial available evidence, including data from official and non-official sources commonly collected and used by the international humanitarian community.

According to the *Global Report on Food Crises 2024*, nearly 282 million people faced high levels of acute food insecurity in the 59 food-crisis countries/territories that were included in the analysis in 2023.* The five countries with the largest numbers of people facing high levels of acute food insecurity were, in descending order, the Democratic Republic of the Congo, Nigeria, the Sudan, Afghanistan and Ethiopia, while the countries with the largest share of the analysed population facing high levels of acute food insecurity were Palestine (Gaza Strip), South Sudan, Yemen, the Syrian Arab Republic and Haiti. One hundred percent of the population of the Gaza Strip faced high levels of acute food insecurity, as did more than half of the people living in South Sudan, Yemen and the Syrian Arab Republic, and nearly half the population of Haiti.

Over 705 000 people in five countries/territories** were projected to be facing Catastrophe (IPC/CH Phase 5) levels of acute food insecurity in 2023, most of them (576 000) in the Gaza Strip. The Gaza Strip became the most severe food crisis since IPC assessments were first conducted. By late 2023, the entire population of 2.2 million was classified as facing Crisis conditions or worse (IPC Phase 3 or above), and 80 percent of the population was internally displaced. An IPC Special Brief on Gaza[3] dated 18 March 2024 warned of an imminent risk of famine, with more than a quarter of the population facing Catastrophe (IPC Phase 5) levels of acute food insecurity, which at that time was projected to expand to threaten half the population – 1.1 million people – by July 2024 if hostilities and restricted access to humanitarian aid continued.

A surge in conflict in the Sudan also contributed to extraordinarily high levels of acute food insecurity, with more than 20 million people facing Crisis conditions or worse (IPC Phase 3 or above) during the lean season in June–September in 2023. The Sudan became the world's largest internal displacement crisis and had the largest number of people in the world facing Emergency (IPC Phase 4) levels of acute food insecurity – 6.3 million.

Escalating conflict, violence and internal displacement also fuelled a worsening food crisis in Haiti, where nearly 5 million people, or half the population, faced Crisis levels of acute food insecurity or worse (IPC Phase 3 or above), including 1.8 million facing Emergency (IPC Phase 4) levels during the lean season in March–June 2023.

In South Sudan, an estimated 7.8 million people – 63 percent of the population – were facing high levels of acute food insecurity (IPC Phase 3 or above) during the lean season in April–July 2023, including 2.9 million in Emergency (IPC Phase 4) and 43 000 in Catastrophe (IPC Phase 5) categories. Nearly 13 million people in the Syrian Arab Republic and 18 million in Yemen faced high levels of acute food insecurity.

These are some of the most serious humanitarian crises in the world that are posing daunting challenges for the realization of the right to adequate food. Humanitarian aid, including in the form of emergency agriculture, nutrition and food assistance, is urgently needed, together with an end to the hostilities, access to populations in need, and rebuilding of essential infrastructure and institutions crucial for guaranteeing people's livelihoods and access to basic necessities. The seeds of future peace, food security and shared prosperity must be planted today.

NOTES: * High levels of acute food insecurity are those that correspond to IPC Phase 3 ("Crisis") or worse. See the IPC Manual for further details.[4] The *Global Report on Food Crises* defines a food crisis as a situation where acute food insecurity requires urgent action to protect and save lives and livelihoods at local or national levels and exceeds the local resources and capacities to respond. ** Burkina Faso, Palestine (Gaza Strip), Mali, Somalia and South Sudan.

» Figure 3 also shows how the situation is currently expected to evolve in Asia, Africa, and Latin America and the Caribbean. The different trajectories are evident, demonstrating that practically all progress in the fight against hunger is expected to be made in Asia, with a strong recovery in the second half of the decade, where the number of undernourished is projected to fall from the current 385 million to 229 million people by 2030, nearly halving the prevalence of undernourishment (4.8 percent by 2030). Latin America and the Caribbean will reduce chronic hunger at a slower pace, by 8 million people, and will bring the prevalence of undernourishment below 5 percent by 2030. These two regions contrast sharply with Africa, where it is projected that 10 million more people (18 percent of the population) will be facing chronic hunger by 2030. Without accelerated efforts and increased resource mobilization, under current prospects, the continent will only manage to stabilize the situation at the high level of hunger inherited from the last few years.

SDG Indicator 2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale

SDG Target 2.1 aims for a world free from hunger, but it also goes much further; it presents a vision of a world in which all people have access to safe, nutritious and sufficient food all year round. SDG Indicator 2.1.2 – the prevalence of moderate or severe food insecurity in the population, based on the FIES – tracks progress towards this more ambitious goal, which in essence is the realization of the right to adequate food for all.

New estimates show that the global prevalence of moderate or severe food insecurity based on the FIES still remains far above pre-COVID-19 pandemic levels, with little change in four years (Figure 4). Since a sharp increase in food insecurity from 2019 to 2020 during the pandemic, levels have remained virtually unchanged. In 2023, an estimated 28.9 percent of the global population – 2.33 billion people – were moderately or severely food insecure, meaning they did not have regular access to adequate food. While the prevalence remained virtually unchanged from 2020 to 2023, the number of people facing moderate or severe food insecurity in the world nevertheless increased by more than 65 million, as the global population grew during that period (Table 3 and Table 4).

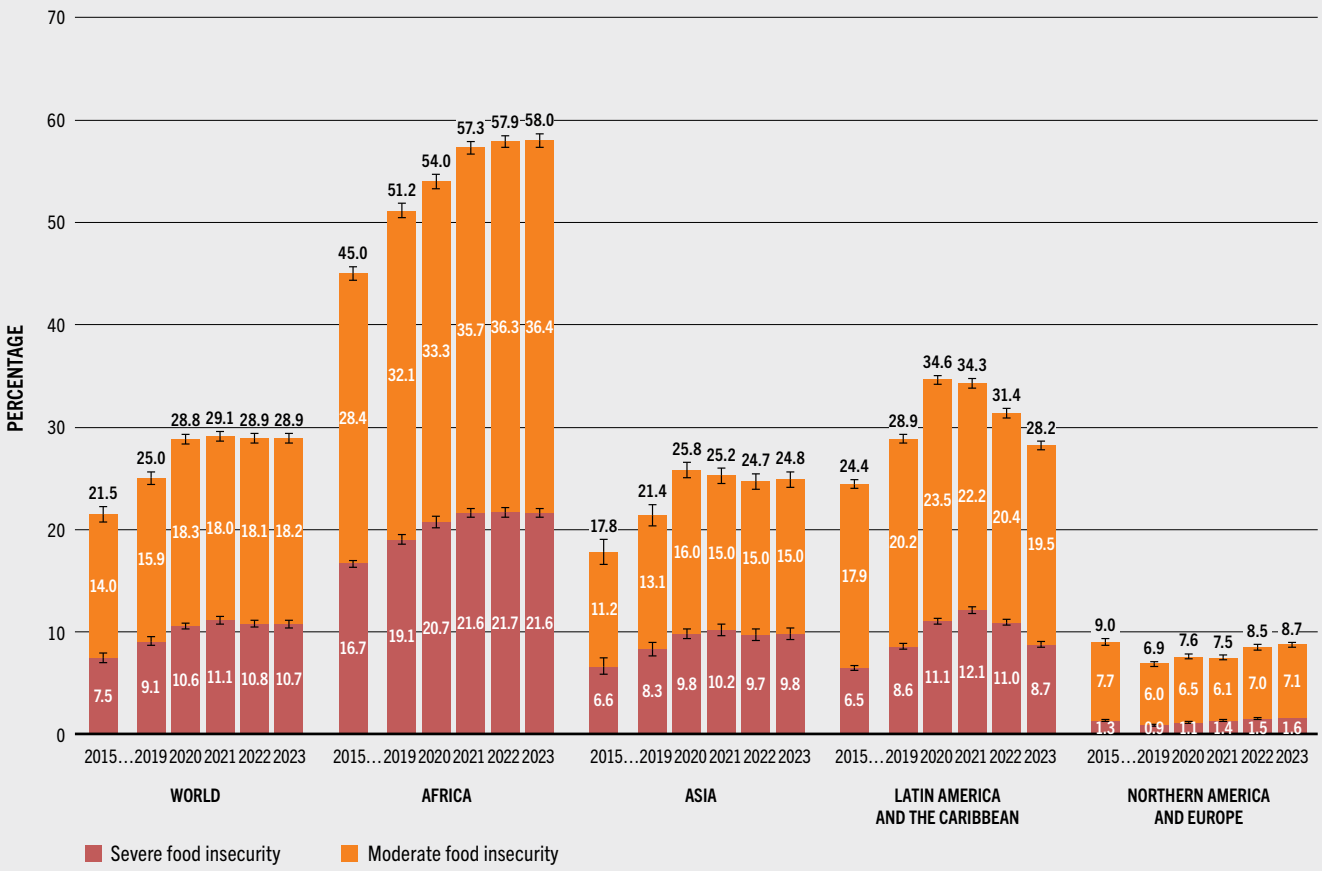
These estimates include 10.7 percent of the population – or more than 864 million people – who were severely food insecure, meaning they had run out of food at times during the year and, at worst, gone an entire day or more without eating. The prevalence of severe food insecurity at the global level rose from 9.1 percent in 2019 to 10.6 percent in 2020 and has remained stubbornly unchanged since then.

Comparing situations in the different regions of the world in 2023, Africa remains the region with the largest proportion of the population facing food insecurity. The prevalence of moderate or severe food insecurity in Africa (58.0 percent) is nearly double the global average, whereas in Asia, Latin America and the Caribbean, and Oceania, the prevalence is closer to and slightly below the global estimate – 24.8, 28.2 and 26.8 percent, respectively. From 2022 to 2023, food insecurity at moderate or severe levels remained virtually unchanged in Africa and Asia, while it worsened in Oceania and, to a lesser extent, in Northern America and Europe. In contrast, notable progress was made in the Latin American and Caribbean region (Table 3, Table 4 and Figure 4).

In **Africa**, 58.0 percent of the population was moderately or severely food insecure in 2023, and 21.6 percent faced severe food insecurity, although the differences between subregions were notable. Middle Africa had the highest prevalence of moderate or severe food insecurity (77.7 percent, or 157 million people), making it the subregion with the highest level in the world. It is followed by Eastern Africa (64.5 percent, or 313 million people) and Western Africa (61.4 percent, or 270 million people). One-quarter of the population of Southern Africa (17.3 million people) and more than one-third of Northern Africans (89.4 million people) were affected by moderate or severe food insecurity in 2023.

Middle Africa is also the subregion with the highest level of severe food insecurity in Africa and in the world – 38.0 percent in 2023. In Eastern Africa, 24.2 percent of the population is severely

FIGURE 4 FOOD INSECURITY LEVELS REMAINED VIRTUALLY UNCHANGED GLOBALLY FROM 2022 TO 2023, WITH LATIN AMERICA AND THE CARIBBEAN BEING THE ONLY REGION SHOWING NOTABLE REDUCTION



NOTES: Differences in totals are due to rounding of figures to the nearest decimal point. Only regions for which data were available for all the subregions are shown.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

https://doi.org/10.4060/cd1254en-fig04

» food insecure, followed by Western Africa (18.8 percent), Northern Africa (11.9 percent) and Southern Africa (10.9 percent).

From 2022 to 2023, the proportion of the population experiencing moderate or severe food insecurity increased at least marginally in most subregions of Africa, especially in Southern Africa, where it increased by 2.1 percentage points. However, improvements were seen in Eastern Africa – one of the most affected subregions – with a 2.6 percentage-point decrease from 2022 to 2023. That is equivalent to more than 4 million fewer people facing moderate or severe food insecurity in Eastern Africa in one year.

Focusing on severe food insecurity only, the prevalence remained relatively unchanged from 2022 to 2023 in Northern Africa, Middle Africa and Southern Africa, although it should be noted that, due to data availability, the trend in Northern Africa may not fully capture the impact of the rapidly deteriorating situation in the Sudan resulting from the conflict that erupted in April »

TABLE 3 PREVALENCE OF FOOD INSECURITY AT SEVERE LEVEL ONLY, AND AT MODERATE OR SEVERE LEVEL, BASED ON THE FOOD INSECURITY EXPERIENCE SCALE, 2015–2023

	Prevalence of severe food insecurity							Prevalence of moderate or severe food insecurity						
	2015	...	2019	2020	2021	2022	2023	2015	...	2019	2020	2021	2022	2023
	(%)							(%)						
WORLD	**7.5**	**...**	**9.1**	**10.6**	**11.1**	**10.8**	**10.7**	**21.5**	**...**	**25.0**	**28.8**	**29.1**	**28.9**	**28.9**
AFRICA	**16.7**	**...**	**19.1**	**20.7**	**21.6**	**21.7**	**21.6**	**45.0**	**...**	**51.2**	**54.0**	**57.3**	**57.9**	**58.0**
Northern Africa	9.0	...	8.7	9.5	11.2	12.0	11.9	26.2	...	28.8	30.2	34.0	32.4	33.8
Sub-Saharan Africa	18.5	...	21.4	23.3	24.0	23.8	23.8	49.4	...	56.3	59.4	62.5	63.6	63.3
Eastern Africa	20.8	...	23.6	26.3	26.7	25.8	24.2	56.3	...	62.8	65.1	64.7	67.1	64.5
Middle Africa	n.a.	...	n.a.	35.6	37.1	37.8	38.0	n.a.	...	n.a.	69.9	75.1	77.1	77.7
Southern Africa	9.1	...	9.2	11.0	11.0	10.9	10.9	21.5	...	21.9	24.6	24.6	22.8	24.9
Western Africa	11.0	...	14.5	16.4	17.1	17.3	18.8	39.3	...	48.7	54.1	60.6	60.1	61.4
ASIA	**6.6**	**...**	**8.3**	**9.8**	**10.2**	**9.7**	**9.8**	**17.8**	**...**	**21.4**	**25.8**	**25.2**	**24.7**	**24.8**
Central Asia	1.4	...	2.3	4.8	5.0	4.6	3.4	9.1	...	13.5	17.8	20.1	17.4	16.6
Eastern Asia	0.8	...	1.3	2.0	1.0	1.0	1.0	5.9	...	7.4	7.8	6.1	6.2	6.3
South-eastern Asia	1.9	...	1.8	2.1	2.6	2.6	2.9	14.6	...	14.5	15.6	17.0	16.9	17.1
Southern Asia	13.2	...	16.3	18.8	20.2	19.0	19.1	27.7	...	34.3	43.1	41.9	41.0	41.1
Western Asia	9.7	...	11.0	12.2	13.2	13.8	13.3	32.0	...	32.4	37.5	41.0	38.3	37.5
Western Asia and Northern Africa	*9.3*	...	*9.9*	*10.9*	*12.3*	*13.0*	*12.6*	*29.3*	...	*30.7*	*34.1*	*37.7*	*35.6*	*35.8*
LATIN AMERICA AND THE CARIBBEAN	**6.5**	**...**	**8.6**	**11.1**	**12.1**	**11.0**	**8.7**	**24.4**	**...**	**28.9**	**34.6**	**34.3**	**31.4**	**28.2**
Caribbean	n.a.	...	n.a.	32.3	25.7	28.1	28.6	n.a.	...	n.a.	65.3	59.4	60.5	58.8
Latin America	4.7	...	7.1	9.5	11.1	9.7	7.3	21.8	...	26.6	32.4	32.5	29.3	26.0
Central America	6.4	...	7.2	7.3	7.8	8.1	7.6	28.9	...	29.9	34.2	31.2	28.6	28.2
South America	4.0	...	7.0	10.5	12.5	10.4	7.2	18.9	...	25.3	31.7	33.0	29.6	25.1
OCEANIA	**8.4**	**...**	**9.5**	**8.6**	**10.1**	**9.3**	**10.4**	**21.3**	**...**	**24.3**	**23.2**	**24.0**	**24.1**	**26.8**
NORTHERN AMERICA AND EUROPE	**1.3**	**...**	**0.9**	**1.1**	**1.4**	**1.5**	**1.6**	**9.0**	**...**	**6.9**	**7.6**	**7.5**	**8.5**	**8.7**
Europe	1.5	...	0.9	1.3	1.7	1.8	2.0	8.4	...	6.5	7.3	7.5	7.9	8.2
Eastern Europe	1.5	...	0.8	1.4	1.7	1.9	1.9	11.7	...	8.3	10.2	10.5	10.6	10.8
Northern Europe	1.8	...	0.9	1.2	1.8	2.0	3.0	6.8	...	5.1	4.2	4.5	6.6	7.7
Southern Europe	1.4	...	1.3	2.0	1.7	1.4	1.3	7.4	...	6.9	8.0	6.9	6.4	6.2
Western Europe	1.4	...	0.7	0.8	1.7	1.8	2.0	5.0	...	4.3	3.9	4.9	5.7	6.1
Northern America	1.0	...	0.8	0.7	0.7	0.9	1.0	10.3	...	7.6	8.3	7.5	9.7	9.8

NOTES: n.a. = not available, as data are available only for a limited number of countries, representing less than 50 percent of the population in the region. The estimates for Latin America and the Caribbean from 2014 to 2019 include Caribbean countries whose combined populations represent only 30 percent of the population of that subregion, while the estimates from 2020 to 2023 include Caribbean countries whose combined populations represent between 60 and 65 percent of the subregional population. The countries included in the 2023 estimate for the Caribbean subregion are: Antigua and Barbuda, Bahamas, Barbados, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

TABLE 4 NUMBER OF PEOPLE EXPERIENCING FOOD INSECURITY AT SEVERE LEVEL ONLY, AND AT MODERATE OR SEVERE LEVEL, BASED ON THE FOOD INSECURITY EXPERIENCE SCALE, 2015–2023

	Number of severely food-insecure people							Number of moderately or severely food-insecure people						
	2015	...	2019	2020	2021	2022	2023	2015	...	2019	2020	2021	2022	2023
	(millions)							(millions)						
WORLD	**554.1**	**...**	**706.1**	**827.9**	**880.0**	**861.7**	**864.1**	**1 595.2**	**...**	**1 942.6**	**2 259.9**	**2 302.9**	**2 306.6**	**2 325.5**
AFRICA	**200.0**	**...**	**253.0**	**282.0**	**301.5**	**309.0**	**315.5**	**540.6**	**...**	**679.3**	**734.8**	**798.7**	**826.3**	**846.6**
Northern Africa	20.5	...	21.5	23.8	28.7	31.1	31.4	59.9	...	71.2	75.9	86.9	84.3	89.4
Sub-Saharan Africa	179.6	...	231.5	258.2	272.8	277.9	284.2	480.7	...	608.1	659.0	711.8	742.0	757.3
Eastern Africa	81.8	...	103.2	118.2	123.0	122.1	117.2	221.3	...	274.7	292.5	298.3	317.2	313.0
Middle Africa	n.a.	...	n.a.	65.7	70.6	74.0	76.8	n.a.	...	n.a.	128.9	142.9	151.2	157.0
Southern Africa	5.8	...	6.1	7.4	7.5	7.5	7.6	13.7	...	14.6	16.6	16.7	15.6	17.3
Western Africa	39.5	...	57.9	66.9	71.7	74.3	82.6	140.9	...	193.7	220.9	253.8	257.9	270.0
ASIA	**295.6**	**...**	**383.4**	**457.2**	**479.1**	**459.2**	**467.3**	**794.4**	**...**	**989.2**	**1 204.1**	**1 184.7**	**1 167.0**	**1 181.0**
Central Asia	1.0	...	1.7	3.6	3.8	3.5	2.7	6.3	...	9.9	13.3	15.3	13.4	12.9
Eastern Asia	12.4	...	21.4	33.4	17.0	16.0	17.2	95.7	...	123.0	129.0	102.3	103.4	105.2
South-eastern Asia	12.0	...	12.3	14.0	17.8	17.9	20.1	92.9	...	96.5	104.5	114.7	115.1	117.7
Southern Asia	244.7	...	316.9	371.3	402.1	381.1	387.7	514.7	...	668.1	849.8	833.8	822.5	833.4
Western Asia	25.6	...	31.2	35.1	38.4	40.6	39.7	84.8	...	91.6	107.5	118.7	112.5	111.9
Western Asia and Northern Africa	*46.1*	...	*52.7*	*58.9*	*67.1*	*71.8*	*71.1*	*144.7*	...	*162.8*	*183.4*	*205.6*	*196.9*	*201.2*
LATIN AMERICA AND THE CARIBBEAN	**40.4**	**...**	**55.7**	**72.2**	**79.6**	**72.5**	**58.1**	**152.2**	**...**	**186.7**	**225.7**	**224.9**	**207.3**	**187.6**
Caribbean	n.a.	...	n.a.	14.2	11.4	12.5	12.8	n.a.	...	n.a.	28.7	26.2	26.9	26.3
Latin America	27.1	...	42.5	58.0	68.2	60.0	45.4	126.4	...	160.4	197.0	198.7	180.4	161.4
Central America	10.6	...	12.5	12.9	13.8	14.5	13.8	48.4	...	52.2	60.3	55.4	51.3	51.0
South America	16.4	...	30.0	45.2	54.4	45.4	31.6	78.0	...	108.2	136.7	143.3	129.1	110.4
OCEANIA	**3.4**	**...**	**4.1**	**3.8**	**4.5**	**4.2**	**4.7**	**8.6**	**...**	**10.5**	**10.2**	**10.7**	**10.9**	**12.2**
NORTHERN AMERICA AND EUROPE	**14.7**	**...**	**9.9**	**12.7**	**15.3**	**16.9**	**18.3**	**99.4**	**...**	**77.0**	**85.1**	**83.8**	**95.3**	**98.0**
Europe	11.2	...	6.8	9.9	12.6	13.3	14.6	62.2	...	48.6	54.2	55.5	58.7	60.7
Eastern Europe	4.5	...	2.4	4.0	4.9	5.5	5.5	34.3	...	24.4	29.9	30.6	30.7	31.1
Northern Europe	1.9	...	1.0	1.3	1.9	2.1	3.3	7.0	...	5.4	4.4	4.7	7.1	8.3
Southern Europe	2.1	...	2.0	3.0	2.6	2.1	1.9	11.3	...	10.5	12.2	10.6	9.7	9.4
Western Europe	2.7	...	1.4	1.6	3.2	3.6	3.9	9.6	...	8.3	7.7	9.6	11.2	12.0
Northern America	3.5	...	3.0	2.7	2.7	3.5	3.7	37.2	...	28.4	30.9	28.3	36.6	37.2

NOTES: n.a. = not available, as data are available only for a limited number of countries, representing less than 50 percent of the population in the region. The estimates for Latin America and the Caribbean from 2014 to 2019 include Caribbean countries whose combined populations represent only 30 percent of the population of that subregion, while the estimates from 2020 to 2023 include Caribbean countries whose combined populations represent between 60 and 65 percent of the subregional population. The countries included in the 2023 estimate for the Caribbean subregion are: Antigua and Barbuda, Bahamas, Barbados, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

» 2023 (see Box 2). Severe food insecurity decreased marginally in Eastern Africa in the same period, by 1.6 percentage points, while it rose slightly in Western Africa.

Turning to **Asia**, 24.8 percent of the population (1.18 billion people) were moderately or severely food insecure in 2023, and 9.8 percent (467.3 million) faced severe food insecurity. The majority live in Southern Asia, where 41.1 percent of the population, or 833.4 million people, faced moderate or severe food insecurity, close to half of whom were severely food insecure (387.7 million people, or 19.1 percent of the population in that subregion). In Western Asia, 37.5 percent (111.9 million) were moderately or severely food insecure and 13.3 percent (39.7 million) faced severe food insecurity. The prevalence of moderate or severe food insecurity was comparatively lower in Central Asia (16.6 percent, or 12.9 million people) and South-eastern Asia (17.1 percent, or 117.7 million people) and lowest in Eastern Asia (6.3 percent, equivalent to 105.2 million people). The proportion of the population facing severe food insecurity in these subregions was also much lower: 3.4 percent, 2.9 percent and 1.0 percent in Central Asia, South-eastern Asia and Eastern Asia, respectively.

Trends at the subregional level in Asia differ. In Eastern Asia, food insecurity levels remained virtually unchanged from 2021. In Southern Asia and South-eastern Asia, the prevalence of food insecurity at both levels of severity remained about the same from 2022 to 2023. There were signs of progress in Western Asia in the same period, although the prevalence of severe food insecurity was slightly higher in 2023 compared to 2021. Central Asia is the only subregion that has shown consistent progress since 2021, with food insecurity at both levels of severity decreasing for two years in a row; 2.4 million fewer people faced moderate or severe food insecurity in Central Asia in 2023 compared to 2021, and more than 1 million fewer people faced severe food insecurity.

Latin America and the Caribbean is the only region that made progress from 2022 to 2023 towards achieving SDG Target 2.1. The regional prevalence of food insecurity in the region decreased notably for the second year in a row, from 31.4 percent in 2022 to 28.2 percent in 2023 for moderate or severe food insecurity, and from 11.0 percent to 8.7 percent for severe food insecurity. That is equivalent to nearly 20 million fewer people facing moderate or severe food insecurity in 2023 compared to 2022, including more than 14 million fewer people facing severe food insecurity.

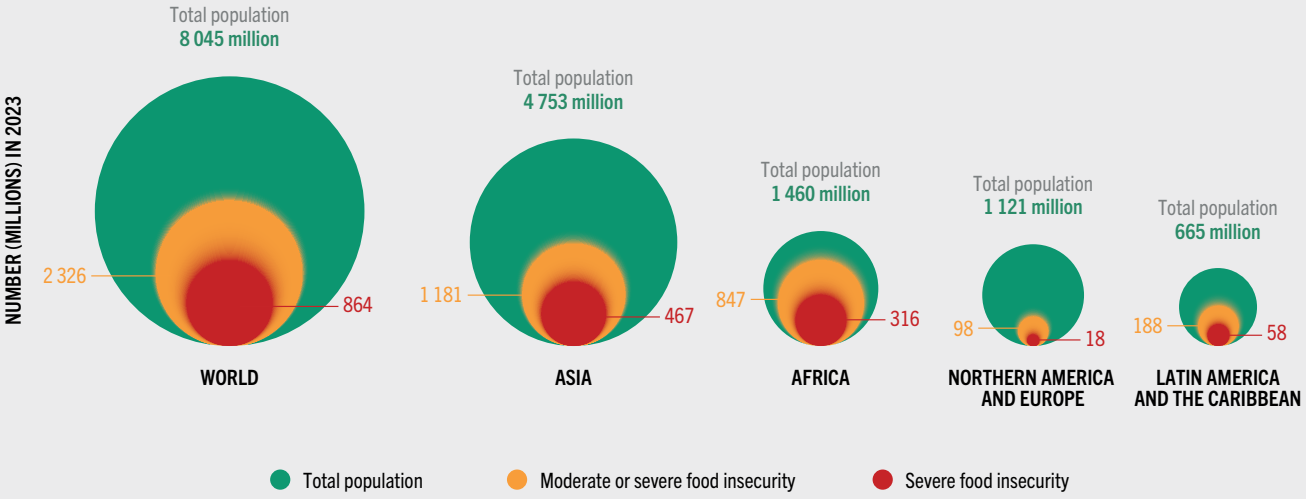
There are important subregional differences, however. In 2023, the prevalence of moderate or severe food insecurity in the Caribbean (58.8 percent) was more than double that of Central America (28.2 percent) and South America (25.1 percent). Changes from 2022 to 2023 were only marginal in Central America and in the Caribbean, although severe food insecurity rose marginally in the Caribbean since 2021. In contrast, encouraging progress was seen in South America. The prevalence of moderate or severe food insecurity fell for the second consecutive year, from 29.6 percent in 2022 to 25.1 percent in 2023 – the equivalent of 18.7 million fewer people facing moderate or severe food insecurity. The prevalence of severe food insecurity in South America also decreased markedly, from 10.4 percent in 2022 to 7.2 percent in 2023 – the equivalent of nearly 14 million fewer people.

Food insecurity appears to be on the rise in **Oceania**. Moderate or severe food insecurity rose steadily from 23.2 percent in 2020 to 26.8 percent in 2023, with a 2.7 percentage-point increase in the last year alone. The prevalence of severe food insecurity also increased marginally in the last year, from 9.3 percent in 2022 to 10.4 percent in 2023.

Food insecurity worsened slightly in **Northern America and Europe** between 2022 and 2023, though the difference remains within statistical margins of error. The prevalence of moderate or severe food insecurity in 2023 was 8.2 percent in Europe and 9.8 percent in Northern America, while 2.0 percent and 1.0 percent of the populations, respectively, faced food insecurity at severe levels.

Figure 5 presents a comparative overview of the scale and proportions of food insecurity globally

FIGURE 5 THE CONCENTRATION AND DISTRIBUTION OF FOOD INSECURITY BY SEVERITY IN 2023 DIFFERED GREATLY ACROSS THE REGIONS OF THE WORLD



NOTE: Only regions for which data were available for all the subregions are shown.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.
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https://doi.org/10.4060/cd1254en-fig05

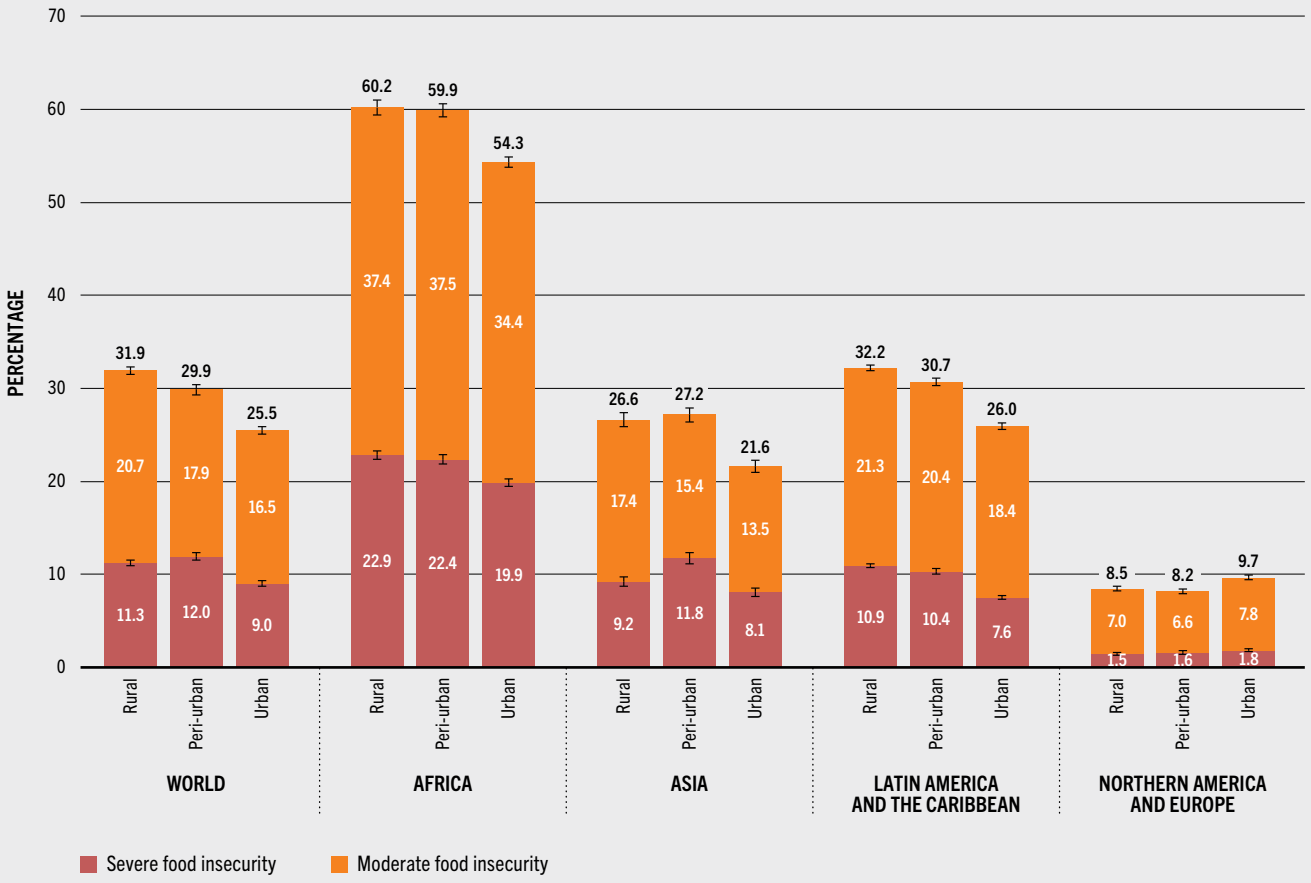
and in the regions. Though the prevalence of moderate or severe food insecurity in Asia is about half that of Africa, Asia accounts for a larger share of the number of food-insecure people in the world – 1.18 billion in Asia compared with 847 million in Africa. In 2023, half of the 2.33 billion food-insecure people in the world lived in Asia, more than one-third in Africa, about 8 percent (188 million) in Latin America and the Caribbean, and about 4 percent (98 million) in Northern America and Europe. Some differences in the proportion of the food-insecure population that is facing food insecurity at severe levels are also evident. Severely food-insecure people account for the largest proportion of the total number of moderately or severely food insecure in Asia (about 40 percent), followed by Africa (37 percent), Latin America and the Caribbean (31 percent), and Northern America and Europe (18 percent).

Differences in food insecurity across rural, peri-urban and urban areas and between men and women

One guiding principle of the vision put forth by the 2030 Agenda for Sustainable Development is to ensure that no one will be left behind. More detailed information about the food insecurity of different population groups helps monitor progress towards the realization of this vision. In this respect, FIES data collected by FAO can be used to produce relevant, disaggregated information on the food insecurity of specific population groups. First, as the data are georeferenced, differences among people living in rural, peri-urban and urban areas can also be analysed. Second, as the data are collected from individuals, it is possible to look at differences in food insecurity severity between men and women.

Georeferenced FIES data became available to FAO for the 2023 edition of this report when it was possible to present the first comparison of **food insecurity in rural, peri-urban and urban populations** at the global, regional and

FIGURE 6 GLOBALLY AND IN MOST REGIONS, THE PREVALENCE OF FOOD INSECURITY IS HIGHER IN RURAL AREAS THAN IN URBAN AREAS



NOTE: Only regions for which data were available for all the subregions are shown.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig06

subregional levels.[b] FAO uses the Degree of Urbanization (DEGURBA) classification, an international standard, to distinguish among populations living in: i) rural areas; ii) towns and semi-dense areas (peri-urban areas); and iii) cities (urban areas), based on population density and size, in a globally comparable way.[c, 7]

Just as for 2022, results for 2023 show a pattern of decreasing food insecurity with an increasing degree of urbanization at the global level (Figure 6).[d] The prevalence of moderate or severe food insecurity was 31.9 percent in rural areas compared with 29.9 percent in peri-urban areas and 25.5 percent in urban areas. Globally and in all regions except Northern America and Europe, the prevalence of food insecurity, at both levels of severity, is consistently higher in rural areas than in urban areas. However, the prevalence in peri-urban areas relative to that in rural areas differs among the regions. In Africa and

b See Supplementary material to Chapter 2 for details on the methods used to obtain disaggregated estimates.

c The DEGURBA classification[7] was developed by the Statistical Office of the European Union (EUROSTAT), the International Labour Organization (ILO), FAO, the Organisation for Economic Co-operation and Development (OECD), the United Nations Human Settlements Programme (UN-Habitat) and the World Bank and was approved at the 51st session of the United Nations Statistical Commission in March 2020.

d See Table A1.3 in **Annex 1A** for prevalence of moderate or severe food insecurity, and severe food insecurity only, by degree of urbanization in 2023 by region and subregion.

FIGURE 7 THE GENDER GAP NARROWED IN MOST REGIONS FOR TWO YEARS IN A ROW, BUT THE PREVALENCE OF FOOD INSECURITY HAS REMAINED CONSISTENTLY HIGHER AMONG WOMEN THAN AMONG MEN, GLOBALLY AND IN ALL REGIONS

NOTE: Only regions for which data were available for all the subregions are shown.

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.
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https://doi.org/10.4060/cd1254en-fig07

Asia, the prevalence of moderate or severe food insecurity is the same in peri-urban areas as in rural areas, and in Asia, severe food insecurity is slightly more prevalent in peri-urban areas. Northern America and Europe, considered together for this analysis, is the only region where people living in urban areas are more food insecure than those living in rural areas.

A comparison of the **food insecurity status of men and women** shows that the prevalence of food insecurity has remained consistently higher among women than among men, globally and in all regions, since data first became available in 2015. The gender gap widened considerably at the global level and in every region except Africa between 2019 and 2021 in the wake of the global COVID-19 pandemic, largely due to the disproportionate impact on women's jobs and incomes and their larger burden of unpaid caregiving for out-of-school children and sick family members.[8–10] At the global level, the gender gap in moderate or severe food insecurity jumped from a 1.4 percentage-point difference between men and women in 2019 to 3.6 percentage points in 2021, and for severe food insecurity, from a 0.6 percentage-point difference to 2.3 percentage points in the same period (Figure 7).[e] »

e See Table A1.4 in **Annex 1A** for prevalence of moderate or severe food insecurity, and severe food insecurity only, by sex in 2023 by region and subregion.

BOX 3 IS FOOD INSECURITY SEVERITY ASSOCIATED WITH THE PROPERTIES OF A HEALTHY DIET? PRELIMINARY EVIDENCE FROM 28 COUNTRIES

Healthy diets are achieved by consuming a **diversity** of foods that provide **adequate nutrients** and bioactive compounds important for health, a **balanced** intake of macronutrients, and a **moderation** of foods and beverages that increase the risk of diet-related non-communicable diseases (NCDs), including those that are high in unhealthy fats, free sugars and/or salt and/or which contain non-sugar sweeteners, and which are often highly processed.[13–19] Although the concepts of food security and healthy diets are intimately linked, the relationship between them is not straightforward.

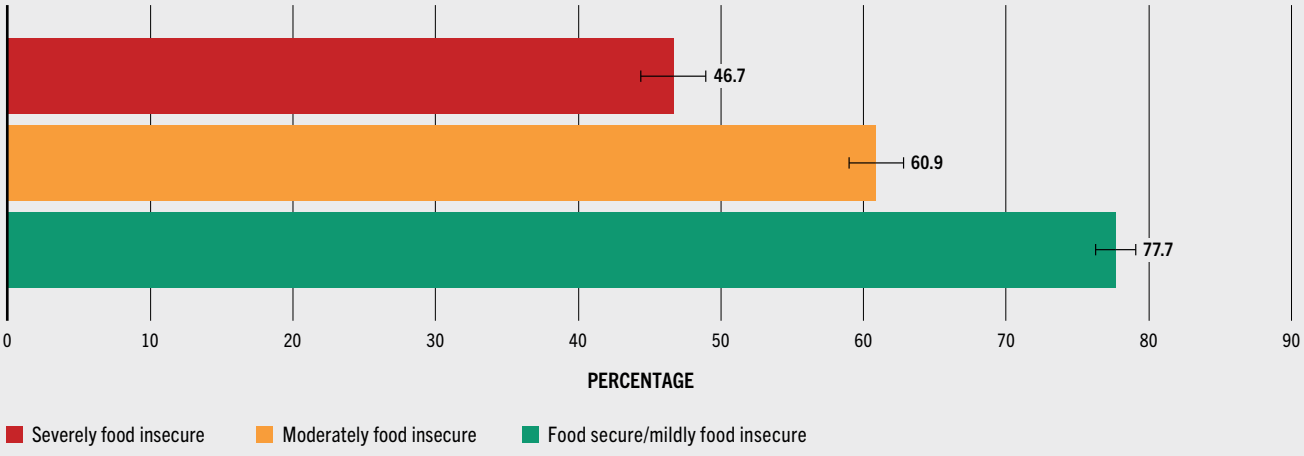
While it might seem intuitive that food-insecure people are less likely to achieve a healthy diet, this link is not straightforward because of a plethora of factors that differ across contexts, such as those related to food environments, consumer behaviour, and the cost and affordability of a healthy diet. For example, food insecurity has been found to be associated with lower consumption of all types of foods and higher share of dietary energy from staple foods in some contexts, while in others it has been found to be associated with lower consumption of nutritious foods and higher consumption of energy-dense foods high in unhealthy fats, sugars and salt.[20]

Food insecurity, therefore, may affect diets in a variety of ways that could potentially contribute to several forms of malnutrition including undernutrition (stunting, wasting and micronutrient deficiencies) but also to overweight and obesity.[11, 21] However, because most studies collect food insecurity and dietary intake data using different samples, data collection modalities and analysis approaches, thus hampering comparison of the results, it has been difficult to explore the associations between the severity of food insecurity and the healthiness of diets across countries.

FAO has been collecting food security data annually using the Food Insecurity Experience Scale (FIES) since 2014 through the Gallup© World Poll (GWP). Beginning in 2021, new data on diet quality have also been collected in the GWP in a growing number of countries using the Diet Quality Questionnaire (DQQ), providing an opportunity to explore the associations between food insecurity and properties of a healthy diet in a comparable way across countries. The DQQ and several novel dietary metrics were developed by the Global Diet Quality Project, a collaborative effort of Gallup©, Harvard University and the Global Alliance for Improved Nutrition.[22]

A well-established indicator that can be derived from DQQ data is the proportion of women aged 15 to 49 years who have achieved "Minimum Dietary Diversity for Women" (MDD-W), meaning they consumed foods from at least five out of ten food groups (indicating a minimally acceptable level of dietary **diversity**).[23]

FIGURE A THE PERCENTAGE OF THE POPULATION OF WOMEN AGED 15 TO 49 YEARS IN 28 COUNTRIES ACHIEVING MINIMUM DIETARY DIVERSITY FOR WOMEN BY FOOD SECURITY STATUS



SOURCES: Authors' (FAO) own elaboration based on Food Insecurity Experience Scale data collected by FAO and Diet Quality Questionnaire data collected by the Global Diet Quality Project, both in the Gallup© World Poll in 2021 and 2022.

https://doi.org/10.4060/cd1254en-figB03-A

BOX 3 (Continued)

Data collected using the DQQ also include a novel measure that aims to reflect the dietary principle of **moderation**, namely through the "NCD-Risk" indicator.* Additionally, the DQQ permits the exploration of the consumption of specific food groups, such as zero vegetable or fruit (ZVF) and animal-source food (ASF), as well as a measure of the consumption of food groups related to lower risks of diet-related NCDs ("NCD-Protect" indicator*).

Both the FIES survey module and the DQQ were implemented in the GWP, with both types of data collected from the same respondents aged 15 years and above, in 28 countries in 2021 and 2022.** Pooled data from these 28 countries were used to examine the association*** between the severity of food insecurity, based on the FIES, and adherence to the properties of a healthy diet, based on MDD-W and novel metrics derived from the DQQ.

Greater severity of food insecurity was associated with lower dietary diversity among women aged 15 to 49 years in these 28 countries (Figure A). Less than 50 percent of severely food-insecure women achieved MDD-W, while over 77 percent who were food secure or mildly food insecure achieved MDD-W. This association held after controlling for income level, education, gender, urban–rural residence and country of residence of the respondents.

Expanding the analysis to the entire adult population (both men and women) in the 28 countries, and controlling for the same respondent characteristics mentioned above,*** greater severity of food insecurity was associated with lower odds of consuming ASF and higher odds of consuming ZVF. It was also associated with lower odds of consuming a diet that protects against NCDs (based on the NCD-Protect indicator) as well as lower odds of consuming foods linked with greater risk of NCDs (based on the NCD-Risk indicator). That is, the more food insecure men and women were, the fewer healthy and unhealthy food groups they consumed. In isolation, the finding that greater food insecurity was associated with lower consumption of unhealthy food groups may give the impression that food insecurity was associated with better adherence to dietary **moderation**. However, in this pooled sample of data from 28 countries, 21 of which were low- or lower-middle-income countries, greater severity of food insecurity suggested a general lack of access to (or availability of) *all* food groups, healthy as well as unhealthy.

Some UN agencies are already routinely collecting both FIES and MDD-W data in the same surveys. Since 2022, the International Fund for Agricultural Development (IFAD) has been collecting MDD-W data through surveys in several countries, including Cameroon, Cabo Verde, Nepal and Türkiye, for project reporting. In addition, FIES data are used for the Impact Assessment Corporate Reporting Programme to measure the attributable impact of IFAD's investment projects in each replenishment period.

Healthy diets and the SDGs

Ensuring healthy diets is key to achieving SDG 2 and a prerequisite for achieving many other goals. However, diets are not currently captured by any of the SDG 2 indicators that monitor the prevalence of undernourishment (hunger), moderate or severe food insecurity based on FIES, and four indicators of nutritional status (stunting, wasting and overweight among children under five years of age, and anaemia among women aged 15 to 49 years).[24] The absence of an indicator of diet quality in the SDG indicator framework therefore represents a gap in the monitoring of progress towards the 2030 Agenda for Sustainable Development.

To address this issue, a group of Member States (Bangladesh, Brazil, Malawi and Switzerland), with the support of FAO, IFAD, UNICEF, WFP and WHO have recommended that the "Prevalence of Minimum Dietary Diversity" (among women and children) be included as an SDG 2 indicator through the 2025 Comprehensive Review. The inclusion of an indicator on diets would help close this important gap in the final stretch to 2030 and help inform the actions needed not just to deliver Zero Hunger, but to ensure the good nutrition, health, and development of populations on which all SDGs rely.

NOTES: * The indicators are derived from the percentage of respondents achieving a given value of the scores. ** The 28 countries included 16 countries in Africa, seven in Asia, three in Latin America and one each from Northern America and Europe. Of these, 21 are low- or lower-middle-income countries and seven are upper-middle-income or high-income countries. DQQ and FIES data were collected in the GWP in 19 countries in 2021 and 10 countries in 2022. One of the countries was surveyed twice in separate years. *** In this box, the association is studied using both correlation and regression models, with the latter used to also control for the effect of other variables. Association does not necessarily imply causality. See the methodological note on the analysis in the Supplementary material to Chapter 2.

» The gender gap narrowed markedly in 2022 as the pandemic and its unprecedented disruptions eased, and new data indicate that it continued to grow smaller in 2023. Globally, the percentage-point difference in the prevalence of moderate or severe food insecurity between men and women fell to 2.3 in 2022 and narrowed further to 1.3 in 2023. For severe food insecurity, the gap narrowed to 1 percentage point in 2022 and remained about the same in 2023.

It should be noted, however, that the shrinking gender gap is partially due to decreasing food insecurity among women concomitantly with rising levels among men for two consecutive years in Asia and in Northern America and Europe, driving the global trend.

The differences between men and women have grown smaller over the past two years in most regions. The gender gap for moderate or severe food insecurity in 2023 was close to 1 percentage point in all regions except Latin America and the Caribbean, where it was 5.2 percentage points – 30.3 percent of women were moderately or severely food insecure compared with 25.1 percent of men. For severe food insecurity, the gap was 1.4 percentage points for Latin America and the Caribbean compared with about 1 percentage point or less in the other regions.

Research based on FIES data collected by FAO has shown that women are more affected by food insecurity even when taking income, education level and demographic factors into account, suggesting that prevailing gender norms and women's limited access to resources are key factors.[10]

This analysis, based on data collected using the FIES, shows the importance of collecting food security data in surveys designed to provide disaggregated information on the food insecurity of different population groups of interest. In the same way, when FIES data are collected in the same survey together with other relevant information, the results can also shed light on the potential causes and consequences of food insecurity. For example, past editions of this report have presented analyses of the association between food insecurity and different forms of malnutrition[11] as well as diet.[12] There are multiple pathways whereby the experience of food insecurity may contribute to various forms of malnutrition, but the main ones pass through diet.[11] For this reason, it is important to enhance our understanding of how food insecurity, including moderate levels of severity, may be associated with diets. However, the collection of food consumption data in a way that allows for the comparison of diets across countries and cultures is a daunting challenge, and several initiatives are currently underway to meet this challenge. One such initiative is collecting dietary data in many of the same surveys that collect FIES data, providing the unique opportunity to examine the association between food insecurity and diet (Box 3).

The lack of improvement in food security and the uneven progress in the economic access to healthy diets cast a shadow over the possibilities of achieving Zero Hunger in the world, six years away from the 2030 deadline. There is the need to accelerate the transformation of our agrifood systems with greater resilience to the major drivers, addressing inequalities to ensure that healthy diets are affordable and available to all. ■

2.2 COST AND AFFORDABILITY OF A HEALTHY DIET

KEY MESSAGES

➔ New food price data and methodological improvements have resulted in updated estimates of the cost and more accurate estimates of the affordability of a healthy diet, leading to a revision of the entire series of both sets of indicators.

➔ Food prices rose throughout 2022, pushing up the average cost of a healthy diet globally to 3.96 purchasing power parity (PPP) dollars per person per day, up from 3.56 PPP dollars in 2021. Disruptions from the COVID-19 pandemic and the war in Ukraine contributed to significant increases in international food and energy prices, exacerbating inflationary pressures.

➔ Despite the increase in food prices over 2022, the number of people unable to afford a healthy diet in the world fell back to pre-pandemic levels in the same year (2.83 billion people), fuelled by an economic recovery from the pandemic that has, nevertheless, been uneven across regions and country income groups.

➔ The number of people unable to afford a healthy diet dropped below pre-pandemic levels in Asia and in Northern America and Europe, while increasing substantially in Africa, where the number rose to 924.8 million in 2022, up by 24.6 million from 2021, and by 73.4 million from 2019.

➔ The unequal recovery is even more evident across country income groups. In 2022, the number of people unable to afford a healthy diet dropped below pre-pandemic levels in the group of upper-middle- and high-income countries as a whole, while the group of low-income countries had the highest levels since 2017, the first year for which FAO published estimates. This suggests that limited fiscal capacity in low-income countries provided only partial protection from the negative impacts of these crises.

➔ Of the people in the world who were unable to afford a healthy diet in 2022, 1.68 billion, or 59 percent, lived in lower-middle-income countries. However, low-income countries had the largest percentage of the population that could not afford a healthy diet (71.5 percent) compared with lower-middle-income countries (52.6 percent), upper-middle-income countries (21.5 percent) and high-income countries (6.3 percent).

Monitoring economic access to a healthy diet is essential for informing policies aimed at improving food security and nutritional outcomes, thereby contributing to the achievement of SDG Targets 2.1 and 2.2. A healthy diet comprises four key aspects: diversity (within and across food groups), adequacy (sufficiency of all essential nutrients compared to requirements), moderation (foods and nutrients that are related to poor health outcomes) and balance (energy and macronutrient intake).

The cost of a healthy diet (CoHD) indicator provides national level estimates of the cost of acquiring the cheapest possible healthy diet in a country, defined as a diet comprising a variety of locally available foods that meet energy and nutritional requirements.[25]

The CoHD is then compared with national income distributions, after careful consideration of the portion of income required for essential non-food goods and services, to estimate the prevalence of unaffordability (PUA) and the number of people unable to afford a healthy diet (NUA) indicators. These are measures of the proportion of the population and of the number of people in each country who are unable to afford even the least-cost option of a healthy diet. Together, the PUA and NUA serve as critical indicators for monitoring the inability of agrifood systems to deliver a least-cost healthy diet that is accessible for all, given existing levels of income inequality within countries.

In this year's edition of the report, the indicators of the cost and of the affordability of a healthy diet are updated to 2022.[f] FAO, in collaboration with the World Bank, systematically monitors these indicators and disseminates the series in the FAOSTAT database and in the World Bank Databank. The entire series for both indicators have been revised as a result of the introduction of three significant updates in the calculation of the indicators (see Supplementary material to Chapter 2).

First, the CoHD estimates for 2017 to 2022 were calculated using updated retail food prices for the year 2021 from a new round of the International Comparison Program[26] released by the World Bank, replacing the 2017 ICP round adopted in previous editions of this report.[27]

Second, in this year's edition, the prevalence and number of people unable to afford a healthy diet at global, regional and country income group levels have been imputed for the first time for countries with missing information (see **Annex 1B**).[g]

Third, we are introducing an important revision in the methods used to compute the PUA and NUA indicators. Specifically, in establishing an appropriate cost threshold to compare with

f Estimates for 2023 are not provided due to the lack of updated income distribution data, detailed food prices, and purchasing power parity (PPP) conversion factors at the country level.

g If a similar imputation had been applied to last year's assessment, the total number of people unable to afford a healthy diet globally in 2021 would have been estimated at 3.29 billion, rather than 3.14 billion.

country-specific income distributions, it is essential to identify the cost of basic non-food needs as well as the cost of a healthy diet. A new method to determine the cost of basic non-food goods and services is introduced, which allows for a more accurate reflection of how this cost varies for countries that belong to different income groups (see Box 4 and **Annex 1B**).

All of this has resulted in a recalibration of the whole series of PUA and NUA estimates to levels that are significantly lower than those published in previous editions of this report.

The cost of a healthy diet in 2022

Food prices continued to rise in 2022 compared to the period from 2017 to 2021, pushing up the average cost of a healthy diet (CoHD) globally and in all regions of the world. The FAO Food Price Index climbed by 52 percent between 2019 and 2022, with prices for cereals increasing by 60 percent, dairy products by 45 percent, meat by 19 percent, and oils by a remarkable 125 percent compared to pre-COVID-19 pandemic levels.[33]

This inflationary pressure is reflected in the trend of the CoHD indicator, which has risen worldwide since 2017 (the first year for which FAO disseminates estimates), peaking at an average of 3.96 PPP dollars per person per day in 2022 (Table 5). Between 2020 and 2021, the CoHD rose 6 percent, from 3.35 to 3.56 PPP dollars, while the following year, it increased by 11 percent, from 3.56 PPP dollars in 2021 to 3.96 PPP dollars in 2022.

The cost of a healthy diet across regions in 2022, is found to be highest in Latin America and the Caribbean (an average of 4.56 PPP dollars), with an increase of nearly 12 percent in only one year. In Asia, the average CoHD rose from 3.84 PPP dollars in 2021 to 4.20 PPP dollars, with Eastern Asia and Southern Asia recording the highest average CoHD at 5.34 PPP dollars and 4.28 PPP dollars, respectively, in the region. Africa saw a 10 percent increase in CoHD from 3.41 PPP dollars in 2021 to 3.74 PPP dollars in 2022, with Western Africa experiencing the largest surge, 11 percent between 2021 and 2022, followed by Eastern Africa (8.6 percent). Northern Africa was the only subregion where the average CoHD decreased between 2019 and 2020; it rose by 10 percent from 2021 to 2022. Compared to the other regions, Northern America and Europe showed a moderate increase in the average cost of a healthy diet during the COVID-19 pandemic (from 2.95 PPP dollars in 2019 to 3.12 PPP dollars in 2021), but experienced a substantial increase of 14 percent from 2021 to 2022, reaching 3.57 PPP dollars. In Oceania, the CoHD averaged 3.46 PPP dollars in 2022. Broken down by income group, lower- and upper-middle-income countries recorded the highest average cost of a healthy diet in 2022 at 4.20 PPP dollars per day. This was followed by high-income countries at 3.78 PPP dollars, and low-income countries at 3.48 PPP dollars. In low-income countries, the average cost of a healthy diet increased by nearly 5 percent between 2021 and 2022, following a 10 percent surge in the cost from 2020 and 2021.

The prevalence and number of people unable to afford a healthy diet in 2022

The 2023 edition of this report pointed to a slight turnaround in the number of people unable to afford a healthy diet in 2021, when it declined compared to 2020, although it was still higher than it was at pre-pandemic levels in 2019. Despite the increase in food prices over 2022, this year's edition confirms the continuation of a declining trend in the number of people unable to afford a healthy diet in 2022, largely due to the path of economic growth since the pandemic. Worldwide, an estimated 35.4 percent of people (2.83 billion) were unable to afford a healthy diet in 2022, compared with 36.4 percent (2.88 billion) in 2021, equivalent to a decrease of 50.1 million people in one year (Figure 8 and Table 6). After declining by 238 million people, from 3.06 billion in 2017 to 2.82 billion in 2019, the number of people unable to afford a healthy diet rose to 2.97 billion people in 2020, coinciding with the COVID-19 pandemic period. This was followed by a two-year declining trend in the prevalence and the number of people unable to afford a healthy diet.

However, the recovery has been uneven across regions. The unaffordability of a healthy diet dropped below pre-pandemic levels in Asia and in Northern America and Europe, while increasing substantially in Africa, where the NUA rose to 924.8 million in 2022, up by 24.6 million »

TABLE 5 THE AVERAGE COST OF A HEALTHY DIET, 2017–2022

	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars)					
WORLD	**3.13**	**3.17**	**3.25**	**3.35**	**3.56**	**3.96**
AFRICA	**3.07**	**3.09**	**3.12**	**3.18**	**3.41**	**3.74**
Northern Africa	3.33	3.42	3.48	3.42	3.44	3.78
Sub-Saharan Africa	3.04	3.05	3.07	3.15	3.41	3.73
Eastern Africa	3.08	3.03	3.04	3.13	3.49	3.79
Middle Africa	3.14	3.12	3.12	3.17	3.33	3.67
Southern Africa	3.27	3.28	3.34	3.45	3.66	3.97
Western Africa	2.88	2.96	2.99	3.08	3.28	3.65
ASIA	**3.23**	**3.29**	**3.38**	**3.54**	**3.84**	**4.20**
Central Asia	3.14	3.19	3.31	3.52	3.78	4.14
Eastern Asia	4.12	4.29	4.37	4.59	4.87	5.34
South-eastern Asia	3.53	3.62	3.70	3.83	4.02	4.35
Southern Asia	3.28	3.35	3.45	3.59	3.84	4.28
Western Asia	2.67	2.74	2.82	2.98	3.37	3.70
LATIN AMERICA AND THE CARIBBEAN	**3.61**	**3.68**	**3.76**	**3.87**	**4.08**	**4.56**
Caribbean	4.03	4.16	4.27	4.41	4.63	5.16
Latin America	3.35	3.38	3.46	3.54	3.74	4.20
Central America	3.24	3.30	3.37	3.42	3.60	4.05
South America	3.42	3.44	3.52	3.61	3.84	4.29
OCEANIA	**2.74**	**2.74**	**2.85**	**2.95**	**3.12**	**3.46**
NORTHERN AMERICA AND EUROPE	**2.77**	**2.82**	**2.95**	**3.02**	**3.12**	**3.57**
Europe	2.77	2.83	2.97	3.04	3.15	3.61
Eastern Europe	2.83	2.90	3.04	3.15	3.26	3.75
Northern Europe	2.62	2.66	2.77	2.84	2.90	3.28
Southern Europe	3.11	3.18	3.35	3.39	3.55	4.15
Western Europe	2.33	2.42	2.52	2.60	2.68	3.01
Northern America	2.73	2.69	2.72	2.77	2.77	2.96
COUNTRY INCOME GROUP						
Low-income countries	2.94	2.93	2.95	3.02	3.33	3.48
Lower-middle-income countries	3.23	3.29	3.35	3.49	3.77	4.20
Upper-middle-income countries	3.30	3.36	3.46	3.54	3.74	4.20
High-income countries	3.01	3.07	3.16	3.26	3.41	3.78

NOTES: The cost of a healthy diet (CoHD) is expressed in purchasing power parity (PPP) dollars per person per day. It is reported as the arithmetic mean of the CoHD for the countries in the groups reported above.

SOURCE: FAO. 2024. *FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD)*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/CAHD.

BOX 4 ONGOING IMPROVEMENTS IN THE METHOD TO ASSESS THE AFFORDABILITY OF A HEALTHY DIET

Establishing new indicators for global assessments like those presented in this section is always a daunting task. Since they were first introduced in the 2020 edition of this report, the indicators of the unaffordability of a healthy diet (prevalence and number) at the global, regional and country levels have been continuously refined to reflect both newly available information and a more thorough understanding of some of the subtlety involved in the underlying statistical inferential process.

In addition to the normal practice of updating them based on more recent data, the series presented in this edition of the report reflects a more substantial revision of the method, replacing the one used in the past.

As far as data are concerned, the main aspect to note this year is that all estimates of the cost of a healthy diet (CoHD) at country level have been revised to reflect the 2021 food price recently released in the 2024 edition of the International Comparison Program.[26] As prices have been added for new food items that were not included in previous releases, this entailed reviewing, as necessary, the composition of the reference Healthy Diet Basket.[28]

In terms of methods, while the general principle on which the indicators are based remains unchanged, the way in which it has been operationalized to compute the estimates has been revised. Affordability means that people can devote enough money to food to purchase locally all the least expensive food items needed to consume a healthy diet. This excludes the possibility of consuming expensive food items if a nutritionally equivalent, lower-cost option is available.

When determining how much of a household's total disposable income can be reasonably devoted to food, it is important to consider the minimum amount that people must reserve to purchase the *non-food* basic goods and services needed to conduct a dignified life. In past editions of this report, this amount was roughly approximated by a fixed proportion (48 percent) of the household's total disposable income.[29] The same percentage was applied to all countries, justified by the observation that, on average, people in low-income countries spend 52 percent of their income on food. Furthermore, it was assumed that using this average proportion would not introduce a systematic bias, despite the expectation that poor people must devote relatively more of their income, and wealthier people relatively less, to basic food needs. In hindsight, the assumption that the implicit misclassification errors would cancel out, in the aggregate, was incorrect.

This year FAO, in collaboration with the World Bank, began implementing a change to the methodology to reflect the fact that the amount needed to purchase non-food basic goods and services varies across households in ways that are not simply proportional to their income.

The ideal approach would entail determining, for each country separately, the cost of a normatively defined bundle of such goods and services, based on market prices (similarly to what we do to price the cost of a healthy diet). Unfortunately, such an approach is not feasible as it would require deciding what is to be included in the bundle of essential goods and services and having access to detailed prices on those goods and services.

Due to the lack of country-specific information needed to determine the cost of basic non-food goods and services, this edition employs a feasible approach based on the World Bank's country classifications by income. The approach defines non-food spending as the daily cost evaluated at the country income group's international poverty line and assigns non-food spending shares related to each group.* The new method involves multiplying country income group-specific international poverty lines by the non-food expenditure shares for each country income group to calculate the daily cost of basic non-foods in a country, as illustrated in Table A.

For each country a threshold is computed that combines the least-cost healthy diet of the country (*i*) and the income group-specific cost of non-food basic needs (*j*):

$$Cost\ Threshold_i = CoHD_i + (IntlPovLine_j \times NonfoodExpShare\ Income_j)$$

Finally, this threshold is compared with the country-specific income distribution sourced by the World Bank Poverty and Inequality Platform to estimate the percentage of the population whose income is below that threshold. In this way, it is recognized that the cost to achieve a minimally adequate standard of living

TABLE A CALCULATION OF THE COST OF NON-FOOD BASIC GOODS AND SERVICES

	International poverty line (a)	Non-food expenditure share (b)	Cost of non-food basics (a) × (b)
	(2017 PPP dollars per person per day)		
Low-income countries	2.15	0.37	0.80
Lower-middle-income countries	3.65	0.44	1.61
Upper-middle-income countries	6.85	0.54	3.70
High-income countries	24.36	0.54	13.20

SOURCE: Bai, Y., Herforth, A., Cafiero, C., Conti, V., Rissanen, M.O., Masters, W.A. & Rosero Moncayo, J. (forthcoming). *Methods for monitoring the affordability of a healthy diet*. FAO Statistics Division Working Paper. Rome, FAO.

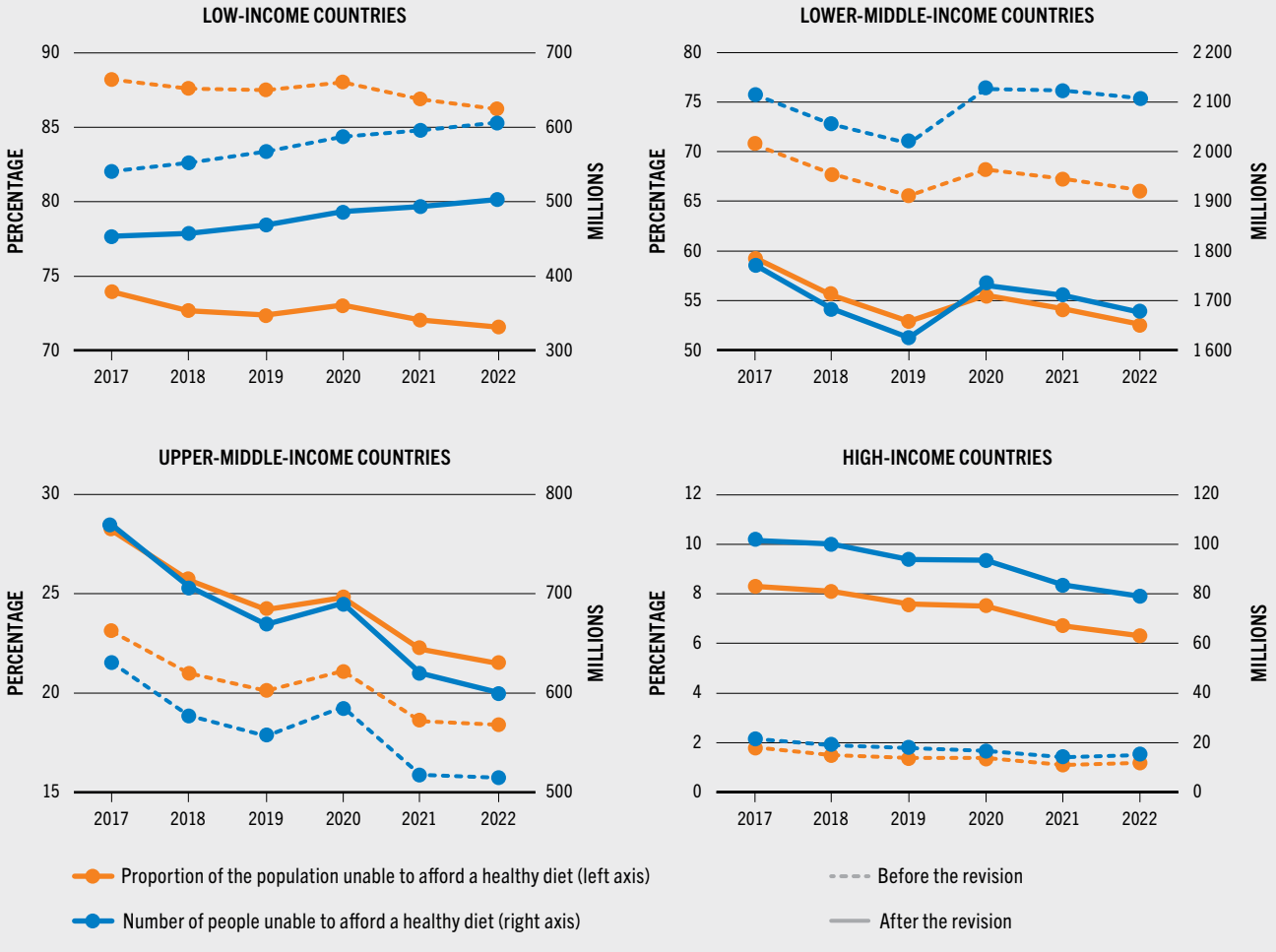
differs depending on the level of economic development of the country, which is very much in line with the concept behind the higher poverty lines used by the World Bank to monitor poverty in countries with a low incidence of extreme poverty.[30] This revision corrects for the overestimation of unaffordability in low- and lower-middle-income countries and the underestimation in upper-middle- and high-income countries, both derived from using a fixed share of income to cover for non-food basic needs. Figure A shows the extent of the corrections made in the series of unaffordability in each country income group.

As mentioned, this is the first step towards a more thorough revision of the methods used to assess the prevalence of unaffordability of a healthy diet. However, it is also important to address the fact that the cost to achieve a minimally dignified standard of living also varies *within* each country. Especially for large and diverse countries, the failure to account for such differences, and the use of a threshold set at the national average for the cost of basic non-food needs and healthy diets, may result in biased estimates of unaffordability. The direction and extent of the bias will depend on the direction and the magnitude of the possible correlation that exists between income levels and the correct, location-specific threshold.

Research is ongoing, based on analysis of data from a large number of Household Consumption and Expenditure Surveys, to establish the proper correction factor to apply to the country-specific thresholds to correct the bias, and the results will be presented in the next edition of this report. See **Annex 1B** and Supplementary material to Chapter 2 for further details on the methodology.

NOTES: * The share of non-food spending is set at the second income quintile for low- and lower-middle-income countries, and at the first income quintile for upper-middle- and high-income countries.[31] Detailed expenditure shares and real consumption data per person by quintile are derived from recent household surveys compiled by the World Bank, covering 71 countries from different income groups.[32]

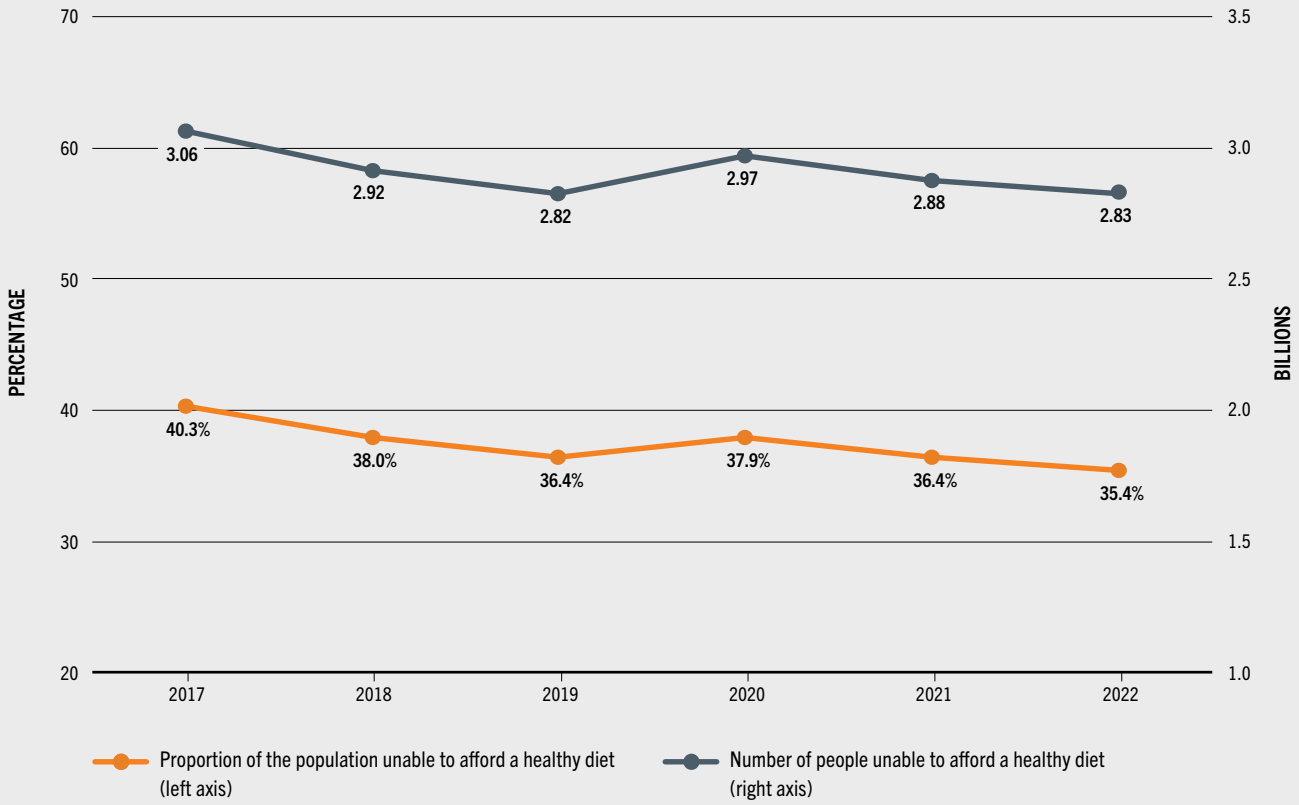
FIGURE A ADJUSTMENT IN THE SERIES OF UNAFFORDABILITY BY COUNTRY INCOME GROUP, 2017–2022



SOURCE: Authors' (FAO) own elaboration.

https://doi.org/10.4060/cd1254en-figB04-A

FIGURE 8 THE PROPORTION OF THE POPULATION AND NUMBER OF PEOPLE UNABLE TO AFFORD A HEALTHY DIET IN THE WORLD DECREASED FROM 2020 TO 2022



SOURCE: FAO. 2024. *FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD)*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig08

» from 2021, and by 73.4 million from 2019 (Table 6). In Asia, a healthy diet was out of reach for 1.66 billion people in 2022, showing two consecutive years of improvement; 163 million fewer people were unable to afford a healthy diet in 2022 than in 2020. In Latin America and the Caribbean, while the number of people unable to afford a healthy diet increased by 9.2 million from 2020 to 2021, this was more than offset by an improvement of 14.3 million in 2022, bringing the total number down to 182.9 million in 2022. In Northern America and Europe, the burden of unaffordability was also alleviated, decreasing from 57.1 million in 2021 to 53.6 million in 2022. Oceania also saw a reduction, from 10 million in 2021 to 9.1 million in 2022.

Sub-Saharan Africa experienced a significant deterioration in 2022, when the number of people unable to afford a healthy diet rose by 23.9 million to 842.9 million. The majority of people who lacked economic access to a healthy diet in 2022 lived in Eastern Africa (348.6 million) and Western Africa (297.5 million). These two regions combined saw an increase of 18.9 million in the number of people unable to afford a healthy diet from 2021 to 2022. Northern Africa showed a decline in the number from 2020 to 2021 (from 89.9 million to 81.2 million), followed by a slight uptick in 2022. Nevertheless, Northern Africa had the lowest prevalence in the region at 31.5 percent. Southern Asia recorded a decline in the number for the »

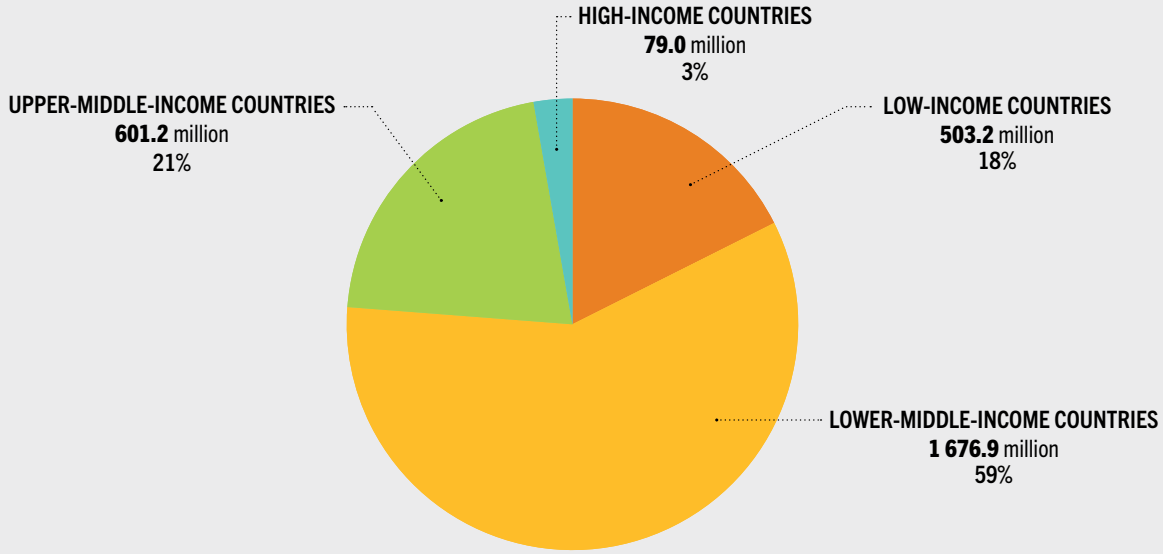
TABLE 6 PROPORTION OF THE POPULATION AND NUMBER OF PEOPLE UNABLE TO AFFORD A HEALTHY DIET, 2017–2022

	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
WORLD	**40.3**	**38.0**	**36.4**	**37.9**	**36.4**	**35.4**	**3 062.3**	**2 916.1**	**2 823.4**	**2 968.0**	**2 876.4**	**2 826.3**
AFRICA	**65.1**	**64.6**	**64.1**	**65.1**	**64.6**	**64.8**	**822.4**	**836.5**	**851.4**	**885.3**	**900.2**	**924.8**
Northern Africa	36.9	38.1	37.0	35.7	31.7	31.5	87.7	92.4	91.4	89.9	81.2	81.9
Sub-Saharan Africa	71.6	70.7	70.3	71.7	72.0	72.2	734.7	744.2	760.0	795.4	819.0	842.9
Eastern Africa	73.6	72.5	72.3	73.2	73.5	73.7	305.5	308.7	316.1	329.0	339.1	348.6
Middle Africa	78.1	77.7	77.5	78.6	78.7	78.8	131.3	134.7	138.7	145.1	149.8	154.5
Southern Africa	61.5	60.9	60.9	62.6	61.7	61.6	39.8	39.9	40.4	42.1	42.0	42.2
Western Africa	68.3	67.3	66.6	68.4	68.8	69.3	258.0	260.8	264.8	279.2	288.1	297.5
ASIA	**43.3**	**39.5**	**37.0**	**39.0**	**36.5**	**35.1**	**1 967.5**	**1 813.7**	**1 714.5**	**1 819.3**	**1 712.0**	**1 655.9**
Central Asia	21.2	18.5	17.6	19.1	17.1	16.3	15.1	13.4	12.9	14.3	13.0	12.6
Eastern Asia	25.7	22.4	20.3	21.2	16.5	16.3	424.4	371.4	336.8	353.3	275.3	271.4
South-eastern Asia	38.4	36.8	35.3	36.9	37.3	36.3	250.0	242.2	234.2	247.4	251.9	247.0
Southern Asia	64.2	58.6	54.8	57.9	55.8	53.1	1 221.4	1 128.3	1 068.0	1 141.1	1 110.5	1 066.3
Western Asia	20.6	21.0	22.1	22.0	21.2	20.0	56.6	58.4	62.5	63.2	61.3	58.7
LATIN AMERICA AND THE CARIBBEAN	**29.2**	**28.4**	**27.8**	**28.9**	**30.1**	**27.7**	**185.5**	**181.8**	**180.0**	**188.1**	**197.2**	**182.9**
Caribbean	47.2	45.9	46.1	49.5	50.1	50.0	20.4	19.9	20.1	21.8	22.1	22.2
Latin America	27.9	27.1	26.5	27.4	28.6	26.1	165.1	161.9	159.9	166.3	175.1	160.7
Central America	30.7	29.8	27.9	31.9	27.7	26.3	52.6	51.5	48.9	56.3	49.1	47.1
South America	26.7	26.0	25.9	25.5	29.0	26.0	112.5	110.3	111.0	110.1	126.0	113.6
OCEANIA	**15.7**	**16.4**	**18.0**	**21.2**	**22.4**	**20.2**	**6.6**	**7.0**	**7.8**	**9.3**	**10.0**	**9.1**
NORTHERN AMERICA AND EUROPE	**7.2**	**6.9**	**6.2**	**5.9**	**5.1**	**4.8**	**80.4**	**77.0**	**69.7**	**66.0**	**57.1**	**53.6**
Europe	8.4	8.1	7.3	7.2	6.4	5.9	62.7	60.3	54.5	53.8	47.5	44.1
Eastern Europe	11.0	11.3	9.9	9.8	8.4	8.0	32.5	33.3	29.2	28.8	24.5	23.1
Northern Europe	4.0	4.0	3.6	2.9	3.0	2.7	4.1	4.2	3.8	3.1	3.2	2.8
Southern Europe	14.0	12.4	11.2	11.5	9.9	9.1	21.1	18.7	16.9	17.3	14.9	13.6
Western Europe	2.6	2.1	2.4	2.4	2.5	2.3	5.0	4.0	4.6	4.6	4.9	4.5
Northern America	4.8	4.5	4.1	3.2	2.5	2.5	17.7	16.8	15.2	12.1	9.6	9.5
COUNTRY INCOME GROUP												
Low-income countries	73.9	72.6	72.3	73.0	72.0	71.5	453.9	457.8	468.9	487.0	493.5	503.2
Lower-middle-income countries	59.3	55.5	52.9	55.5	54.2	52.6	1 771.4	1 683.8	1 624.8	1 729.9	1 711.2	1 676.9
Upper-middle-income countries	28.2	25.7	24.2	24.8	22.2	21.5	769.7	707.7	668.9	690.5	620.1	601.2
High-income countries	8.4	8.2	7.6	7.6	6.7	6.3	102.9	101.0	94.4	94.0	83.7	79.0

NOTES: The global number of people unable to afford a healthy diet (NUA) estimate is obtained by multiplying the prevalence of unaffordability for each of the five world regions by the total population size in each region. Calculating the global NUA estimate as the sum of the NUA estimates of other country groupings, such as those based on income levels, should be avoided.

SOURCE: FAO. 2024. *FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD)*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/CAHD.

FIGURE 9 THREE-QUARTERS OF THE PEOPLE WHO ARE UNABLE TO AFFORD A HEALTHY DIET LIVE IN LOW- AND LOWER-MIDDLE-INCOME COUNTRIES



NOTES: The global number of people unable to afford a healthy diet (NUA) estimate is obtained by multiplying the prevalence of unaffordability for each of the five world regions by the total population size in each region. Calculating the global NUA estimate as the sum of the NUA estimates of other country groupings, such as those based on income levels, should be avoided.

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https://doi.org/10.4060/cd1254en-fig09

» second consecutive year, with 44.2 million fewer people unable to afford a healthy diet, fully offsetting the increase in the wake of the COVID-19 pandemic in 2020. Western Asia also saw a recovery, with 2.7 million fewer people unable to afford a healthy diet. Following a significant improvement in 2021 (78 million fewer people), Eastern Asia's recovery continued in 2022, with 3.9 million fewer people unable to afford a healthy diet. In Central Asia, the number of people unable to afford a healthy diet slightly decreased to below pre-pandemic levels (12.6 million). In South America, the number of people unable to afford a healthy diet decreased notably from 126 million to 113.6 million, driving the regional decline. While no change was noted in Northern America, Europe experienced a significant decrease in the prevalence of unaffordability, from 6.4 percent in 2021 to 5.9 percent in 2022, with 3.4 million fewer people unable to afford a healthy diet. This change was mainly driven by improvements in Eastern Europe and Southern Europe.

The unequal recovery is even more evident across country income groups. Low-income countries had negative growth in GDP per capita in 2020 and 2021 followed by a slight recovery in 2022.[34] The halt in economic growth, coupled with the sharp rise in food prices, has significantly reduced disposable incomes, given that food makes up a larger share of household expenditures in low-income economies.[35] This has made the recovery path slower for low-income countries, which have the highest number of people unable to afford a healthy diet since 2017; a healthy diet was out of reach for 503.2 million people in low-income countries in 2022.

Lower-middle-income countries showed a declining number of people unable to afford a healthy diet from 2020 to 2022, albeit still above pre-pandemic levels of 2019. This improvement was favoured by sustained per capita gross domestic product (GDP) growth in 2021 and 2022, surpassing the levels seen in 2019.[34] In the groups of upper-middle- and high-income countries, on the other hand, the number fell well below pre-pandemic levels in 2022 (Table 6). A rebound in GDP growth, along with the ability to deploy fiscal policies that cushion the adverse economic impacts during times of crisis, played an important role in these countries.[35] While targeted fiscal policies fully counteracted the impact of the COVID-19 pandemic and other multiple shocks on the affordability of healthy diets in richer economies, they mitigated only a part of the impact in low-income countries.

Of the people in the world who were unable to afford a healthy diet in 2022, 1.68 billion, or 59 percent, lived in lower-middle-income countries (Figure 9). In terms of proportion, however, low-income countries showed the largest share of the population that could not afford a healthy diet (71.5 percent) compared with lower-middle-income (52.6 percent), upper-middle-income (21.5 percent) and high-income countries (6.3 percent) (Table 6).

Economic access to food is one component of food security. People who cannot afford the least-cost healthy diet are likely facing at least some degree of food insecurity, with negative consequences for the quality of their diet. Poor diets, in turn, are an important determinant of nutritional outcomes, which are the focus of the next section. ■

2.3 THE STATE OF NUTRITION: PROGRESS TOWARDS GLOBAL NUTRITION TARGETS

KEY MESSAGES

➔ The world is not on track to achieve any of the seven global nutrition targets by 2030. Progress for low birthweight and for childhood overweight is stagnant, and the prevalence of anaemia in women aged 15 to 49 years has increased.

➔ While global stunting and wasting prevalences have been declining and levels of exclusive breastfeeding rising over the past decade, progress on these three indicators has still been too slow to reach the 2030 targets.

➔ New estimates of the prevalence of adult obesity reveal a steady increase over the last decade, from 12.1 percent (591 million people) in 2012 to 15.8 percent (881 million people) in 2022. It is projected that the number will increase to more than 1.2 billion by 2030.

➔ Regarding progress towards achievement of the 2030 global nutrition targets for children under five years of age, half of the countries worldwide are off track for stunting, more than two-thirds are off track for wasting, and about 60 percent are off track for overweight.

➔ Three-quarters of all countries worldwide are off track to achieve the 2030 global target for low birthweight and more than 40 percent are off track to reach the exclusive breastfeeding target. Almost all countries in the world are off track to attain the 2030 global targets for anaemia among women aged 15 to 49 years and for adult obesity.

➔ Compared to the global estimates, least developed countries (LDCs) have much higher levels of stunting in children under age five and anaemia in women aged 15 to 49 years, while childhood wasting is similar to the global average (but declining more rapidly) and prevalence of childhood overweight is lower. As in the rest of the world, there is a worrying rise in adult obesity in LDCs, even as undernutrition continues to disproportionately affect these countries.

➔ Globally, the double burden of malnutrition – defined as the co-existence of undernutrition together with overweight and obesity – has been on the rise over the last two decades, characterized by a sharp increase in obesity rates and with only a gradual decline in thinness and underweight. Underweight among adults and the elderly has been cut in half while obesity is on the rise in all age groups. The true rate of the double burden is much higher if all forms of malnutrition are considered, including micronutrient deficiencies.

➔ Double-duty actions simultaneously tackle undernutrition, micronutrient deficiencies, overweight and obesity by leveraging the common drivers shared by all forms of malnutrition. Such actions include provision of antenatal care, exclusive breastfeeding, provision of healthy, nutritious foods to children during the complementary feeding period and beyond, school-feeding programmes, micronutrient supplementation, social protection, nutrition-sensitive agriculture, food fortification, and policies that improve the food environment.

Nutrition is a maker and a marker of development.[36] The benefits of good nutrition have widespread ripple effects, from families to communities, regions and nations. Malnutrition, on the other hand, hinders national progress and deeply compromises the health, development and well-being of present and future generations. Malnutrition broadly includes undernutrition and micronutrient deficiencies, as well as overweight and obesity. Ending malnutrition is foundational to the achievement of the SDGs, particularly SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), and SDG 10 (Reduced Inequalities). The elimination of all forms of malnutrition[37] worldwide is a top investment priority for the global health and development agenda.

Section 2.3 assesses global and regional trends for the seven global nutrition targets to 2030, in alignment with the 2030 Agenda for Sustainable Development. These include the six nutrition targets endorsed by the World Health Assembly in 2012 for 2025, which were subsequently extended to 2030.[38] Four out of those six target indicators were also selected to monitor progress towards SDG Target 2.2, namely stunting, wasting and overweight in children under five years of age, and anaemia in women aged 15 to 49 years.[39] The seventh target is to halt the rise in adult obesity, which the WHA adopted as part of the Global Action Plan for the Prevention and Control of Non-Communicable Diseases in 2013, with a target year of 2025.[40] In 2016, the United Nations General Assembly (UNGA) proclaimed the United Nations Decade of Action on Nutrition (2016–2025)[41] which further boosted actions to end hunger, eradicate all forms of malnutrition, and ensure universal access to healthier and more sustainable diets. This section further provides a progress assessment of the 45 countries currently classified as least developed countries (LDCs) by the United Nations, and an analysis of the double burden of malnutrition occurring in different stages of life, as the world witnesses a gradual decline in undernutrition alongside the growing overweight and obesity epidemic.

Assessing malnutrition through the life course lens[42] highlights the critical timing of nutrition interventions in each period, from pre-conception, pregnancy and lactation, through infancy, childhood, adolescence, adulthood and older age. Exposure to environmental factors during these windows has the potential to shape the health trajectories of future generations. Malnutrition, including micronutrient deficiencies, during the vulnerable foetal, infant and early childhood stages increases morbidity and mortality risk,[43, 44] delays physical growth, and weakens the immune system resulting in recurrent illness and infection; it can also lead to suboptimal cognitive development and permanent changes in the structure and function of organ systems, thus setting the stage for susceptibility to chronic diseases in adulthood.[45, 46] Studies have shown that prenatal nutrition interventions can lead to improved birth outcomes, which in turn are associated with better education and human capital outcomes later in life.[47, 48] Children who have access to more nutritious foods in early childhood are more economically productive in adulthood.[49] In contrast, nutritional deficiencies during early childhood impair brain development, impact learning ability and school readiness, suppressing life-long achievement potential and exacerbating health disparities and social inequality.[50] Monitoring the global nutrition indicators through the lens of the life course thus acknowledges the uniqueness of each life stage and supports national and global efforts to tackle the malnutrition landscape holistically.

Global and regional trends

This subsection provides the latest status for the seven nutrition targets at global level (Figure 10) and regionally (Table 7).

Virtually no progress has been made for **low birthweight** among newborns, with a prevalence of 15 percent (21.6 million) in 2012 and 14.7 percent (19.8 million) in 2020 – the latest year with available data. Based on the trends from 2012 to 2020, it is projected that 14.2 percent of newborns will have low birthweight in 2030, falling short of the global target of a reduction of 30 percent relative to the baseline, i.e. 10.5 percent by 2030. Oceania excluding Australia and New Zealand had the highest prevalence in low birthweight among the world regions in 2012 (17.4 percent) and remains the highest with a prevalence of 17.9 percent according to latest estimates.

Significant progress has been made in increasing the global **exclusive breastfeeding** rate among infants under six months of age. Based on the latest estimates, the global prevalence steadily rose from 37.1 percent (25.7 million) in 2012 to 48 percent (31.3 million) in 2022. However, the world is not on track to achieve the 2030 target of 70 percent exclusive breastfeeding rate, as current projections point to a prevalence of 59 percent in 2030. Northern America has the lowest exclusive breastfeeding rate among the world regions (25.8 percent in 2022). Progress in this region has been stagnant over the past decade while other regions have experienced a rising trend for this indicator.

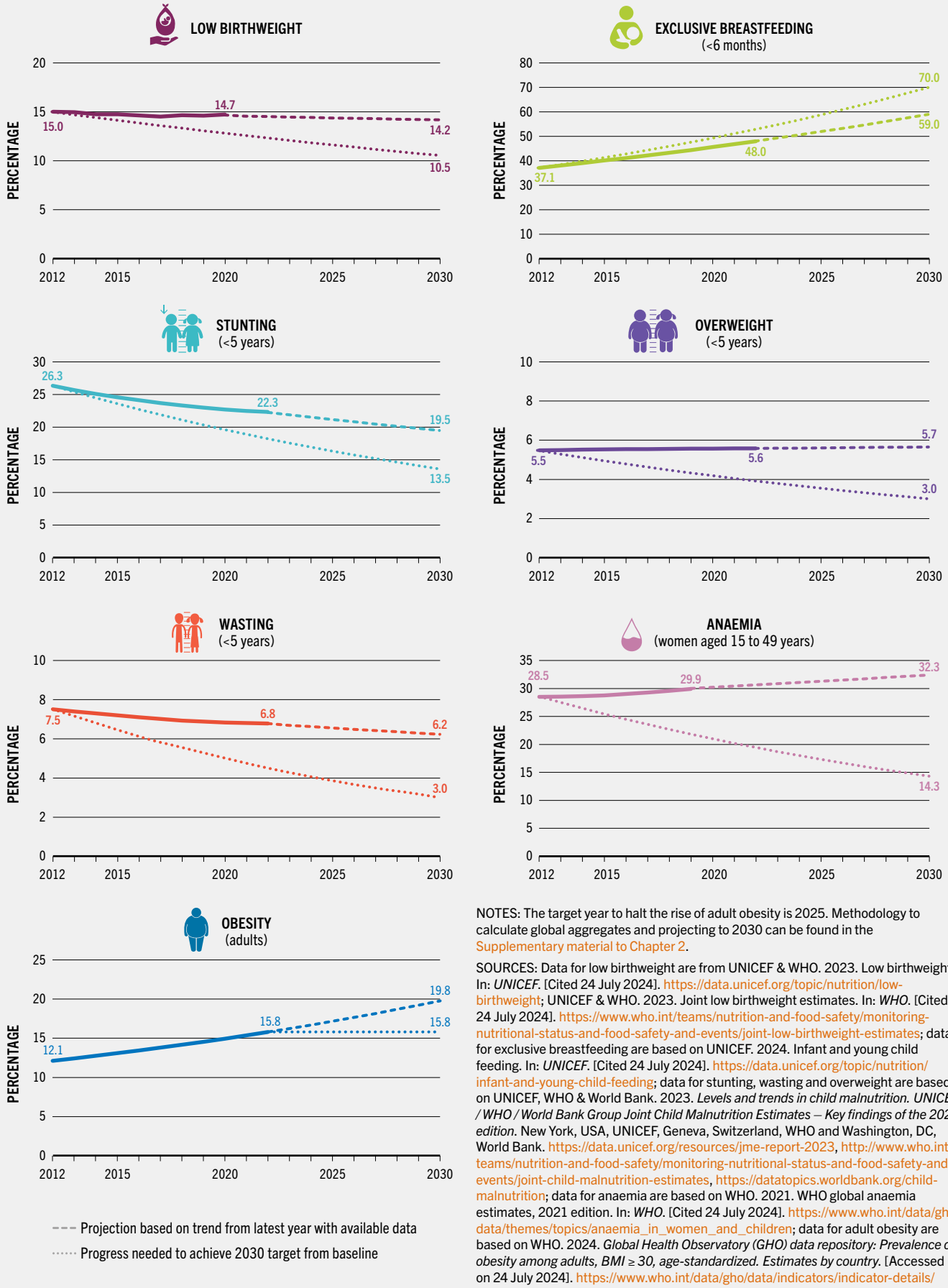
The global prevalence of **stunting** in children under five years of age has declined steadily from 26.3 percent (177.9 million) in 2012 to 22.3 percent (148.1 million) in 2022 – the latest year with available data. Assuming the trend observed since the baseline persists, it is projected that in 2030, 19.5 percent of all children under five will be stunted. The world is currently not on track to achieve the 2030 target of halving the number of stunted children under five by 2030 (13.5 percent stunted). The slower decline also means that the number of children, adolescents and adults suffering the lifelong consequences of early childhood stunting will remain high. Oceania excluding Australia and New Zealand has the highest stunting levels among children under five (44 percent in 2022). Prevalence has increased in this region since 2012, while most other regions have shown an improvement in this indicator over the past decade.

The global prevalence of **wasting** in children under five years of age has remained relatively unchanged over the past decade. In 2012, 7.5 percent of all children under five (50.7 million) were wasted. This prevalence declined to 6.8 percent (45 million) in 2022. The world remains off track to attain the 3 percent prevalence global target for 2030 based on progress exhibited since the baseline, with 6.2 percent of children under five projected to be wasted in 2030, i.e. more than double the global target. In addition, the prevalence of wasting can spike at national level during acute food insecurity contexts such as lean seasons and emergencies, or during times of increased incidence of illness (e.g. diarrhoea, measles outbreaks). Asia has the highest wasting levels among children under five, and efforts must be continued in this region to reduce this life-threatening condition.

The global prevalence of **overweight** among children under five years of age has stagnated, with little change from 5.5 percent (37 million) in 2012 to 5.6 percent (37 million) in 2022 – the latest year with available data. By 2030, 5.7 percent of children under five are projected to be overweight, which is almost double the 2030 global target of 3 percent prevalence. These children have increased risks for obesity and NCDs in adulthood.[51] Children under five living in Australia and New Zealand have the highest prevalence levels of childhood overweight among all world regions – 19.3 percent in 2022.

Globally, the prevalence of **anaemia** in women aged 15 to 49 years increased from 28.5 percent (520 million) in 2012 to 29.9 percent (571 million) in 2019. Based on the trend from 2012 to 2019 – the latest year with available data – the prevalence is projected to be 32.3 percent by 2030. At this pace, the world will not achieve the 2030 target of a 50 percent reduction in the prevalence of anaemia (to reach 14.3 percent target prevalence). Anaemia is a complex health condition with many nutritional determinants, as well as non-nutritional determinants such as infections. »

FIGURE 10 GLOBAL STUNTING AND WASTING PREVALENCES HAVE BEEN DECLINING AND LEVELS OF EXCLUSIVE BREASTFEEDING RISING OVER THE PAST DECADE, BUT THE WORLD IS NOT ON TRACK TO ACHIEVE ANY OF THE SEVEN GLOBAL NUTRITION TARGETS BY 2030



NOTES: The target year to halt the rise of adult obesity is 2025. Methodology to calculate global aggregates and projecting to 2030 can be found in the Supplementary material to Chapter 2.

SOURCES: Data for low birthweight are from UNICEF & WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight; UNICEF & WHO. 2023. Joint low birthweight estimates. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-low-birthweight-estimates; data for exclusive breastfeeding are based on UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding; data for stunting, wasting and overweight are based on UNICEF, WHO & World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF, Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, http://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition; data for anaemia are based on WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children; data for adult obesity are based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024]. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-=-30-(age-standardized-estimate)-(-). Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig10

TABLE 7 REGIONAL TRENDS FOR THE SEVEN GLOBAL NUTRITION TARGETS

	Prevalence of low birthweight		Prevalence of exclusive breastfeeding among infants (0–5 months)		Prevalence of stunting in children (<5 years)		Prevalence of overweight in children (<5 years)		Prevalence of wasting in children (<5 years)	Prevalence of anaemia in women (15–49 years)		Prevalence of obesity in the adult population (≥18 years)	
	2012	2020	2012	2022	2012	2022	2012	2022	2022	2012	2019	2012	2022
	(%)		(%)		(%)		(%)		(%)	(%)		(%)	
WORLD	**15.0**	**14.7**	**37.1**	**48.0**	**26.3**	**22.3**	**5.5**	**5.6**	**6.8**	**28.5**	**29.9**	**12.1**	**15.8**
AFRICA	**14.5**	**13.9**	**35.4**	**46.7**	**34.4**	**30.0**	**5.0**	**4.9**	**5.8**	**39.2**	**38.9**	**12.8**	**16.2**
Northern Africa	14.0	14.1	40.8	35.6	23.5	21.7	11.8	12.3	6.3	31.9	31.1	25.9	31.7
Sub-Saharan Africa	14.5	13.9	34.4	48.0	36.2	31.3	3.8	3.7	5.7	41.2	40.7	8.5	11.4
Eastern Africa	14.7	14.0	48.6	60.3	38.6	30.6	3.9	3.6	5.0	31.4	31.9	4.9	8.1
Middle Africa	12.8	12.2	28.5	44.7	37.9	37.4	4.5	4.6	5.6	46.1	43.2	6.6	9.3
Southern Africa	16.4	16.4	n.a.	32.8	23.4	22.8	12.3	11.4	3.5	28.5	30.3	27.3	29.7
Western Africa	14.9	14.3	22.1	38.3	34.5	30.0	2.3	2.4	6.7	52.9	51.8	8.1	11.6
ASIA*	**17.2**	**17.2**	**39.0**	**50.9**	**28.2**	**22.3**	**4.8**	**5.1**	**9.3**	**31.1**	**32.8**	**6.5**	**10.4**
Central Asia	6.3	6.0	29.2	32.7	14.7	7.7	8.2	5.0	2.1	28.8	28.1	18.8	25.1
Eastern Asia*	5.5	5.5	28.4	36.3	7.7	4.9	6.6	8.3	1.5	15.4	15.9	4.5	8.1
South-eastern Asia	12.8	12.5	33.4	46.0	30.4	26.4	6.4	7.4	7.8	25.0	27.2	6.0	10.0
Southern Asia	26.1	24.4	47.2	59.6	40.3	30.5	2.7	2.8	14.3	48.3	48.2	5.6	9.7
Western Asia	12.2	12.2	31.9	31.4	19.1	14.0	9.1	7.2	3.5	31.7	32.5	29.3	33.6
LATIN AMERICA AND THE CARIBBEAN	**9.5**	**9.6**	**34.3**	**43.1**	**12.7**	**11.5**	**7.4**	**8.6**	**1.4**	**18.2**	**17.2**	**22.4**	**29.9**
Caribbean	11.4	11.7	29.5	31.4	13.0	11.3	6.5	6.6	2.9	28.7	29.2	19.5	24.5
Central America	10.9	10.9	21.6	38.7	18.2	16.9	6.6	6.7	1.0	15.2	14.6	27.9	34.4
South America	8.6	8.8	42.2	47.1	10.1	9.0	7.9	9.7	1.4	18.4	17.3	20.7	28.6
OCEANIA	**11.3**	**11.8**	**n.a.**	**n.a.**	**20.0**	**22.0**	**11.0**	**16.8**	**n.a.**	**14.4**	**16.0**	**25.4**	**29.5**
Australia and New Zealand	6.4	6.4	n.a.	n.a.	3.4	3.4	12.4	19.3	n.a.	7.6	8.8	26.3	30.8
Oceania excluding Australia and New Zealand	17.4	17.9	56.6	58.3	40.9	44.0	9.3	13.9	8.3a	32.9	33.9	21.6	24.8
Melanesia	17.6	18.0	56.8	58.6	43.3	46.4	9.6	14.4	n.a.	33.3	34.2	18.3	21.9
Micronesia	12.4	12.3	55.3	59.8	16.3	13.5	4.4	4.4	n.a.	27.9	29.1	43.2	47.1
Polynesia	16.3	16.8	51.1	48.0	7.3	6.5	8.2	8.2	n.a.	25.6	27.4	52.1	57.5
NORTHERN AMERICA AND EUROPE	**7.4**	**7.4**	**n.a.**	**n.a.**	**4.2**	**3.8**	**9.0**	**7.6**	**n.a.**	**13.1**	**14.6**	**24.8**	**27.9**
Northern America**	8.0	8.1	25.5	25.8	2.6	3.6	8.6	8.2	0.2	9.9	11.7	35.7	40.3
Europe	7.1	7.0	n.a.	n.a.	5.1	4.0	9.2	7.3	n.a.	14.5	16.0	19.7	21.4
Eastern Europe	7.1	7.0	n.a.	n.a.	7.2	5.3	12.1	7.4	n.a.	19.2	20.5	22.1	25.5
Northern Europe	6.3	6.0	n.a.	n.a.	3.7	3.0	8.7	9.7	n.a.	10.6	12.0	22.3	24.2
Southern Europe	8.0	8.2	n.a.	n.a.	4.6	3.9	8.7	8.3	n.a.	13.5	15.1	18.2	18.9
Western Europe	7.0	6.8	n.a.	n.a.	2.8	2.6	5.0	5.1	n.a.	9.6	11.6	16.3	15.8

NOTES: n.a. = estimates not available. * Excluding Japan. ** Estimates for Northern America are based on the United States of America only.

SOURCES: See sources of Figure 10.

» Actions to reduce anaemia must directly address these multiple causes, which will vary by context. Growing evidence demonstrates the important association between iron deficiency, anaemia and obesity, which is of particular concern given the continual increase in both anaemia and obesity. Evidence suggests that this biological association may necessitate new approaches to prevention and treatment.[52, 53] Anaemia plagues a larger proportion of women aged 15 to 49 years in Africa than in any other world region, with 38.9 percent prevalence in 2019 and virtually no progress made in this region over the past decade. More comprehensive efforts are needed to accelerate the reduction of anaemia in women of reproductive age worldwide.

New data on the prevalence of **adult obesity** (age 18+ years) shows that it has steadily increased over the last decade, from 12.1 percent (591 million) in 2012 to 15.8 percent (881 million) in 2022. The world is off track to achieve the 2030 global target to halt the rise, with more than 1.2 billion obese adults projected for 2030 (19.8 percent global prevalence). Latin America and the Caribbean is the region with the highest prevalence, with nearly 30 percent of the adult population affected by obesity in 2022, followed closely by Oceania (29.5 percent), and Northern America and Europe (27.9 percent).

Country progress

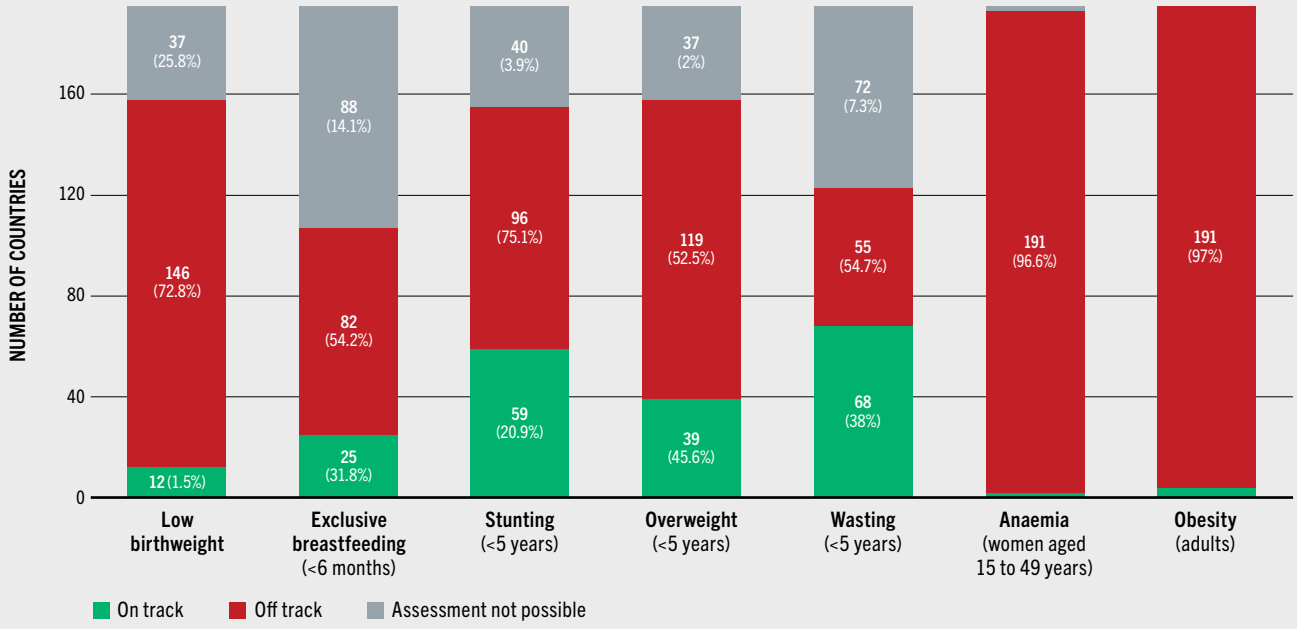
More countries are off track than on track for most of the seven global nutrition targets (Figure 11). Three-quarters of all countries worldwide (146 out of 195) are off track to achieve the 2030 global target for **low birthweight**. This does not account for 37 countries with insufficient data for progress assessment, which could potentially also be off track. Moreover, 72.8 percent of newborns in the world live in countries that are off track. More than 40 percent of countries (82 out of 195) are off track to reach the 2030 global **exclusive breastfeeding** target, and 88 countries have no progress assessments due to insufficient data. More than half of infants under six months of age (54.2 percent) are living in those countries which are off track. Half of the countries in the world (96 out of 195) are off track to achieve the 2030 global **stunting** target, with three in four children under age five (75.1 percent) living in those countries. There are insufficient data to inform progress towards the stunting target for 40 countries. More than one-quarter of countries worldwide (55 out of 195) are off track to achieve the global target for **childhood wasting**, and over half of children under age five (54.7 percent) live in those countries. Seventy-two (72) countries do not have sufficient data for tracking progress towards the wasting target, representing only 7.3 percent of the global population. About 60 percent of countries (119 out of 195) are off track to achieve the 2030 global target for **childhood overweight** and for 37 countries, progress cannot be assessed due to insufficient data. The countries that are off track for the overweight indicator represent half of total children under age five (52.5 percent). Almost all countries in the world (191 out of 195) are off track to attain the 2030 global **anaemia** target. More analyses are needed to better understand the context-specific causes of anaemia in countries so that targeted interventions can be implemented to get countries on track for the anaemia indicator. Similarly, nearly all countries (191 out of 195) are off track to achieve the global **adult obesity** target, and urgent efforts are needed to stop this ticking time bomb.

There has been significant progress in filling data gaps over the past decade, with more frequent data collection, use of advanced analytic techniques, and improvements in data flow. However, much work remains to fill the void, with about 20 percent of countries still lacking enough data to assess progress on five of the seven indicators. Exclusive breastfeeding and wasting are based on primary data collected predominantly from nationally representative surveys. The modality and frequency of these surveys may differ across countries and contexts, rendering data availability inconsistent and sometimes insufficient for progress assessment. Making better use of existing data to estimate trends using models is urgently needed to fill the gaps for these two indicators, in addition to continued efforts to collect good quality data.

Progress in least developed countries

The United Nations defines least developed countries (LDCs)[54] as "countries that have low levels of income and face severe structural

FIGURE 11 MORE COUNTRIES ARE OFF TRACK THAN ON TRACK FOR MOST OF THE SEVEN GLOBAL NUTRITION TARGETS



NOTES: The target year to halt the rise of adult obesity is 2025. Total population share (%) is in parenthesis. The methodology for assessing country-level progress towards global nutrition targets can be found in the Supplementary material to Chapter 2.

SOURCES: See sources of Figure 10.

https://doi.org/10.4060/cd1254en-fig11

impediments to sustainable development."[55] This classification was established by the UNGA as an acknowledgement that the least developed among developing countries need special support measures, including financial and technical, to boost their socioeconomic development. This analysis, including 2030 projections, is based on the group of 45 LDCs as classified by the United Nations as at January 2024. Figure 12 suggests that the LDC group is faring better than the global average on two of the seven nutrition indicators. Specifically, the prevalence of **exclusive breastfeeding** among children under six months of age in LDCs has been better than the global average since the baseline year 2012, and is projected to rise to 61.7 percent by 2030, while the global average is projected to remain at 59.0 percent. The prevalence of **wasting** in children under age five has declined more rapidly in LDCs relative to the global aggregate, despite the LDCs starting from a higher prevalence rate at the baseline (8.4 percent in LDCs versus 7.5 percent globally in 2012). By 2030, LDCs are projected to do slightly better than the global average (6.0 percent in LDCs versus 6.2 percent globally). Nevertheless, the wasting prevalence is still too high, and urgent investments in life-saving interventions to prevent and treat acute malnutrition must continue.

Undernutrition remains a dire challenge in LDCs – **stunting** in children under age five and **anaemia** in women aged 15 to 49 years are significantly higher in this group of countries compared to the global average. By 2030, LDCs are projected to have 28.1 percent stunting prevalence, compared with 19.5 percent globally, despite a declining trend since the baseline in this group of countries. In contrast, the global trend in anaemia has been increasing since the baseline. In 2019 – the latest »

FIGURE 12 COMPARED TO THE GLOBAL ESTIMATES, LEAST DEVELOPED COUNTRIES HAVE MUCH HIGHER LEVELS OF STUNTING IN CHILDREN UNDER AGE FIVE AND OF ANAEMIA IN WOMEN AGED 15 TO 49 YEARS, AND THE SAME WORRYING RISE IN ADULT OBESITY

SOURCES: See sources of Figure 10.

https://doi.org/10.4060/cd1254en-fig12

» year with available data – the anaemia prevalence among LDCs (39.4 percent) was even higher than at global level (29.9 percent). The **low birthweight** prevalence in LDCs is on a par with the global average – at the baseline year 2012, the LDC prevalence of low birthweight newborns was 16.1 percent, versus 15.0 percent globally. In 2020, the latest year with available data, LDCs had a 15.3 percent prevalence, while the global average was a close 14.7 percent. By 2030, the 45 countries and the global aggregate are projected to have comparable prevalence levels of low birthweight, with 14.3 percent and 14.2 percent, respectively. Although the prevalence of **childhood overweight** in LDCs remains below the global average, progress to further reduce child overweight has been stagnant for this group of countries, similar to the stagnation seen globally. Moreover, there is a worrying rise in **adult obesity** in LDCs that mirrors the global trend, and their share of the global adult obesity burden is also increasing over time – with all the while undernutrition continuing to weigh heavily on this group. Supporting LDCs to overcome structural impediments to sustainable development, improve incomes, and achieve the seven nutrition targets is a global development priority.

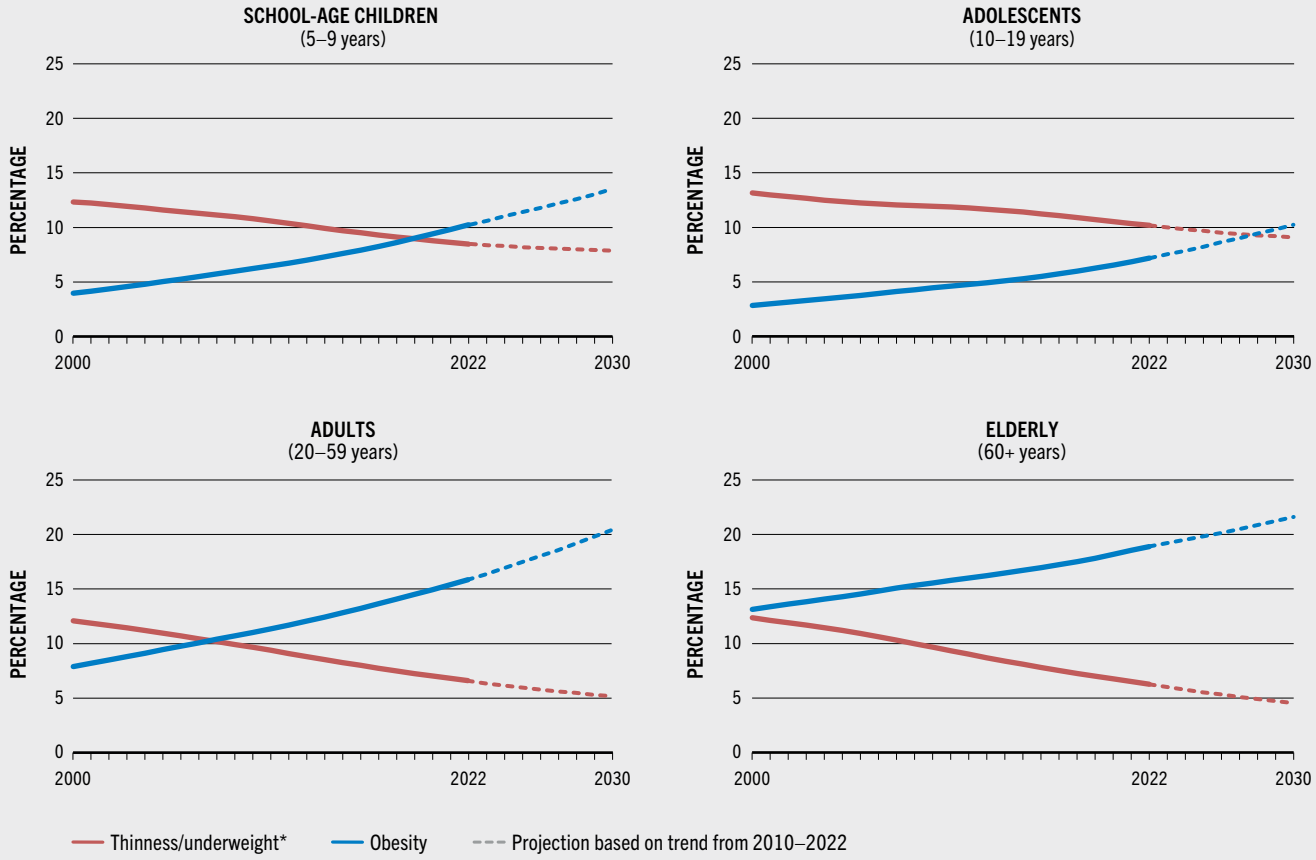
The double burden of malnutrition

The **double burden of malnutrition**[56] – defined as the co-existence of undernutrition together with overweight and obesity – has surged in recent decades among all age and income groups. Research has shown that countries undergo three kinds of population-level transitions as they develop and progress economically. The "nutrition transition" refers to a shift in a population's dietary patterns away from a staple-based diet towards greater dietary diversity including increased consumption of dairy, fish, meat, fruits and vegetables, as well as highly processed foods high in fats, sugars and salt. This is often associated with globalization, rapid urbanization, and sedentary lifestyles, contributing to the "epidemiological transition" – a shift in malnutrition burden in the population from a predominance of undernutrition to overweight and obesity, and in disease burden from infectious diseases to NCDs. The prevalence of micronutrient deficiencies continues to prevail across all global regions, despite evidence of the nutrition transition, and is often omitted from estimates of the double burden.[43, 57] Micronutrient deficiencies may continue to prevail across the transition. Furthermore, the population structure is modified largely due to lower birth rates and increased life expectancy. This "demographic transition" is characterized by a shift in average population age from younger to older and is accompanied by concomitantly higher NCD risks.[58] While in the past these transitions occurred gradually over centuries, they have accelerated in recent decades, with dietary changes and nutritional heterogeneity as well as disease risk rising significantly in just a single generation. Policymakers thus face unprecedented challenges in addressing both overweight and undernutrition and their associated health and economic implications.

The NCD Risk Factor Collaboration (NCD-RisC)[59] recently conducted a study on the double burden of malnutrition from 1990 to 2022 among adults, school-age children, and adolescents in 200 countries and territories. In this analysis, the double burden was calculated as the sum of the prevalence of underweight or thinness and obesity. The true rate of double burden is much higher if all forms of malnutrition are considered, including micronutrient deficiencies.[57] Results reveal that in most regions, decreases in the double burden were due to declining underweight and thinness, while increases in the double burden were driven by increases in overweight and obesity. A transition occurred in most countries from a predominance of underweight and thinness towards a predominance in overweight and obesity, with some exceptions such as in Southern Asia, where a decline in underweight was not offset by an increase in obesity. While population levels of obesity were highest among adults in 1990, school-age children and adolescents are increasingly affected by obesity in the twenty-first century.[60]

Figure 13 illustrates the global double burden phenomenon among **school-age children (5–9 years)**, **adolescents (10–19 years)**, **adults (20–59 years)** and the **elderly (60+ years)** from 2000 to the latest available data (2022) and projected to 2030. Thinness in school-age children and adolescents is measured as having a body mass index (BMI) <–2SD below the median of the WHO

FIGURE 13 GLOBALLY, OBESITY RATES HAVE RISEN SHARPLY AND THINNESS AND UNDERWEIGHT HAVE DECLINED AMONG SCHOOL-AGE CHILDREN, ADOLESCENTS, ADULTS AND THE ELDERLY



NOTE: * Thinness for school-age children and adolescents; underweight for adults and elderly.

SOURCE: WHO. 2024. *The Global Health Observatory*. [Accessed on 24 July 2024]. https://www.who.int/data/gho. Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig13

2007 growth reference for school-age children and adolescents[61] while obesity in the same age groups is measured as BMI >2SD above the median. Among adults and the elderly, underweight is defined as BMI <18.5 kg/m^2 and obesity as BMI ≥30 kg/m^2. By 2030, 1 in 6 people in the world will be aged 60 years or over, and this population group will increase from 1.1 billion in 2020 to 1.4 billion in 2030.[62] Every country in the world is experiencing growth in the proportion of older persons (60+ years).[63] More prominence needs to be given to them on the global nutrition agenda in the SDG targets. Routine data collection for adults over age 60 should be strengthened to support policies aligned with the commitments made in the United Nations Decade of Healthy Ageing (2021–2030).[64, 65]

Globally and across all age groups, thinness and underweight have declined in the last two decades, while obesity has risen sharply. The global prevalence of thinness among **school-age children (5–9 years)** declined from 12.3 percent in 2000 to 8.5 percent in 2022 and is projected to decrease to 7.2 percent by 2030. Meanwhile, obesity in this age group has more than doubled since 2000, increasing from 4 percent in 2000 to 10.2 percent in 2022 and is »

BOX 5 DOUBLE-DUTY ACTIONS TO ADDRESS THE DOUBLE BURDEN OF MALNUTRITION

Double-duty actions for infants and young children (<5 years of age)

- Scale up interventions to protect, promote and support breastfeeding (early initiation, exclusive, continued).
- Promote optimal complementary feeding,[69] prioritizing nutrient-dense animal source foods, fruits and vegetables, and nuts, pulses and seeds over starchy foods, and avoiding foods high in sugars, salt and trans fats, sugar-sweetened beverages, and non-sugar sweeteners.
- Consider the risks of excessive energy density in complementary foods, avoiding feeding young children foods, snacks and beverages high in energy, sugars, fats and salt.
- Include new training curricula for primary health care workers to provide double-duty nutrition counselling.
- Flag overweight and obesity risks alongside stunting and wasting in growth monitoring programmes, especially in contexts where childhood overweight is a problem.
- Ensure adequate prevention and management of moderate and severe wasting – including with ready-to-use therapeutic foods, food supplements and improved fortified blended foods – depending on the condition and the context.[70]
- Ensure that clear criteria and targeting guidelines are used for the distribution of ready-to-use supplementary foods (therapeutic foods, improved fortified blended foods), including for the prevention and treatment of moderate and severe acute malnutrition, and manage the duration of treatment to avoid excessive or rapid weight gain beyond that needed for prevention or recovery.

Double-duty actions for school-age children (5–9 years) and adolescents (10–19 years)

- Redesign school-feeding programmes to promote access to healthy diets and devise new nutritional guidelines for food inside the school and surrounding the school campus where children have access to food. Support these efforts through policy, legal and institutional frameworks. Eliminate or, at a minimum, regulate the commercial promotion and sale of foods, snacks and beverages high in energy, sugars, fats and salt around schools.
- Create a supportive "whole-of-school" approach conducive to healthy eating such as integrating nutrition into the classroom curriculum/health literacy lessons; promoting active school environments; cultivating school gardens; building knowledge and skills to create awareness, shape tastes, and develop healthy food habits; involving parents in meal planning; and influencing healthy eating attitudes at home.
- Use innovative youth-oriented social behaviour change communication tools and platforms to reach children and adolescents with key messages about nutritious foods and healthy diets.
- In settings where the prevalence of anaemia in non-pregnant women is 20 percent or higher, provide intermittent iron and folic acid (IFA) supplementation for menstruating, non-pregnant adolescent girls. If the prevalence is 40 percent or higher, provide daily iron supplementation.[71]

Double-duty actions for pregnant women

- Scale up WHO antenatal care recommendations for pregnant women (also extending to pregnant adolescent girls) through the health system, focusing on counselling about healthy eating and keeping physically active during pregnancy to stay healthy and prevent excessive weight gain.
- Monitor targeted protein and energy supplements to prevent unintended excess weight gain during pregnancy.
- Provide cash and/or food vouchers to improve maternal diets while monitoring gestational weight gain to detect inadequate weight gain as well as excess weight gain.
- Provide daily IFA supplementation for pregnant women during routine antenatal care. In settings where the prevalence of anaemia in pregnant women is less than 20 percent, or daily iron is not acceptable due to side effects, provide intermittent IFA supplementation. In settings with a high prevalence of nutritional deficiencies, multiple micronutrient supplements that contain IFA may be considered.[71]
- In undernourished populations, use behaviour change communication (e.g. public talks, mass communication campaigns, one-to-one or small group counselling, visual communication aids) on

BOX 5 (Continued)

increasing total daily intake, including proteins, to reduce risk of low birthweight; and balanced energy and protein dietary supplementation to reduce risk of stillbirths and neonates who are small for gestational age.

Double-duty actions for all groups

- Increase nutrition-sensitivity of social protection programmes for all age groups or targeted ones (e.g. for pregnant and breastfeeding women and young children, or the elderly) through modalities of adequate size and potential for improving nutrition – e.g. subsidies or food vouchers linked to retailers serving nutritious foods, while excluding foods, snacks and beverages high in energy, sugars, fats and salt; introducing rewards for transfers or vouchers spent on nutritious foods; implementing behaviour change communication strategies focused on healthy diets, physical activity, and the preventive use of health services (early detection of overweight, obesity and non-communicable diseases).
- Scale up nutrition-sensitive agriculture programmes which promote diversified food production and consumption, particularly among poor households living in remote areas with little access to markets. Design and support urban and peri-urban agriculture to support the growing demand for nutritious foods in urban areas.
- Align actions throughout agrifood systems to ensure that diverse, nutritious foods are available to all people, including vulnerable populations, through the value chain – from farm to table.
- Transform food environments by implementing policies and legislation that eliminate the use of misleading promotion of breastmilk substitutes (infant formula, follow-on formula); strengthen restrictions on marketing of foods, snacks and beverages high in energy, sugars, fats and salt, including those which are fortified; adopt front-of-pack nutrition labelling; introduce targeted taxes on foods, snacks and beverages high in energy, sugars, fats and salt, and subsidies for nutritious foods to encourage healthier purchasing patterns.
- Food producers, retailers and traders can be incentivized to improve the nutritional quality of the food supply by reformulating unhealthy foods high in fats, sugars and salt and by fortifying staple foods (i.e. universal salt iodization, fortification of maize flour, cornmeal, rice, wheat flour, vegetable oil with vitamins and minerals).

SOURCE: Adapted from Hawkes, C., Ruel, M.T., Salm, L., Sinclair, B. & Branca, F. 2020. Double-duty actions: seizing programme and policy opportunities to address malnutrition in all its forms. *The Lancet*, 395 (10218): 142–155. https://doi.org/10.1016/S0140-6736(19)32506-1

» projected to increase 3.6-fold to 14.4 percent in 2030 relative to levels in 2000. While the decline in thinness prevalence among **adolescents (10–19 years)** was gradual from 2000 to 2022 (13.2 percent and 10.2 percent, respectively), obesity increased 2.5-fold during the same period (2.8 percent and 7.2 percent, respectively), and is projected to more than triple to 10.0 percent by 2030 relative to levels in 2000.

The global prevalence of underweight among **adults (20–59 years)** was cut by half in two decades, from 12.1 percent in 2000 to 6.6 percent in 2022. In turn, obesity doubled during the same period from 7.9 percent to 15.9 percent and is projected to increase 2.6-fold to 20.3 percent relative to levels in 2000 by 2030. The global prevalence of underweight among the **elderly (60+ years)** declined by half from 2000 to 2022 (12.4 percent and 6.3 percent, respectively). Obesity prevalence, on the other hand, increased during the same period, from 13.1 percent to 18.9 percent, and is projected to reach 21.6 percent by 2030 – 1.6-fold the level in 2000. Policies that continue to address the longstanding challenge of undernutrition need

to be complemented with urgent policies to curb and reverse the growing obesity trend among all population groups.

The double burden of malnutrition is a catalyst for **double-duty actions**.[66–68] These actions simultaneously tackle undernutrition, overweight and obesity by leveraging the common drivers shared by all forms of malnutrition including those that are biological, environmental and socioeconomic, thereby creating a pathway for shared policies, programmes and interventions. Box 5 illustrates a few examples of double-duty actions. ■

SERBIA
Farmer handling wheat grain from a good harvest: strengthening agrifood productivity to increase economic resilience.
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CHAPTER 3
A NEW DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION

KEY MESSAGES

➔ No doubt, to get on track to meet SDG Targets 2.1 and 2.2 – end hunger, food insecurity and malnutrition in all its forms – as well as to realize the universal right to adequate food for all, there is a need to increase existing levels of financing as well as to use existing financing more cost effectively. Currently, however, there is no coherent picture of the financial resources being spent on food security and nutrition, nor of the cost of meeting these targets.

➔ Multiple definitions of financing for food security and nutrition are applied, leading to stark differences in estimates of such financing. This predicament poses a multitude of problems, including identifying underfinanced areas, ensuring accountability of institutions, and tracking the effectiveness and impact of interventions financed.

➔ Moving towards a common definition and mapping of financing for food security and nutrition is therefore urgently needed. While the definition of food security and nutrition is well established, disentangling what constitutes financing for food security and nutrition remains a non-trivial and challenging exercise that has not received the attention it merits. This report puts forward a new definition of financing for food security and nutrition:

> Financing for food security and nutrition refers to the public and private financial resources, both domestic and foreign, that are directed towards eradicating hunger, food insecurity and all forms of malnutrition. They are targeted to ensure the availability, access, utilization and stability of nutritious and safe foods, and practices that favour healthy diets, as well as health, education and social protection services that enable these, and include the financial resources that are directed towards strengthening the resilience of agrifood systems to the major drivers and underlying structural factors of hunger, food insecurity and malnutrition.

➔ Guidance for a common approach and the application of the definition is provided, along with mapping of the core and extended definitions to financial allocations using a four-level classification and keyword system. This mapping approach facilitates a shift away from the typical sector-defined boundaries in financing estimates of agriculture on the one hand, and nutrition on the other, and captures the multidimensional nature of food insecurity and malnutrition.

➔ This report calls for universal adoption of the new definition of financing for food security and nutrition and for a standardized approach to operationalize the mapping and application of the definition to financial data flows.

To achieve Sustainable Development Goal (SDG) Targets 2.1 and 2.2 there needs to be a significant increase in financing for food security and nutrition. **Chapter 2** of this report shows that there is a significant gap between progress and SDG Targets 2.1 and 2.2 to end hunger, food insecurity and all forms of malnutrition. Closing this gap requires a doubling down of efforts, using existing financing more cost effectively and adding significant new financing for food security and nutrition – but this financing must be quantified.

A wide range of estimates of the cost of achieving these targets exist (see **Section 4.2**). However, there is no coherent picture of the total amount of financial resources being spent on food security and nutrition, nor of the cost of achieving SDG Targets 2.1 and 2.2, in part due to the absence of an agreed upon definition of financing for food security and nutrition.

Although there is clarity and agreement on the definition and concept of food security and nutrition, and agreed SDG indicators to measure the levels and severity of hunger, food insecurity and all forms of malnutrition around the world, there is no equally accepted definition of financing for food security and nutrition. This is the main issue explored and addressed in this chapter.

Without a standardized definition, it will not be possible to assess adequately the existing levels and gaps in financing for food security and nutrition, nor to monitor progress or setbacks in financing efforts to achieve the goal of ending hunger, food insecurity and all forms of malnutrition. Achieving food security and ending all forms of malnutrition in the world requires a significant improvement in the quantity and quality of financing. The first step is to measure, track, monitor and analyse the different sources of financing that contribute to achieving food security and ending all forms of malnutrition, whether they be public or private, domestic or foreign, and this cannot be achieved without an adequate definition of such specific financing. ■

3.1 CHALLENGES IN DEFINING AND MEASURING FINANCING FOR FOOD SECURITY AND NUTRITION

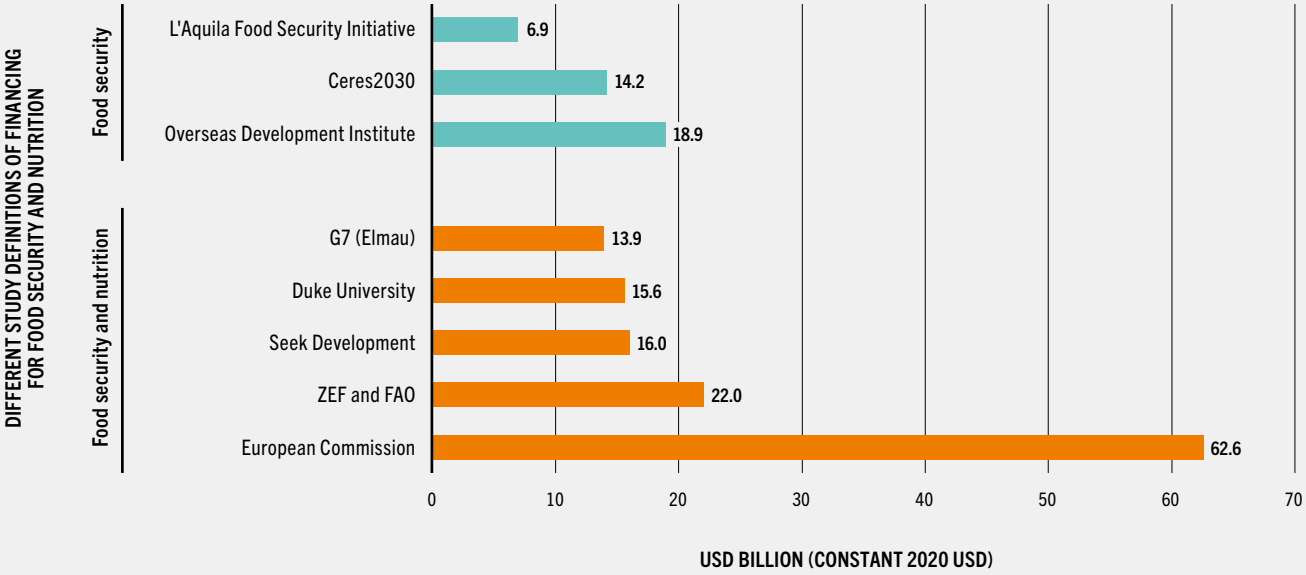
Currently, there is no agreed upon definition of financing for food security and nutrition. There is also no unity regarding how to measure the financing flows to food security and nutrition in any of the existing financial data sources. A clear understanding and knowledge of the level of financing for food security and nutrition is therefore absent. This absence undermines efforts to achieve food security and end all forms of malnutrition.[h]

Currently, several definitions are applied, leading to stark differences in estimations of the current levels of financing for food security and nutrition. For example, even in the case of official development assistance (ODA), which is the most advanced in terms of having a global tracking system and a standardized common aid database, there is no standard definition of, nor gauge for, the measurement of financing flows to support food security and nutrition. This void results in vastly divergent estimates of how much money is being spent, and where and with what efficiency it is spent, on food security and nutrition, negatively impacting the subsequent analysis of trends and outcomes needed to assess the path towards meeting SDG Targets 2.1 and 2.2.

For example, as is shown in Figure 14, depending on the definition applied, the annual average level of ODA grants between 2019–2021 ranges from USD 6.9 billion per year (according to the G7 definition) to USD 62.6 billion per year

h The International Fund for Agricultural Development (IFAD) and the World Bank have developed a methodology for measuring financial flows to food systems, known as the 3FS. This is a broader methodology for measuring financial flows to food systems as a whole; as such, it differs in scope from the definition and measurement of financing for food security and nutrition in this chapter. The 3FS methodology supports tracking of domestic public spending and international development finance flows to food systems at the country and global levels. In its next phase, the 3FS methodology will include the tracking of private sector financing flows the food systems.[35]

FIGURE 14 TOTAL OFFICIAL DEVELOPMENT ASSISTANCE GRANTS FOR LOW- AND MIDDLE-INCOME COUNTRIES ASSOCIATED WITH DIFFERENT DEFINITIONS OF FINANCING FOR FOOD SECURITY AND NUTRITION, AVERAGE 2019–2021



NOTES: Updated 2021 estimates of total official development assistance grants in billions of constant 2020 USD applying the different study definitions of financing for food security and nutrition. The references for studies included in this figure are provided in the source to Table S3.1 in the Supplementary material to Chapter 3.

SOURCES: Adapted from Eber Rose, M., Laborde, D., Lefebvre, L., Olivetti, E. & Smaller, C. 2024. *Towards a common definition of aid for food security and nutrition.* Rome, FAO and Geneva, Switzerland, Shamba Centre for Food & Climate. https://doi.org/10.4060/cd1957en. Data are from OECD (Organisation for Economic Co-operation and Development). 2024. Development finance data. In: *OECD*. [Cited 9 May 2024]. https://www.oecd.org/dac/financing-sustainable-development/development-finance-data

https://doi.org/10.4060/cd1254en-fig14

(according to the European Commission definition). Consequently, estimated levels of ODA financing for food security and nutrition vary considerably depending on the definition applied. As shall be seen in **Chapter 4**, the figure will change when a proper definition of financing for food security and nutrition is applied to ODA data.

For the United Nations Food Systems Summit 2021, the financing of agrifood systems transformation to achieve SDG 2 was defined as follows:

> A variety of financial resources, including funds "internal" to food systems (consumer food expenditures and outlays by agrifood actors) and "external" funds (international development flows, public budgets, banking systems, and capital markets). The contributions of the different funding sources are likely to vary across different aspects of the transformation.[1]

This definition roughly divides the key fiscal and financial mechanisms for investments in the transformation of food systems into six intervention areas: i) consumer expenditures on food; ii) agrifood business profits and savings; iii) fiscal measures (public expenditures and taxes); iv) international public finance (ODA and non-concessional lending by bilateral donors and multilateral development banks [MDBs]); v) bank finance; and vi) capital market finance.[2]

Alternatively, in a paper discussing the mobilization of additional financial resources for nutrition, nutrition finance was defined as follows:

> The process of acquiring needed funds to enable access to safe, nutritious and sufficient food all year round to ensure a continued adequate nutrition status. Such funds may be required by the public and/or the private sector, on a commercial or a concessionary (i.e. below market rate) basis, for short or long-term interventions for example in human development and capacity building (e.g. education and training), research and development, infrastructure, and marketing. Thus, nutrition finance interventions may occur in a variety of sectors, including health, agriculture, manufacturing (including processing and packaging), services (including logistics and retailing), education, and information.[3]

Building on this definition, the same study claims that there are:

> multiple types of capital providers, who can deploy funding to beneficiaries through a range of funding structures, intermediaries and financing instruments.[3]

More specifically, in addressing financing to achieve food security and end all forms of malnutrition in a sustainable manner while protecting livelihoods, investments are distinguished according to three areas of application: i) to support "resilient and sustainable increases in agricultural productivity and affordable healthy foods available on local markets"; ii) to ensure "uninterrupted access to nutrition and health services so that children can achieve their full economic potential"; and iii) to "protect families from shocks by putting in place risk-responsive and adaptive social safety nets linked to food and nutrition security".[4]

Challenges in moving to a common definition of financing for food security and nutrition

The current state of financing for food security and nutrition is challenging to measure due to the lack of a unified definition of what constitutes financing for food security and the end of all forms of malnutrition. Disentangling what constitutes financing for food security and nutrition remains a non-trivial and challenging exercise. This predicament poses a multitude of challenges, not only in tracking the current levels of financing flows to food security and nutrition, but also in identifying underfinanced areas, ensuring accountability of institutions, and tracking the impact of interventions financed. Moving towards a common definition and mapping of financing for food security and nutrition is not straightforward, and there are three main challenges:

1. Food security and nutrition are complex multidimensional concepts that do not neatly fit into a sector-defined financing framework.
2. Different initiatives measure financing for food security and nutrition differently, although often adopting similar language.
3. Food security and nutrition and their links are broadly understood, but this is not the case for the full scope of interventions needed to support them.

Food security and nutrition are complex multidimensional concepts that do not neatly fit into a sector-defined financing framework

Food security and nutrition are complex multidimensional concepts that do not neatly fit into sector-defined frameworks. Interventions to achieve food security and nutrition span various sectors and dimensions of economic, health, social and environmental development, among others. However, financing flows and budgets are normally defined and classified by sector and, within each sector, by purpose. In shifting from a sector-based classification system to an outcome-based measure, complex issues arise regarding the contribution of sector-based resources to the main determinants of food security and nutrition.

Classification systems are necessary in financial databases both to avoid the double counting of resources and to enable temporal statistical analysis across funders.[5–7] In the main ODA database – Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) – the purpose of aid is recorded using a classification system comprising two layers: sector codes subdivided into purpose codes. For example, the sector code relating to agriculture, encompassing agriculture, forestry and fishing, is 310. Each of these sectors has its own code – agriculture (311),[i] forestry (312) and fishing (313) – and these further disaggregate into purpose codes such as agricultural research (31182) or plant and post-harvest protection and pest control (31192). The sector and purpose codes are selected by the donor when they input ODA data into the database.[7] For the full list of OECD DAC Creditor Reporting System (CRS) purpose codes, see Table S3.1 in the Supplementary material to Chapter 3.

Databases related to domestic public finance and private finance also have classification systems that are roughly consistent with international

i Agriculture here includes both crops and livestock.

standards. For public budgets, these classification systems follow a common framework whereby expenditures are structured by administrative, economic, functional and geographical nomenclatures that explain how public resources are being spent: by whom, on what and where. Each of these nomenclatures carries information that would form the basis for a complete and accurate classification of data, be it a sector-based, function-based or outcome-based classification system. However, budgetary information that is publicly available is most often not disaggregated to the kind of granular level that would allow for a proper classification of domestic public finance, and this caveat is especially true for function- and outcome-based classification systems. For the private sector, a common framework is even more complicated in the absence of central record-keeping and a commonly agreed upon reporting framework. Data, where available, tend to be defined at a sectoral level. For example, foreign direct investment (FDI) data are available as flows to agriculture, forestry and fishing or to food, beverages and tobacco. Alternatively, data on credit to agriculture are available as an aggregate of agriculture, forestry and fishing, or for each subsector individually.[j]

While standard classification systems are necessary for financial records, several issues arise when building from sector-based classification systems to an outcome-based classification. This outcome-based classification is crucial to define and measure the level and composition of financing for food security and nutrition.

Notwithstanding that sector-based classifications are used extensively to assess governments' efforts in support of agriculture, they show limitations when it comes to assessing financing contributions to food security and nutrition outcomes. For example, an energy project in a rural area may improve agricultural productivity through access to electricity for irrigation and mechanized equipment, as well as facilities to store and clean food, thereby having a strong, positive impact on food security and nutrition. This may be recorded as a financial contribution to the energy sector, since financing is most often recorded based on what a given project is designed to achieve and the sector relevant to the intervention, and not on the outcomes of the project. This distinction between sector and outcome complicates the definition of the financing for food security and nutrition, as it requires making assumptions about the contribution of sector-allocated finance to food security and nutrition outcomes.[7]

Recently, new policy markers and tags have been added in some financial databases to capture the cross-sectoral and/or multipurpose nature of development policy objectives. However, there is still a lack of consistency and differences in definitions applied to formulate these objectives. For example, the OECD DAC has added an SDG policy marker to indicate which ODA grants are relevant to which SDGs, and policy markers exist for climate adaptation and mitigation, nutrition and gender, among others. However, the use of tags and markers is not fully consistent, and the process through which markers are developed either supports or inhibits stronger synergies across sectors. To date, while an OECD DAC methodology for a nutrition marker has been developed, it has not been applied consistently.

Furthermore, in light of the complex, cross-sectoral nature of achieving food security and ending all forms of malnutrition, development programmes are increasingly shifting away from strategies and portfolios that achieve single outcomes towards projects with multiple outcomes. This creates yet more tension with the coding systems common in financial databases. For instance, within the OECD DAC, there are three main ways to record a multisectoral project. First, it can be classified as a multisectoral project (i.e. purpose code 43010).[8] Second, a documentation review can be undertaken to disaggregate the project into separate components, each recorded under different codes corresponding to the focus of that portion of the budget. Third, all the resources can be recorded based on the project's principal component and the primary sector to which it is intended to contribute. Under this approach, a project with a 65 percent agricultural extension component and a 35 percent road development component may be entirely recorded under the

j For more information about data availability, classification and limitations for different financing streams, see the FAO and Shamba Centre for Food & Climate background note.[7]

agricultural extension code. Due to the variety of approaches for recording cross-sectoral projects, financing for food security and nutrition may be recorded inaccurately or differently, depending on the donor.

Similar challenges on linking sector-based coding systems to outcome-based classifications apply to domestic public budgets as well. Disaggregated data at the activity level and detailed project documentation, which are not always readily available, are needed to classify public finance by its contributions towards food security and nutrition dimensions. Within databases for private resources, there is less data availability and data disaggregation, and therefore less clarity on how multisectoral projects are coded.

Defining financing for food security and nutrition will require the identification of, and agreement on, the interventions and sectors that impact food security and nutrition, with an awareness of the complexities and inconsistencies in how projects relevant to food security and nutrition may be recorded. Furthermore, attention will have to be paid to the relative impact of a given investment. Not all the financial resources allocated to a given intervention or sector will have the same level of impact on food security and nutrition outcomes. The impact of some investments will be direct, like investments in more productive, diverse smallholder agriculture, while the impact of other investments, like investments in better rural infrastructure and electrification, may be indirect and depend a great deal on existing coverage. Similarly, not all investments in electrification will impact food security and nutrition outcomes. Therefore, not all the resources spent on electrification should be included in a definition of financing for food security and nutrition.

The complexities between food security and nutrition, as a multidimensional outcome, and binary finance coding systems significantly complicate efforts to estimate financing for food security and nutrition. Methodologies cannot rely on or be bound by the binary coding systems adopted by financing databases.

Different initiatives measure financing for food security and nutrition differently, although often adopting similar language

Each national government uses different approaches to allocate domestic public resources and different approaches to define the resources allocated to allegedly influence a particular outcome. Where publicly available, national budgets can reveal the sectors and ministries to which budgets are being allocated. However, there is no common accounting framework across governments, nor is there a common measurement of spending on food security and nutrition. Therefore, assessments of the resources allocated to financing for food security and nutrition may differ significantly between countries, depending on what they consider to be the resources relevant, either directly or indirectly, for influencing food security and positive nutrition outcomes. The lack of common accounting frameworks means that there have been no formal attempts to define an agreed upon measurement of financing for food security and nutrition for public and private financing, or that such financing has been unsuccessful or not scalable enough, whether from domestic or foreign sources.

In ODA, where perhaps there have been the greatest efforts to define financing for food security and nutrition, different groups use different measures to define relevant ODA, although often referring to them using similar language. For example, in Figure 14, observed differences in ODA levels are generally due to: i) differences in the questions being asked; and/or ii) differences in what counts as financing to support food security and nutrition. In the OECD DAC, ODA records are coded according to donor, recipient, purpose of aid, and flow type (commitment or disbursement), as well as other variables.[7] The codes provide a standardized way of categorizing aid according to the specific sector or area of development that the ODA resources are intended to assist. While the ODA binary nomenclature establishes a common methodology to track the purpose of aid, currently, there are over ten operational definitions used to calculate the volume of ODA relevant to agriculture, food security and nutrition, each of which tracks ODA recorded under a different selection of purpose codes.

To illustrate the issue, it is useful to look at the underlying reasons for the differences in the various estimates shown in Figure 14. They all include allocations to sectors such as agriculture, forestry and fishing, and basic nutrition within the health sector. Most also include rural development as well as food assistance. Beyond these, however, there is quite a divergence on what is included. Studies by the Center for Development Research (ZEF) of the University of Bonn and FAO,[9] and the European Commission[10] both include allocations to water and sanitation, but only the European Commission study includes basic health care, which is a key determinant of nutrition (see Table S3.1 in the Supplementary material to Chapter 3 for a full comparison of the allocations and sector coding).

Some of the differences and confusion stem from different initiatives attempting to capture agriculture and/or food security and/or nutrition. Nonetheless, the majority of the considered definitions include OECD DAC codes relating to agriculture, forestry and fishing (311–313), rural development (43040), basic nutrition (12240), food assistance (52010), and emergency food assistance (72040). Beyond these, there is quite a divergence on what is included resulting in differing estimates of how much money is being spent, where it is spent, on what it is spent, and with what efficiency it is spent, hindering the subsequent analysis of trends and outcomes towards achieving SDG Targets 2.1 and 2.2 (see Figure 14 and Table S3.1 in the Supplementary material to Chapter 3 for a full comparison of definitions and coding).

Whether emergency food assistance is included in the definition of financing for food security and nutrition has a significant effect on the estimated levels of financing.[7] For example, on average, in 2020–2021, USD 6.7 billion was recorded in ODA for emergency food assistance globally.[11] Considering country examples, definitions of ODA for food security and nutrition that do not include emergency food assistance show that Ethiopia receives the greatest volumes of ODA, whereas definitions including emergency food assistance show that the Syrian Arab Republic receives the greatest volumes.[5]

It is also important to recognize that political considerations play an important role in how financing for food security and nutrition is defined. All development funders – public and private, domestic and foreign – have certain priorities and targets that they want to meet. For example, in 2009, following the food price crisis, the G7 pledged to spend USD 20 billion on food security between 2009 and 2012.[12] Since it is normally the funder who decides how resources are recorded and under which sector the budgetary allocation will be made, funders may assign different codes for similar projects in order to maximize alignment with their priorities and targets.

Where public domestic resources are concerned, stakeholders have identified a broad and ongoing cultural shift towards the use of aid by senior executives for political considerations. Increasingly, the biggest driver of foreign aid investments is policy codes, especially those that align with multilateral agreements on climate and biodiversity. The process of defining financing for food security and nutrition is therefore somewhat political, as the inclusion or exclusion of a given intervention or sector will bias certain funders, creating further complications.

Food security and nutrition and their links are broadly understood, but this is not the case for the full scope of interventions needed to support them

The transformational vision of the 2030 Agenda for Sustainable Development, calling on all countries and stakeholders to work together to end hunger, food insecurity and malnutrition by 2030, was followed by the transformation of this report, renamed from *The State of Food Insecurity in the World* to *The State of Food Security and Nutrition in the World*,[k] to integrate nutrition and a specific focus on the linkages between food

k The 2017 edition of this report,[13] renamed *The State of Food Security and Nutrition in the World*, marked the beginning of a new era in monitoring progress towards achieving a world without hunger and malnutrition, within the framework of the Sustainable Development Goals (SDGs). Not only did the report henceforth monitor progress towards the targets of ending hunger and food insecurity (SDG Target 2.1) and all forms of malnutrition (SDG Target 2.2), but it was also reformulated to include a thematic analysis of how food security and nutrition are interlinked and related, and the actions needed to achieve both goals. Given the broadened scope to focus on nutrition, WHO and UNICEF joined the traditional partnership of FAO, IFAD and WFP in preparing the report.[13]

security and nutrition. The vision has contributed to a growing recognition that a broader range of interventions is necessary to address the complex interplay of factors influencing food security and nutrition outcomes.

There is now a broadened understanding of food security and nutrition and how they are critically linked, despite the limited consensus on the full scope of interventions that contribute to food security and nutrition. Healthy diets and health status are main determinants of nutritional status, but multiple factors related to food security (e.g. availability and affordability of nutritious foods), practices (e.g. related to food and feeding, care, and health seeking) and services (e.g. clean water, health, education and social protection) all influence the ability and mechanisms through which individuals can achieve healthy diets and adequate health. A comprehensive framework of financing for food security and nutrition therefore involves moving beyond simplistic considerations of food availability and access and delving into the broader understanding of nutrition.

However, to date there have been limited efforts to include this range of interventions in comprehensive measures of financing for food security and nutrition. For example, considering the analyses presented in Figure 14, an analysis of the definitions of ODA for food security and nutrition highlights significant gaps in addressing the full scope of nutrition interventions. Only two of the definitions presented therein include ODA targeted for water and sanitation, despite the well-established evidence of the impact of safe drinking water, sanitation and hygiene (WASH) on nutrition outcomes. Furthermore, only the European Commission definition includes financing for basic health care, despite this being a main determinant of nutritional status (see Table S3.1 in the Supplementary material to Chapter 3 for the comparative analysis and data sources).

As seen above, currently most definitions of financing for food security and nutrition do not consider the broader set of interventions to address the main determinants of food security and nutrition. Importantly, the current definitions of financing do not include the financing of interventions more specifically designed to address the major drivers behind the trends in hunger, food insecurity and malnutrition which have been identified in recent editions of this report: conflict, climate variability and extremes, and economic slowdowns and downturns, combined with structural underlying factors: lack of access to and unaffordability of nutritious foods and unhealthy food environments, and high and persistent inequality.

No doubt, to get on track to meet SDG Targets 2.1 and 2.2, better use of existing financing and newly added financing will both be needed. At the same time, it is difficult to understand how much financing is available and the financing gap for achieving food security and addressing all forms of malnutrition in the absence of a commonly agreed upon and robust definition of financing for food security and nutrition. This definition must be theoretically underpinned by the conceptual understanding and definition of food security and nutrition, and their determinants, as well as the major drivers behind hunger, food insecurity and malnutrition. ■

3.2 A NEW DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION

This report is the first to propose a definition of financing for food security and nutrition. This definition is grounded in a conceptual understanding of the definition and determinants of food security and nutrition, the interconnected nature of food security and nutrition, and the major drivers behind recent setbacks in achieving an end to hunger, food insecurity and all forms of malnutrition.

The different financing flows to food security and nutrition

Financing is the process of providing funds for the public and private sector to engage in economic activities, make purchases or carry out investments. The funds may or may not be provided conditional on a certain return (interests, dividends and so on) or reimbursement (of debt principal). Financial resources may be

TABLE 8 MATRIX OF DIFFERENT FINANCING FLOWS BY SOURCE

Source of financing	Domestic	Foreign
Public	▸ Public spending ▸ Public development banks (state banks)	▸ Official development assistance ▸ Other official flows
Private	▸ Domestic private sector investment and spending	▸ Multinational corporations' investments and spending ▸ Foreign direct investment ▸ Cross-border remittances

NOTES: The table is simplified to only show examples of different financing flows that belong exclusively to each source of financing. There are other financing flows that are common to more than one source of financing. For examples, see text below, **Section 5.1** and Zoubek *et al.* (forthcoming).[14] For a short definition of financial terms, see Box 6 and **Annex 2 Glossary**.

SOURCE: Authors' (FAO) own elaboration.

provided by one or a combination of four sources: i) public domestic, ii) public foreign, iii) private domestic, and iv) private foreign. Each source may provide financing through a range of financial instruments to finance short-term and long-term interventions on commercial or concessional terms (e.g. grants or loans below market rates).

Table 8 shows examples of different financing flows that belong exclusively to each source of financing. There are other financing flows that are common to more than one source of financing; for example, remittances can be private domestic or private foreign. On the other hand, commercial and non-commercial financing flows can come from all four sources of financing. For the purposes of simplicity, financing flows that are common to more than one category are not identified in Table 8 but are further elaborated in the text below and in **Chapter 5**. See Box 6 for a short definition of financial terminology, and **Annex 2 Glossary** for more elaborated definitions of key financial terms used in this report.

Public financing consists of flows financed out of public sources, the largest of which are taxes and borrowing (domestic and foreign) that governments use to fund expenditures. Social contributions, grants, property income, sales of goods and services, and other miscellaneous revenues (such as fees and sales of natural resources) are other sources of revenue, but they are much smaller for most countries.[15, 16]

Public domestic financing is the process through which governments raise, allocate and spend their own funds to finance public expenditures, mostly through taxes and loans.

Public resources can also consist of **public foreign financing**, for example, ODA and other official flows (OOF). Official development assistance refers to official financial transactions by the official sector within countries and territories that meet the requirement of a minimum grant element. It can include humanitarian finance, multilateral development banks, and blended finance, the latter of which uses public money to crowd in private finance. Other official flows are transactions by the official sector with countries and territories that do not meet the conditions for eligibility for ODA, either because they are not primarily aimed at development or because they do not meet the minimum grant element requirement.[17, 18]

Private financing, on the other hand, consists of flows at market terms financed by private sector resources and private grants. It can include both foreign and domestic financing. For example, private sector spending on research and development investments or farmers' and processors' investments in diverse and nutritious crops and foods, such as orange-fleshed sweet potato or legumes rather than wheat or maize, can be considered investments in nutrition.

Private domestic financing consists of domestic private investment usually owned by domestic or local private investors.[19] Private domestic financing includes loans and other financial instruments (including project finance) from banks as well as investment and risk-management instruments from capital markets, and private philanthropic institutions whose funding represents aid rather than for-profit activities. Private commercial sector investments and »

BOX 6 BRIEF DEFINITION OF THE FINANCIAL TERMS USED IN THIS REPORT

Blended finance. The strategic use of development or concessional finance for the mobilization of additional finance, usually commercial private finance, towards sustainable development.
Capital markets. A subset of financial markets that specifically deal with the buying and selling of equity and debt securities, primarily.
Commercial finance. Commercial refers to activities of commerce business operations to earn profits. Non-commercial activities can be conducted by non-profit organizations or government agencies.
Debt. A debt arrangement gives the borrowing party permission to borrow money on condition that it must pay back the sum later, usually with interest.
Domestic private investment. A measure of the amount of money that domestic businesses invest within their own country. It can be represented with the accounting equation: non-residential investment + residential investment + change in inventories.
Equity. Ownership stake in an asset minus the amount of all liabilities on that asset.
Export credits. Financing or credit facilities that are extended to exporters to enable them to sell goods and services in overseas markets.
Financing. The process of providing funds for the public and the private sector to engage in economic activities, make purchases or carry out investment. The funds may or may not be provided conditional on a certain return (interests, dividends and so on) and/or reimbursement (of debt principal).
Foreign direct investment (FDI). A type of investment made by a private entity resident in one economy in an enterprise resident in another.
Funding. In the strictest sense, the provision of funds without requirement of return or reimbursement. In a broad sense, any provision of funds, similar to financing, which may or may not involve an expectation of return or repayment.
Insurance. A contract, represented by a policy, in which a policyholder receives financial protection or reimbursement against the probable occurrence of losses from an insurance company.
International portfolio investment. A type of investment that consists of securities and other financial assets held by investors in another country.
Investment. The commitment of current financial resources to achieve higher gains in the future.
Official development assistance (ODA). Government aid designed to promote the economic development and welfare of developing countries that meet a minimum grant element requirement.
Other official flows (OOF). Official sector transactions that do not meet ODA criteria, either because they are not primarily aimed at development or because they do not meet the minimum grant element requirement.
Private financing. The process of obtaining or raising funds by private sector entities to support various activities or investments.
Private domestic financing. The process of obtaining funds from domestic or national private investors and lenders.
Private foreign financing. The process of obtaining funds from foreign or international private investors and lenders.
Public financing. The process of obtaining or raising funds by public sector entities (domestic and foreign governments, international organizations).
Public domestic financing. The process through which governments raise and allocate funds to finance public expenditures, mostly through taxes and loans.
Public foreign financing. The process through which governments raise, allocate and spend their own funds to support various activities or investment in other countries.
Remittances. Private, voluntary monetary and non-monetary (social or in-kind) transfers made by migrants and diaspora, individually or collectively, to people or to communities not necessarily in their areas of origin. They can be cross-border or in the home country.
Security. A fungible, negotiable financial instrument that represents some type of financial value, usually in the form of a stock, bond or option.

NOTE: For sources for the above definitions and the full list of financial terms and definitions used in this report, see **Annex 2 Glossary**.

» financing to global and national agrifood systems are sizeable, largely driven by commercial actors. However, investments by farmers and processors in crops and foods more generally are considered investments in food security. Investments in capital stock by farmers are a large share of private domestic finance.[20]

Private foreign financing consists of FDI and/or international portfolio investment, both owned by foreign or international private investors.[19] These can include private export credits, securities of multilateral agencies and bilateral portfolio investments. Private flows other than FDI are restricted to credits with a maturity of more than one year.[18] Foreign direct investment can be inflows or outflows of capital from one country to another. It is an ownership stake in a foreign company or project made by an investor, company or government from another country. Remittances are also included here. In many developing countries, remittances are the largest foreign source of financing, greater than ODA and FDI.

A core and an extended definition of financing for food security and nutrition

The new definition of financing for food security and nutrition presented in this report comprises core and extended definitions. The core definition includes the financing flows that support efforts addressing the main determinants of food security and nutrition. The extended definition builds on this, to include financing flows that contribute to addressing the major drivers and underlying structural factors behind recent increases in food insecurity and malnutrition. These definitions are articulated into one in Box 7, conceptually summarized in Figure 15 and explained in detail in the sections below.

A core definition – the lens on food security and nutrition dimensions and determinants

According to this report, food security is defined as "a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (see **Annex 2 Glossary**).

Based on this definition, four food security dimensions can be identified: food availability, economic and physical access to food, food utilization, and stability over time (Figure 15 and Figure 16). Note that the concept of food security is evolving to recognize the centrality of agency and sustainability. However, these two dimensions are captured under the extended definition of financing for food security and nutrition.

Defining the dimensions, **food availability** addresses whether or not safe and nutritious food is actually or potentially physically present, including aspects of production, food reserves, markets and transportation, and wild foods, while **food access** relates to whether or not households and individuals have sufficient physical and economic access to that food (see **Annex 2 Glossary**). In other words, food security requires that sufficient safe and nutritious food is available to all populations, through either production or imports, and that all people can physically and economically access adequate quantities of safe and nutritious food.[22] As such, poverty, and power imbalances in global food supply chains, both of which affect access and purchasing power, are drivers of food insecurity and malnutrition (see the extended definition).

The simple fact of having the availability of and access to adequate safe and nutritious food is insufficient if an individual's physiological condition prevents them from absorbing and utilizing the micronutrients in the food they are consuming.[23] Thus, food security is also determined by **food utilization**, or an individual's ability to utilize the calories and nutrients in the food they consume.[22]

Another important aspect of food utilization refers to whether households are optimizing the **consumption** of safe and nutritious foods to meet the dietary needs of each individual within the household. **Nutritional status**, however, depends not only on consumption of adequate safe and nutritious food, but also on **health status**. Both food consumption and health status are influenced by a variety of **practices** including good food handling and preparation, practices for children, girls and women, intra-household distribution of food, and service utilization. They are also influenced

BOX 7 THE DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION

Financing for food security and nutrition refers to the process of providing or obtaining financial resources to ensure that all people, at all times, have stable, physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life, and suitable food preparation and handling, feeding, caring, and health-seeking practices, and access to health, water and sanitation services to ensure a continued adequate nutritional status. Such financial resources may be provided by one or a combination of four sources of financing: i) public domestic, ii) public foreign, iii) private domestic, and iv) private foreign. Each of the different sources of financing deploys a range of financial instruments to finance short-term and long-term interventions on a commercial or concessionary basis (e.g. grants or loans below markets rates).

Financing for food security and nutrition therefore includes the financial resources that contribute to the eradication of hunger, food insecurity and malnutrition in all its forms across a rural–urban continuum.[21] The resources are targeted to ensure the availability, access, utilization and stability of nutritious and safe food, practices that favour healthy diets, as well as health, education and social protection services that enable adequate nutritional status across the life course.

Additionally, it covers expenditures and investments that aim to ensure that all individuals are protected against short-term or long-term instability in food security and nutrition, caused by various climatic, economic, social, commercial and political factors.

Financing therefore encompasses all the interventions aligned with the six transformative policy pathways designed to strengthen the resilience of agrifood systems to the major drivers behind hunger, food insecurity and malnutrition – namely conflicts, climate variability and extremes, and economic slowdowns and downturns – and address the underlying structural factors: lack of access to and unaffordability of nutritious foods and unhealthy food environments, and high and persistent inequality. That is, investments to: i) integrate humanitarian, development and peacebuilding policies in conflict-affected areas; ii) scale up climate resilience across agrifood systems; iii) strengthen the economic resilience of the most vulnerable to economic adversity; iv) intervene along agrifood supply chains to lower the cost of nutritious foods; v) shifting food environments towards healthier dietary patterns with positive impacts on human health; and vi) tackle structural inequalities, ensuring interventions are well targeted and inclusive. As such, investments in food security and nutrition span a wide variety of sectors. They can include investments in resilient and sustainable increases in agricultural productivity; water, sanitation and hygiene practices; conflict-sensitive policies; social protection; climate-smart agriculture; rural roads and infrastructure; healthy public food procurement; and access to essential health services.

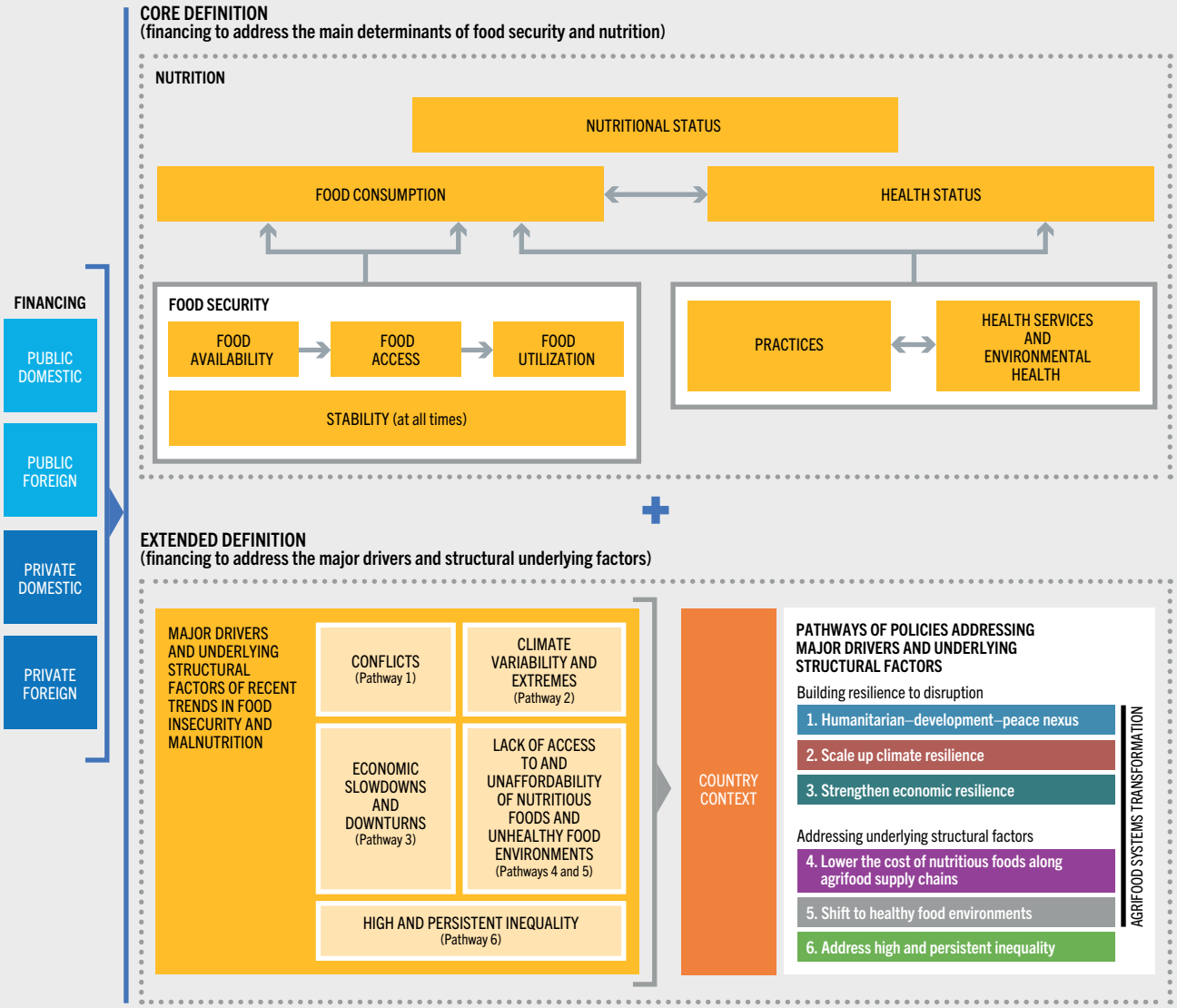
The operationalization of this definition and mapping to sector-, purpose- and intervention-related keywords is provided in **Section S3.2** of the Supplementary material to Chapter 3 in this report.

by access to a variety of **health services and environmental health,** including access to clean water, sanitation, education and health care (see **Annex 2 Glossary**).[21]

In this regard, food security and nutrition are inextricably linked. In Figure 15 and Figure 16, we illustrate how these well-established linkages provide a solid background for the core definition of food security and nutrition financing. This includes a broadened scope of factors related to **practices**, and **health services and environmental health**. This more comprehensively captures the determinants of an individual's nutritional status and places the role of food security alongside the many other practices and services that are essential to ensure not only food utilization, but the many critical non-food-related aspects.

Ensuring food security requires **stability** across all three of the dimensions of food security – **availability, access and utilization** (Figure 15 and Figure 16). If the dimensions of availability, access and utilization are sufficiently met, **stability**

FIGURE 15 A CONCEPTUAL DIAGRAM OF THE NEW DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION – FOR ENDING HUNGER AND FOOD INSECURITY (SDG TARGET 2.1) AND ALL FORMS OF MALNUTRITION (SDG TARGET 2.2)

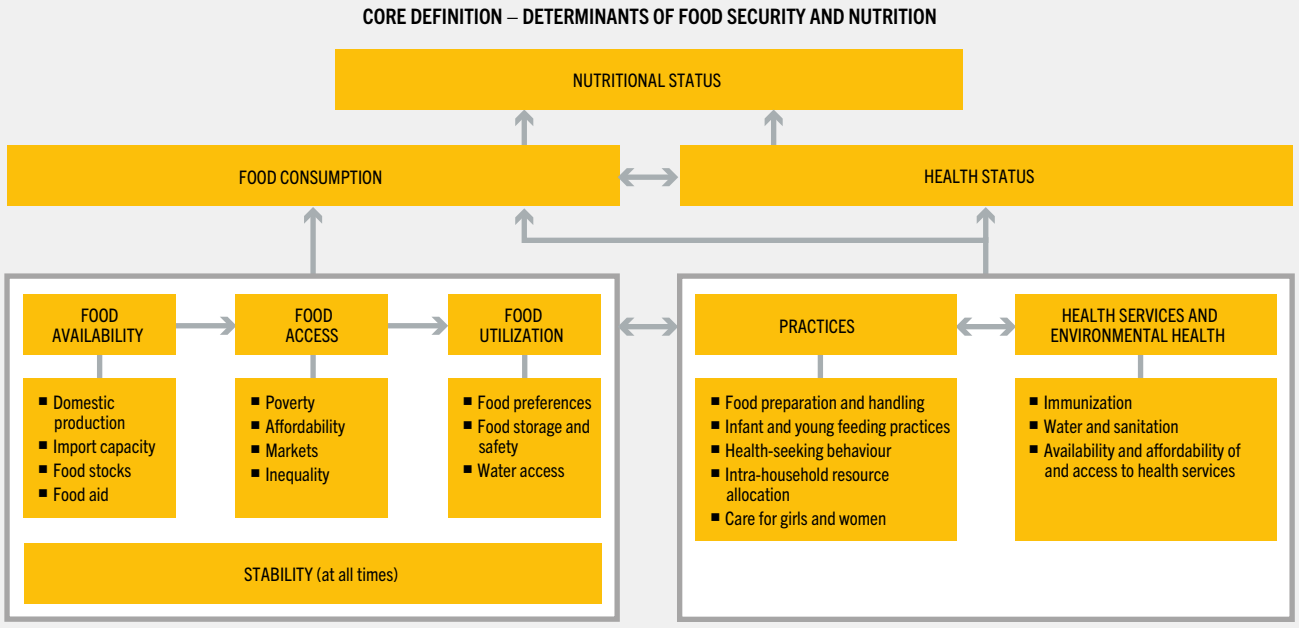


NOTES: SDG = Sustainable Development Goal. The operationalization of this definition and mapping to financial resources using purpose codes and intervention-related keywords is provided in Table S3.3 in the Supplementary material to Chapter 3.

SOURCE: Authors' (FAO) own elaboration.

is the condition in which the whole system is stable, thus ensuring that households are food secure at all times. Stability issues can refer to short-term instability (which can lead to acute food insecurity) or medium- to long-term instability (which can lead to chronic food insecurity). Climatic, economic, social and political factors can all be a source of instability

FIGURE 16 THE CORE DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION ENTAILS ADDRESSING THE MAIN DETERMINANTS OF FOOD SECURITY AND NUTRITION



SOURCES: Adapted from FAO, IFAD, UNICEF, WFP & WHO. 2018. *The State of Food Security and Nutrition in the World 2018. Building climate resilience for food security and nutrition*. Rome, FAO. https://www.fao.org/3/i9553en/i9553en.pdf; IPC (Integrated Food Security Phase Classification). 2021. *Technical Manual Version 3.1. Evidence and Standards for Better Food Security and Nutrition Decisions*. Rome. https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/manual/IPC_Technical_Manual_3_Final.pdf

(see **Annex 2 Glossary**). Temporary and seasonal changes, as well as shocks and crises such as political instability or extreme climate events, are all drivers of food insecurity through their effects on the availability and accessibility of food.[22] Ultimately, anything that influences any of these components will influence food security.

Eliminating hunger and food insecurity, with its explicit focus on safe and nutritious food, is a prerequisite of good nutrition.[24] Food security can enable a healthy diet, characterized by adequacy without excess of all nutrients, balance in energy and sources of energy, a wide diversity of foods, and moderation in the consumption of foods and food components associated with adverse health outcomes (see Box 3 in **Section 2.1**). However, a healthy diet alone is insufficient to ensure good nutrition, which also requires adequate food, care, hygiene and health-seeking practices, and access to services including health, water, sanitation and education.

Finally, a crucial element within the core definition is the recognition that food insecurity and malnutrition are phenomena that are found not only in rural areas, but across a rural–urban continuum. As **Section 2.1** of this report shows, while food insecurity is generally highest in rural areas, it is also very high in peri-urban and urban areas. The prevalence of moderate or severe food insecurity in 2023 was 31.9 percent in rural areas compared with 29.9 percent in peri-urban areas and 25.5 percent in urban areas. A more disaggregated rural–urban continuum lens shows that food insecurity can even be higher in urban and peri-urban areas.[21] The core definition of financing for food security and nutrition, therefore, must capture the funding needed to address all the food security dimensions and the main determinants of both food security and nutrition, with a rural–urban continuum lens.

Extended definition – a lens on the major drivers of food insecurity and malnutrition

Recent increases in hunger and food insecurity and slowed progress in eliminating all forms of malnutrition call for more than just better and increased financing to the main determinants of food security and nutrition. New financing is needed, specifically to build resilience to the disruptions to agrifood systems that the major drivers (conflict, climate variability and extremes, economic slowdowns and downturns) create and to address the underlying structural factors

(lack of access to and unaffordability of nutritious foods and unhealthy food environments, and high and persistent inequality), which worsen the negative impact the major drivers already have on food security and nutrition (see Figure 15).

It is noteworthy that unhealthy food environments are considered jointly with the lack of access to and unaffordability of nutritious foods, an important underlying structural factor impeding the achievement of food security and nutrition. Enabling healthy diets for all is a critical link between food security and nutrition, as healthy diets are a necessary albeit insufficient condition to achieve good nutrition and, what is more, it is well known that the quality of diets may worsen in a variety of ways as the severity of food insecurity increases. Access to healthy diets can be determined by many factors, but this edition of the report highlights the role played by the unaffordability of healthy diets (**Section 2.2**) and unhealthy food environments. The concept of food environment refers to the physical, economic, sociocultural, policy and legislation conditions that shape the access to and availability, affordability and safety of food, as well as food preferences. Transforming food environments that can enable access to healthy diets means providing physical access to diverse, safe and nutritious foods that reduce the risk of all forms of malnutrition, including undernutrition, overweight and obesity, and reduce the risk of diet-related non-communicable diseases (NCDs). By implementing a broad-based strategy across different sectors, governments can create supportive environments for healthy diets in hospitals, schools, workplaces and other public institutions, and address the high burden of the hidden costs associated with unhealthy diets highlighted in the 2020 edition of this report.[25–29] Access to nutritious foods is not only a matter of cost and affordability. Many elements of the food environment influence dietary patterns, while culture, language, culinary practices, knowledge and consumption patterns, food preferences, beliefs and values all relate to the way food is sourced, generated, produced and consumed.[30]

The extended definition also integrates the final two evolving dimensions of food security: agency and sustainability. While these dimensions are not formally established or defined, they are understood as the following: Agency "refers to the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within agrifood systems; and to their ability to engage in processes that shape food system policies and governance"; and, sustainability "refers to the long-term ability of agrifood systems to provide food security and nutrition in a way that does not compromise the economic, social and environmental bases that generate food security and nutrition for future generations" (see **Annex 2 Glossary**).

Update of countries affected by the major drivers

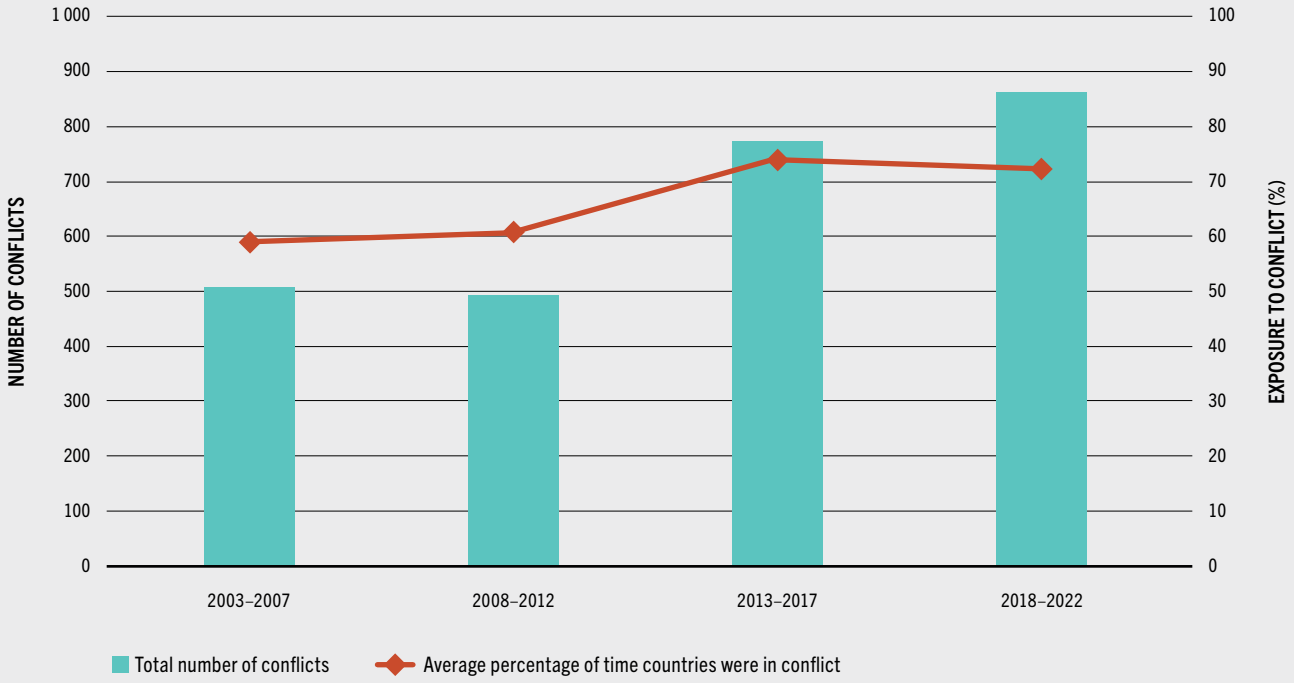
To generate a framework for increased financing and improved finance targeting, it is imperative to gain an understanding of the major drivers of food insecurity and malnutrition, and of the countries affected by these major drivers. In the last ten years, the frequency and intensity of conflict, climate extremes and economic downturns have increased and are undermining food security and nutrition around the world. Furthermore, high levels of income inequality exacerbate the effects of these major drivers (Figure 17). Of particular concern are low- and middle-income countries because the negative impacts on food security and nutrition are greatest in these countries and they carry the biggest burden of the world's population who are undernourished, and children who are stunted. Further, these countries experience multiple forms of malnutrition, including child overweight and adult obesity (see **Chapter 2**).

The analysis of the countries affected by the major drivers is a key input to generating a framework for innovative financing to scale up support to food security and nutrition, which is presented in **Section 5.1**. Therefore, the analysis of countries affected by the major drivers is updated for this year's report. Results are summarized here, while the methodology, data sources and full updated analysis are provided in the Supplementary material to Chapter 3.

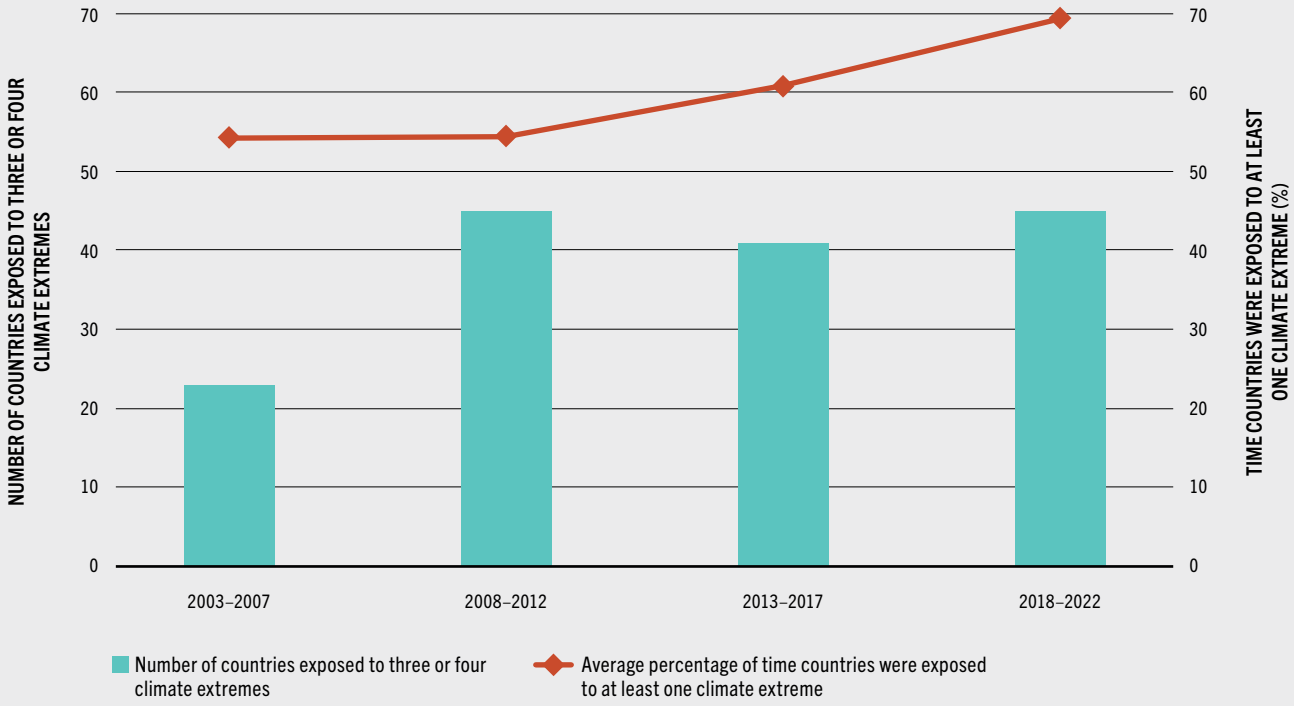
The extent to which a major driver negatively affects people's food security and nutrition depends on their degree of exposure and their vulnerability to its impact. In the analysis, countries are categorized based on whether »

FIGURE 17 THE INCREASING FREQUENCY AND INTENSITY OF MAJOR DRIVERS AND INCOME INEQUALITY IN LOW- AND MIDDLE-INCOME COUNTRIES, 2003–2022

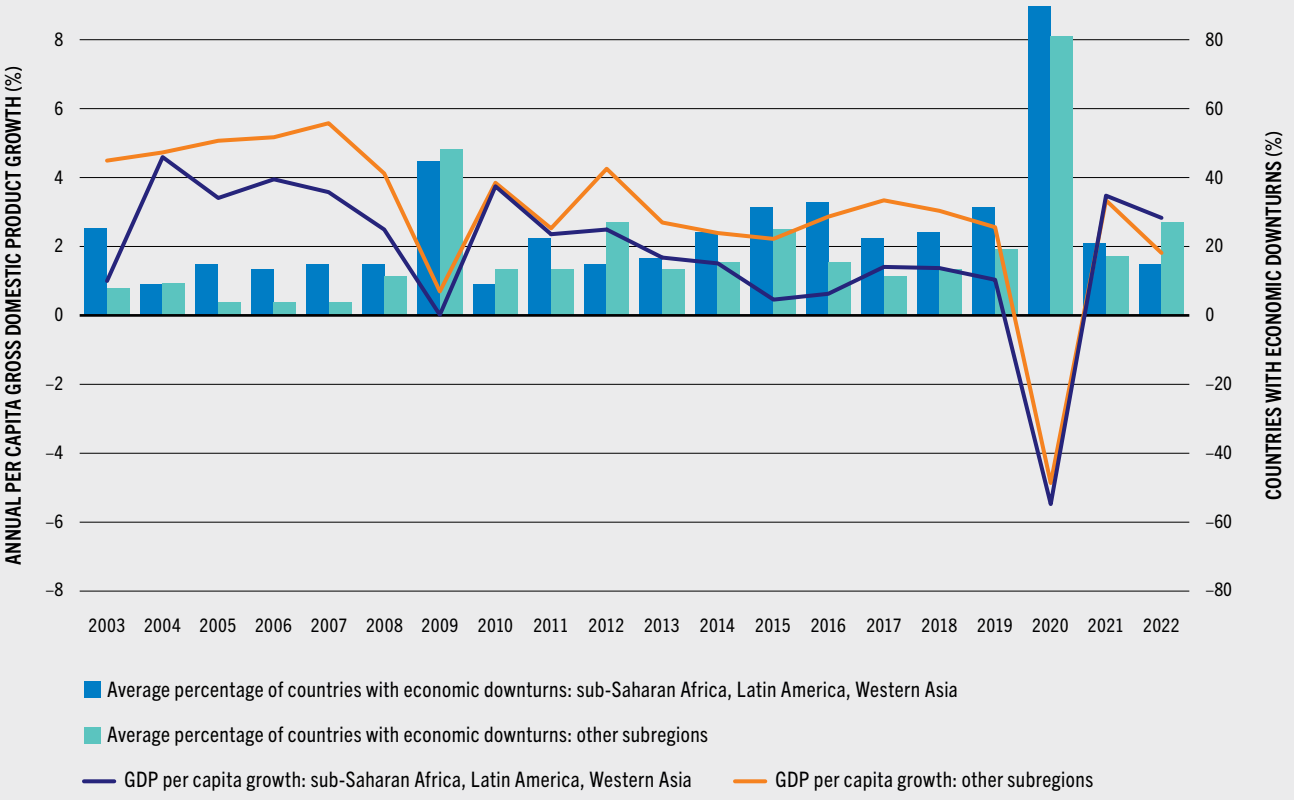
A) CONFLICTS: THE TOTAL NUMBER OF CONFLICTS IS INCREASING, 2003–2022



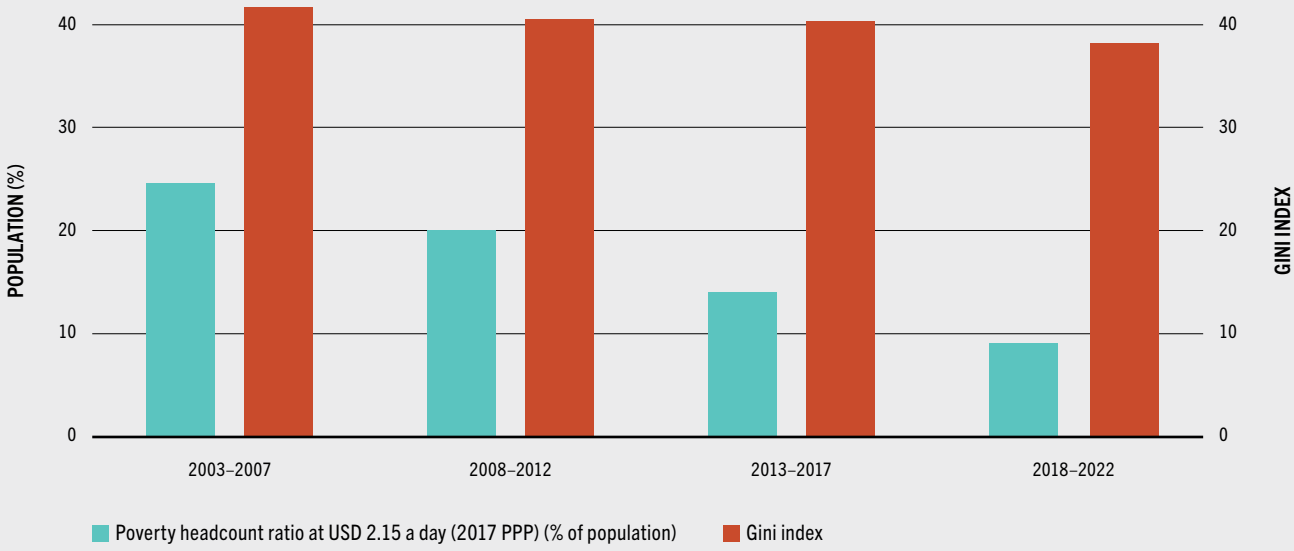
B) CLIMATE EXTREMES: THE PERCENTAGE OF TIME COUNTRIES ARE EXPOSED TO CLIMATE EXTREMES IS INCREASING, 2003–2022



C) ECONOMIC DOWNTURNS: SEVERAL COUNTRIES EXPERIENCE DOWNTURNS AND DRAMATIC SWINGS IN ECONOMIC GROWTH, 2003–2022



D) INCOME INEQUALITY: WHILE POVERTY HAS DECLINED AROUND THE WORLD, INCOME INEQUALITY IS PERSISTENTLY HIGH, WITH LIMITED REDUCTIONS, 2003–2022



NOTES: GDP = gross domestic product; PPP = purchasing power parity. All figures refer to low- and middle-income countries. Figure 17A shows the total number of conflicts in each of the five-year subperiods that were caused by internal or intrastate conflict (turquoise bars), and the average percentage of years in each subperiod countries were exposed to conflict (red line). Figure 17B shows the number of countries that experienced at least three different types of climate extremes (heat spell, flood, drought, storm) in each of the five-year subperiods (turquoise bars), and the average percentage of years in each subperiod countries were exposed to at least one climate extreme (red line). Figure 17C shows the trend in GDP per capita growth (left axis) and the percentage of countries that experience an economic downturn in a specific year between the period from 2003 to 2022 (right axis). Figure 17D shows the average percentage of the population living below the poverty line of USD 2.15 a day (turquoise bars) and the average level of income inequality by five-year subperiod (red bars). The analysis is shown for 119 low- and middle-income countries with available prevalence of undernourishment information. See Table S3.5 in the Supplementary material to Chapter 3 for full methodology and full list of data sources.

SOURCE: Authors' (FAO) own elaboration.

https://doi.org/10.4060/cd1254en-fig17

» they are "affected" by a major driver. In summary, two criteria are used for a country to be categorized as being affected by a driver: i) evidence of the occurrence of an event related to the driver in a country, for example, the occurrence of a conflict, a climate extreme, or an economic downturn; and ii) evidence of vulnerability to the impacts of such an event, which refers to conditions that increase the probability that the occurrence of the driver event will negatively affect the country's food security and nutrition situation (see Supplementary material to Chapter 3, Table S3.5 for methodologies and data sources).

While each of these major drivers is unique, they often interact to create multiple compounding impacts transmitted through agrifood systems to the detriment of food security and nutrition.[30] As a result, all dimensions of food security are likely to be affected, including food availability, access, utilization and stability, as well as the other determinants of nutrition, specifically practices (e.g. food preparation and handling, infant and young feeding practices, health-seeking behaviour, intra-household resource allocation, and care for girls and women) and health services and environmental health (e.g. immunization, water and sanitation, and availability and affordability of, and access to health services). For instance, a growing body of literature is also demonstrating the direct impact of climate, particularly extreme heat, on the nutritional status. This is corroborated by the association found between the occurrence of these drivers and the food security and nutrition indicators.[30]

Alarmingly, the majority of low- and middle-income countries are affected by at least one of the major drivers and, where there are multiple drivers occurring, the compounding impacts lead to the highest increases in hunger and food insecurity (Figure 18). Countries in a protracted major food crisis are severely affected by multiple drivers and face among the highest level of food insecurity (Box 8, Figure A1).

The extended definition of financing for food security and nutrition encapsulates the interventions that contribute to one or more of the six transformative policy pathways proposed in the 2021 edition of this report[30] to address the major drivers of the current levels of food insecurity and malnutrition. Each of the six transformative pathways leads to the implementation of policies, investments and legislation to build resilience to each one of these major drivers (Figure 19 and Box 9). In this way, the extended definition builds on the core definition but goes beyond the eradication of hunger, food insecurity and all forms of malnutrition to also address the major drivers.

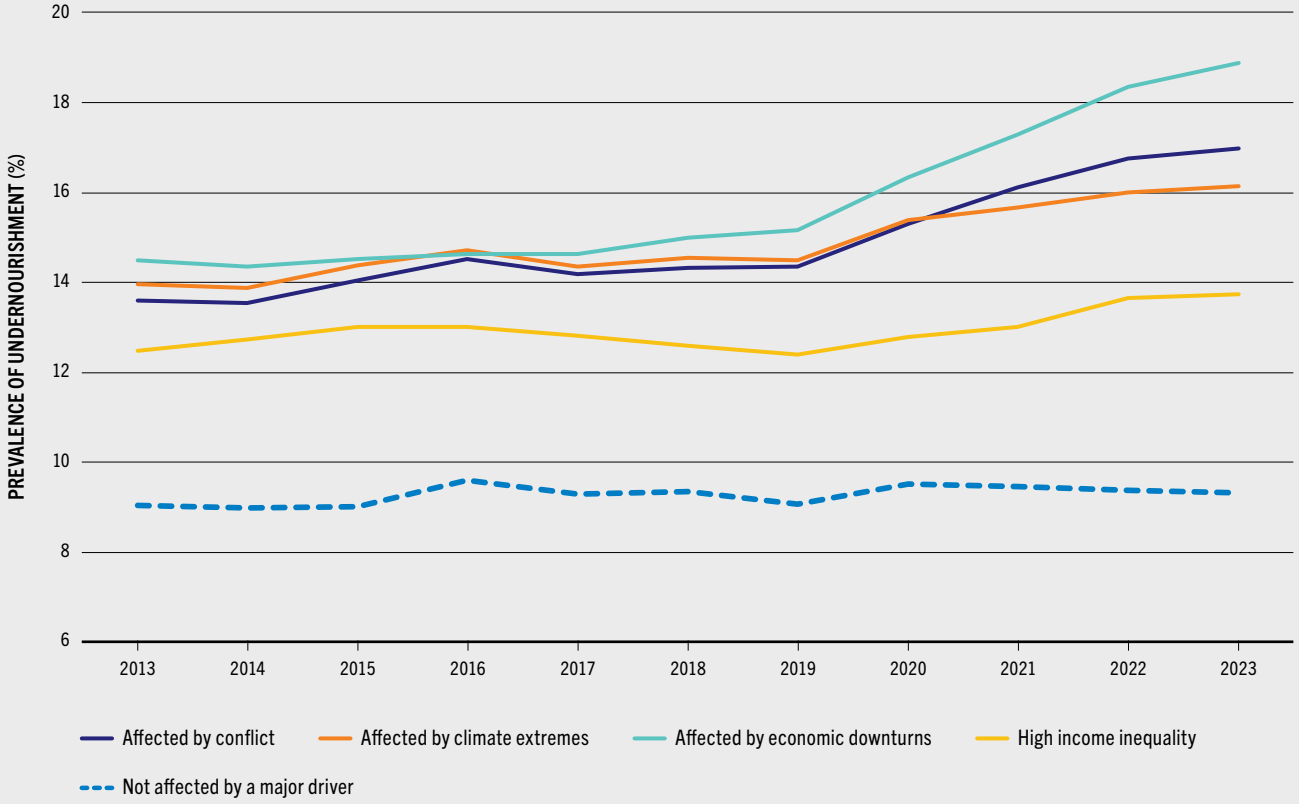
Mapping and application of the core and extended definitions to financing flows

The application of the core and extended definitions of financing for food security and nutrition is shown in Figure 20. Financing for building resilience to the major drivers of recent increases in food insecurity and malnutrition (extended definition) is additional and complementary to the core definition. Moreover, as the figure shows, the extended definition must consider country context. Not all countries are affected by all the major drivers. While some are affected by a single driver, countries in which food insecurity has increased the most are usually affected by a combination of drivers. This means that, theoretically, countries would not need to fund the adoption of all six transformative pathways, but only those that address the major drivers they are facing, considering the country's context.

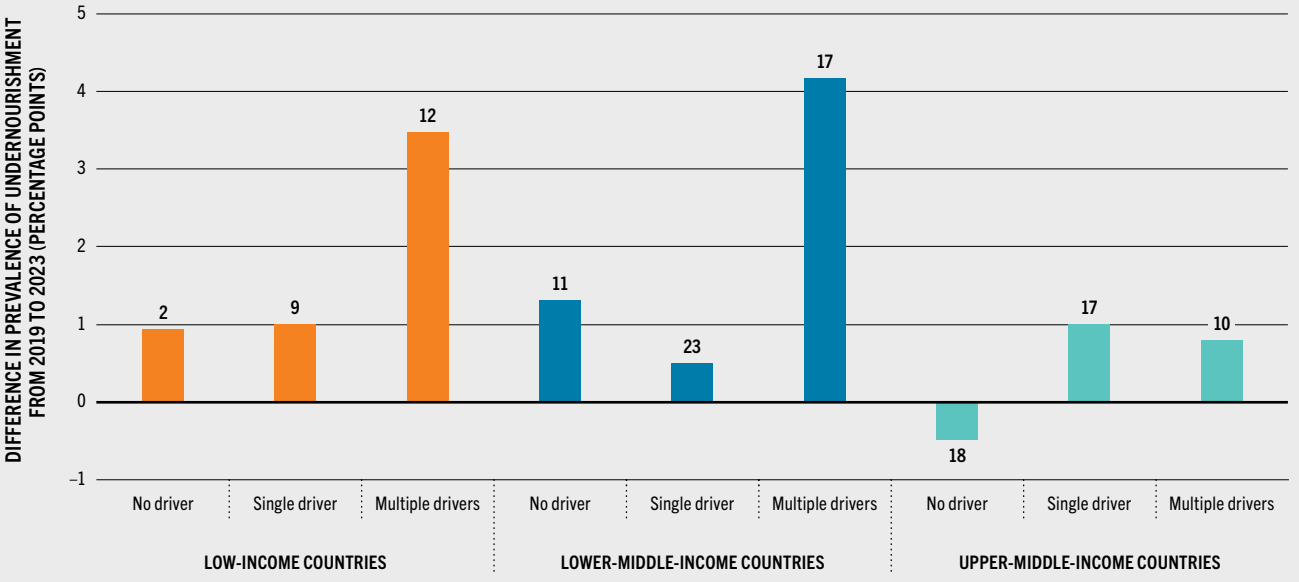
To move from the definition of financing for food security and nutrition to an application of this definition to measure the levels of financing for food security and nutrition requires an understanding of how financing flows are categorized and reported, and then the development of guidelines for mapping these flows to the definition. The conceptual framework around food security and nutrition clearly outlines the different determinants and pathways relevant to meeting SDG Targets 2.1 and 2.2. However, assessing the degree to which the conceptual framework of food security and nutrition can be mapped to financing frameworks and existing databases requires a more granular disaggregation. »

FIGURE 18 HUNGER IS HIGHER AND HAS INCREASED THE MOST IN COUNTRIES AFFECTED BY THE MAJOR DRIVERS, AND HUNGER INCREASES ARE HIGHER IN POOR COUNTRIES AFFECTED BY MORE THAN ONE MAJOR DRIVER

A) TREND IN THE PREVALENCE OF UNDERNOURISHMENT FOR COUNTRIES AFFECTED BY THE MAJOR DRIVERS AND FACING HIGH INCOME INEQUALITY, 2013–2023



B) INCREASES IN HUNGER IN LOW- AND LOWER-MIDDLE-INCOME COUNTRIES WERE HIGHER IN COUNTRIES AFFECTED BY MULTIPLE MAJOR DRIVERS, 2019–2023



NOTES: Figure 18A shows the prevalence of undernourishment (PoU) between the years 2013 and 2023 for low- and middle-income countries affected by any of the three major drivers (conflict, climate extremes and economic downturns), and for countries with high income inequality. Categories are not mutually exclusive, as a country can be affected by more than one major driver and/or face high income inequality. Countries not affected by major drivers are those not affected by conflict, climate extremes or economic downturns. PoU estimates are unweighted. Figure 18B shows the difference in PoU between 2019 and 2023 (percentage points) for countries whose food security was not affected by a major driver (conflict, climate extremes or economic downturns), those affected by a single major driver, and those affected by multiple major drivers, by country income group. The number at the top of each bar refers to the number of countries in that category. The analysis is shown for 119 low- and middle-income countries with available PoU information. See Table S3.5 in the Supplementary material to Chapter 3 for methodology and data sources.

SOURCE: Authors' (FAO) own elaboration.

https://doi.org/10.4060/cd1254en-fig18

BOX 8 PROTRACTED MAJOR FOOD CRISIS COUNTRIES ARE SEVERELY AFFECTED BY MULTIPLE MAJOR DRIVERS AND FACE AMONG THE HIGHEST LEVELS OF CHRONIC FOOD INSECURITY

The 2024 edition of the *Global Report on Food Crises*,[31] an annual report that provides analysis and evidence on acute food insecurity requiring urgent humanitarian assistance to save lives and livelihoods, identifies 19 protracted major food crisis countries,* of which most are low-income food-deficit countries (14 out of 19). These 19 countries have been in a major food crisis for the past eight years, and six countries (Afghanistan, Democratic Republic of the Congo, Ethiopia, Nigeria, Syrian Arab Republic and Yemen) have consistently ranked among the top ten in terms of the population affected, with 108 million people facing high acute food insecurity (IPC level phase 3 or above) in 2023.[31]

Based on this report's analysis,** 18 of the 19 major protracted food crisis countries have data on the prevalence of undernourishment (PoU),*** and all have been affected by at least one major driver of food insecurity, such as conflict, climate extremes or economic downturns, between 2013 and 2022. The only exception is Eswatini, which nevertheless faces high income inequality. Thirteen countries are affected by multiple drivers, a factor that mirrors the extremely high level of PoU observed in 2023 in these countries (Figure A1).

Over the past decade, protracted major food crisis countries have witnessed a steady rise in the PoU, with those affected by climate extremes or economic downturns facing always higher PoU levels (Figure A2). The increase in PoU between 2019 and 2023 was notably sharper in countries affected by economic downturns (Figure A2 and Supplementary material to Chapter 3, Figure S3.6), and it was three times higher in these protracted major food crisis countries compared to the rest of low- and middle-income countries (2.9 percent versus 1.1 percent).

The impact of major drivers on chronic hunger, as measured by the PoU, in protracted major food crisis countries cannot be understated. The gap in PoU between countries affected by conflict, economic downturns or climate extremes and those unaffected has widened over time (Figure A2). The compounding effect of multiple drivers results in higher levels of food insecurity. Countries affected by multiple drivers saw the most significant increase in PoU between 2019 and 2023, and countries affected by all three major drivers face the highest overall level of food insecurity (Supplementary material to Chapter 3, Figure S3.5 and Figure S3.6).

Among the 36 countries in protracted food crisis,**** 33 countries had available PoU data. The findings described above hold true also for them. Among protracted food crisis countries, what sets apart countries in a protracted major food crisis is their exposure to multiple drivers: 72 percent of countries (13 out of 18) in a protracted major food crisis are affected by multiple drivers compared with only 27 percent (4 out of 15) in a protracted food crisis. The tangible consequence is a general lower level of PoU for the protracted food crisis countries. Nevertheless, it is countries in protracted food crisis, excluding major crisis, affected by conflict that experienced the highest increase in PoU between 2019 and 2023 (Supplementary material to Chapter 3, Figure S3.7A and Figure S3.7B).

This analysis draws urgency to the call to integrate humanitarian and development approaches and financing in protracted food crisis countries to address immediate emergency acute food insecurity needs, while also addressing chronic food insecurity, including building resilience in agrifood systems to the major drivers and underlying structural factors. For instance, the 2023 *Financing Flows and Food Crises Report* shows that financing related to the food sector is predominantly humanitarian, while development finance represents only a small share of the financing flows related to the food sector received by protracted food crisis countries.[32]

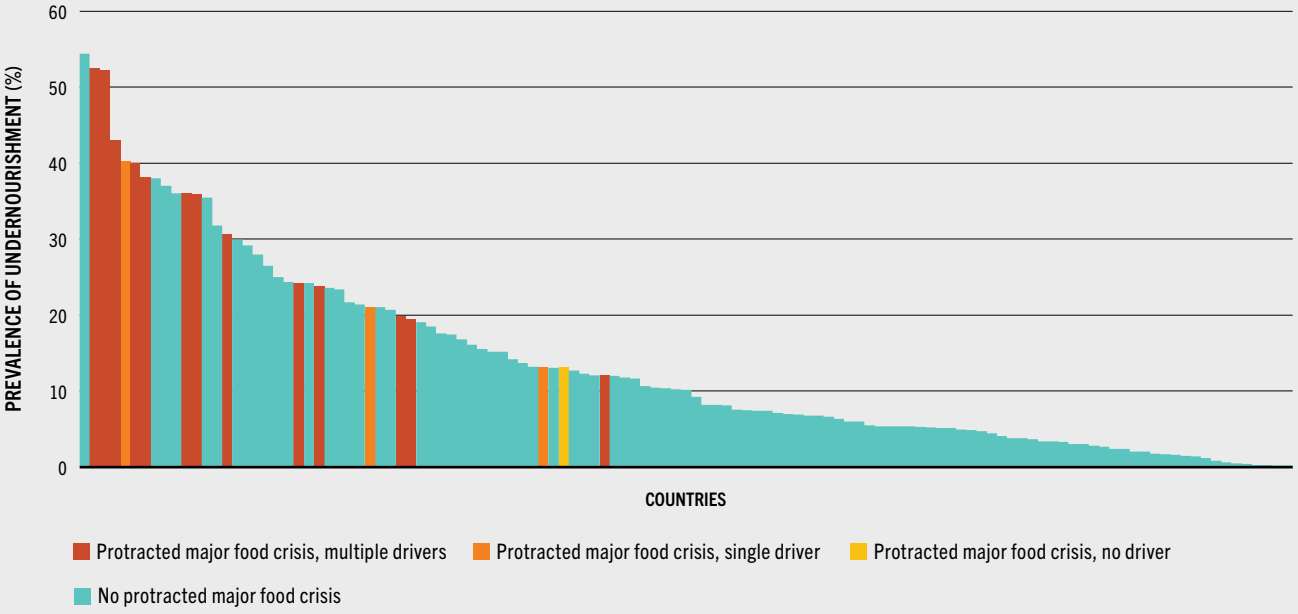
NOTES: * A country/territory is defined as a protracted food crisis country when it is included in all editions of the *Global Report on Food Crises*. A country/territory is defined as a major food crisis country/territory when its acute food insecurity estimates meet one or more of the following criteria: at least 20 percent of the country population is in crisis or worse (Integrated Food Security Phase Classification/Cadre Harmonisé [IPC/CH] Phase 3 or above) or equivalent; at least 1 million people are in crisis or worse (IPC/CH Phase 3 or above) or equivalent; any area is classified in emergency (IPC/CH Phase 4 or above); any area is included in the Inter-Agency Standing Committee humanitarian systemwide emergency response level 3. A country/territory is defined as a protracted major food crisis country when it is identified as a major food crisis country in all editions of the *Global Report on Food Crises*.[31]

** The analysis in this box applies this report's methodology for countries affected by major drivers as outlined in the Supplementary material to Chapter 3, Table S3.5. While *the Global Report on Food Crises* identifies drivers of acute food insecurity and there are overlaps on this with this report, the methodology applied to chronic food insecurity measured by the PoU is different.

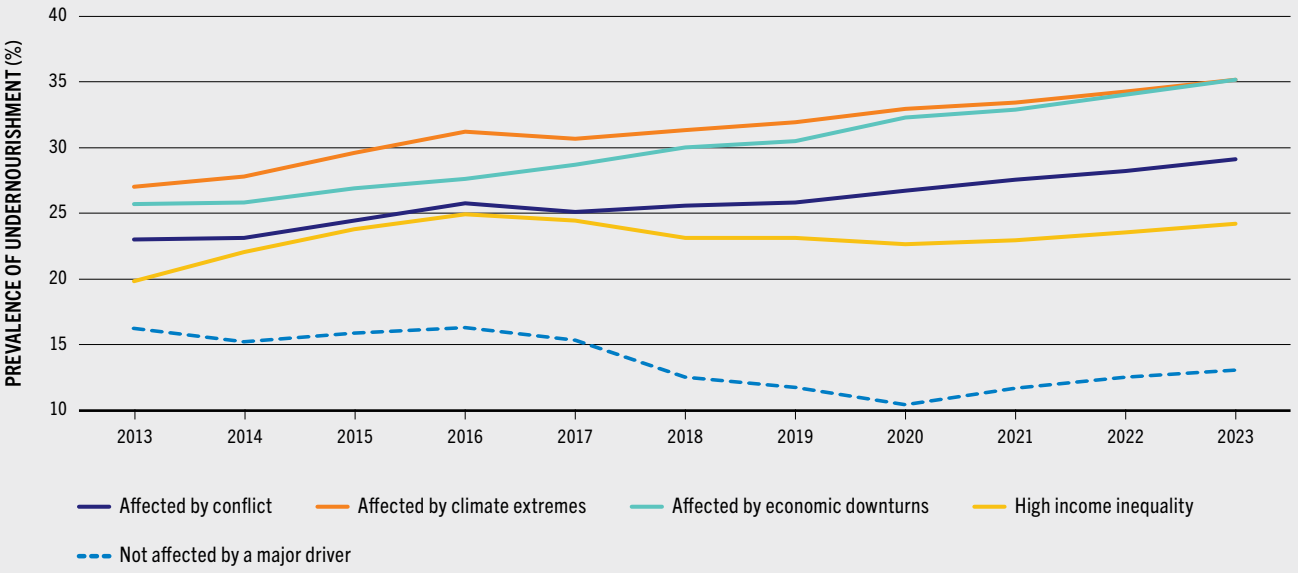
*** The 19 countries classified as protracted major food crisis countries in the *Global Report on Food Crises 2024*[31] are: Afghanistan, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Eswatini, Ethiopia, Haiti, Madagascar, Malawi, Mozambique, Niger, Nigeria, Somalia, South Sudan, Sudan, Syrian Arab Republic, Yemen and Zimbabwe. The data series for the PoU for South Sudan is not long enough for the analysis of countries affected by major drivers and is therefore excluded.

**** The 36 countries/territories classified as protracted food crisis countries in the *Global Report on Food Crises 2024*[31] are: Afghanistan, Bangladesh, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Eswatini, Ethiopia, Guatemala, Guinea, Haiti, Honduras, Iraq, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nicaragua, Niger, Nigeria, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, Syrian Arab Republic, Uganda, Yemen, Zambia and Zimbabwe. The data series for the PoU for Burundi, South Sudan, and Lesotho are not available or not long enough for the analysis of countries affected by major drivers and are therefore excluded.

A1) COUNTRIES IN PROTRACTED MAJOR FOOD CRISIS ARE SEVERELY AFFECTED BY MULTIPLE MAJOR DRIVERS AND FACE AMONG THE HIGHEST PREVALENCE OF UNDERNOURISHMENT, 2023



A2) THE PREVALENCE OF UNDERNOURISHMENT HAS STEADILY INCREASED SINCE 2013 IN PROTRACTED MAJOR FOOD CRISIS COUNTRIES AFFECTED BY MAJOR DRIVERS



NOTES: Figure A1 shows the prevalence of undernourishment (PoU) in 2023 for the 119 low- and middle-income countries with countries classified as facing a protracted major food crisis (red/orange/yellow bars) affected by a single driver, multiple drivers or no driver of chronic food insecurity (conflict, climate extremes or economic downturns). Figure A2 shows trends in the PoU for the 18 countries classified as facing a protracted major food crisis in 2023 and affected by the major drivers (conflict, climate extremes and economic downturns), and countries facing high income inequality. Categories are not mutually exclusive, as a country can be affected by more than one driver and/or face high income inequality. PoU estimates are unweighted. Countries not affected by drivers are those not affected by conflict, climate extremes or economic downturns. See Table S3.5 in the Supplementary material to Chapter 3 for methodology.

SOURCES: Authors' (FAO) own elaboration. PoU based on FAO. For list of countries in major food crisis: FSIN (Food Security Information Network) & GNAFC (Global Network Against Food Crises) 2024. *Global Report on Food Crises 2024*. Rome. https://www.fsinplatform.org/report/global-report-food-crises-2024

https://doi.org/10.4060/cd1254en-figB08-A

FIGURE 19 THE EXTENDED DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION ADDRESSES THE MAJOR DRIVERS THROUGH POLICIES AND ACTIONS ALONG SIX TRANSFORMATIVE PATHWAYS

SOURCE: Adapted from FAO, IFAD, UNICEF, WFP & WHO. 2021. *The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all.* Rome, FAO. https://doi.org/10.4060/cb4474en

» For this report, initial mapping and guidance have been developed and applied to arrive at partial estimates of financing for food security and nutrition and their patterns, which are presented in **Chapter 4**. This mapping consisted of first developing four levels of classification according to the conceptual framework of the core and extended definitions: i) level 1 distinguishes between the core and the extended definition; ii) level 2 between food consumption, health status, and the three major drivers (i.e. conflict, climate variability and extremes, and economic slowdowns and downturns) and the underlying structural factors (i.e. lack of access to and unaffordability of healthy diets and unhealthy food environments, and high and persistent inequality); iii) level 3 between the four dimensions of food security (i.e. availability, access, utilization and stability), practices, and health services and environmental health, and each of the six transformative pathways of policies related to the major drivers; and iv) level 4 between descriptive elements of interventions falling under the level 3 classification. For the full identification of the four classification levels in tabular form, see Table S3.2 in the Supplementary material to Chapter 3.

Second, keywords were identified to clarify the sorts of financing and interventions that were linked to the four-level classification. A more detailed framework was necessary given that some financing and interventions could align with multiple areas of the framework. For example, school feeding is relevant to the core definition, in terms of both food consumption (i.e. food utilization and food consumption behaviour) and health status (i.e. infant and young feeding practices). School feeding is also identified in the extended definition in Pathway 3 on economic slowdowns and downturns. While conceptually this overlap »

BOX 9 SIX TRANSFORMATION PATHWAYS TO ADDRESS THE MAJOR DRIVERS OF FOOD INSECURITY AND MALNUTRITION

As shown in Figure 19, depending on the driver or combination of drivers confronting a country, there are six transformative pathways that include key policies, actions and investments for building resilience to these major drivers, based on an in-depth analysis and evidence from the 2017–2020 editions of this report.

PATHWAY 1: INTEGRATING HUMANITARIAN, DEVELOPMENT AND PEACEBUILDING POLICIES IN CONFLICT-AFFECTED AREAS

- Promoting conflict-sensitive policies; fostering peacebuilding efforts linked to livelihood support; implementing nutrition-sensitive social protection and food production and supply programmes; supporting functioning and resilient food supply chains; adopting community-based approaches in post-conflict policies.
- For example, in conflict and post-conflict areas, people-centred, negotiated development approaches can also address issues of land access, use and management, which also contribute to peace. The provision of community-based animal health services and livestock vaccinations to the Dinka Ngok and Misseriya communities in the contested Abyei area in **South Sudan** and **the Sudan**, working with local government bodies, United Nations peacekeepers and other United Nations entities, was an effective entry point for re-establishing intercommunity dialogue, leading to a local-level peace agreement.

PATHWAY 2: SCALING UP CLIMATE RESILIENCE ACROSS AGRIFOOD SYSTEMS

- Reducing climate-related risks; adapting to climate change; adopting climate risk monitoring and early warning systems; supporting climate risk insurance; promoting improved access to and management of natural productive assets (e.g. landscape restoration, water management); implementing climate-smart interventions.
- For example, in **Zambia,** new initiatives aimed at raising climate resilience include the introduction of agricultural insurance for vulnerable households. Households that adopt conservation agriculture techniques are provided with access to agricultural insurance, which in turn allows them to invest in riskier projects with potentially higher revenues. Under this approach, agricultural insurance is important not only for building climate resilience but also for supporting poverty reduction and increased food security and reduced malnutrition.[30]

PATHWAY 3: STRENGTHENING ECONOMIC RESILIENCE OF THE MOST VULNERABLE TO ECONOMIC ADVERSITY

- Strengthening agrifood productivity and market linkages along the food supply chain; curbing rises in food prices and excessive price volatility; boosting decent job creation; expanding social protection schemes and school feeding programmes.
- For example, investments to develop local agro-industrial value chains can open market opportunities for small-scale farmers, reducing their vulnerability to commodity price shocks, especially in export commodity-dependent countries, and increasing their resilience based on diversified economic activities. In **Senegal**, following a decline in global ground prices, government investments to integrate small-scale producers into profitable and diversified value chains helped farmers transition away from groundnut production by investing in poultry rearing and vegetable growing, which lead to more stable and increased crop incomes.[33]

PATHWAY 4: INTERVENING ALONG AGRIFOOD SUPPLY CHAINS TO LOWER THE COST OF NUTRITIOUS FOODS

- Increasing investments for nutrition-sensitive agricultural production and productivity; increasing efficiency of nutritious food value chains; reducing nutritious food loss and waste; promoting food biofortification; enacting mandatory food fortification; improving rural roads and infrastructure (e.g. nutritious food storage facilities).
- For example, in Myanmar, small and medium enterprises have received direct transfers, increased access to new technologies and training in sustainable production techniques to diversify food production. More than half of the programme's participants have seen their incomes increase by 50 percent, while the expansion of their production to include fresh vegetables has significantly increased the supply of nutritious foods in local markets.[30]

PATHWAY 5: SHIFTING FOOD ENVIRONMENTS TOWARDS HEALTHIER DIETARY PATTERNS WITH POSITIVE IMPACT ON HUMAN HEALTH

- Strengthening food environments (e.g. supporting healthy public food procurement and services); changing consumer behaviour to include sustainability considerations (e.g. improving trade standards with a nutrition-oriented lens, taxing energy-dense foods, introducing legislation on food marketing, food labelling and food reformulation, eliminating industrially produced trans fats).
- For example, in Chile, following the introduction of a law on food labelling and advertising, pre-school children's and adolescents' exposure to advertising for foods high in salt, sugars, energy or saturated fats dropped, while the sales of these foods in school food kiosks was banned. Purchases of foods and beverages high in salt, sugars, energy or saturated fats, which were required to carry front-of-pack warning labels, also fell 24 percent following introduction of the regulation.

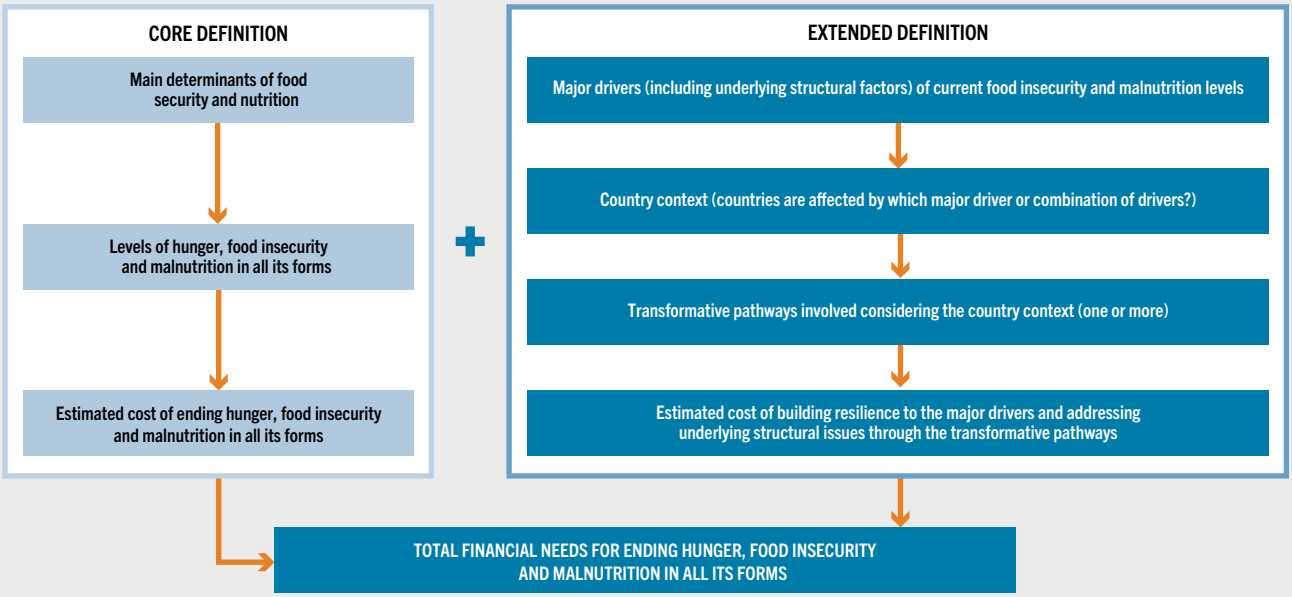
PATHWAY 6: TACKLING STRUCTURAL INEQUALITIES, ENSURING INTERVENTIONS ARE PRO-POOR AND INCLUSIVE

- Empowering populations in situations of vulnerability and marginalization; reducing gender inequalities by supporting women's economic activities and the equitable distribution of resources; promoting the inclusion of women, youth and other populations in situations of marginalization; guaranteeing access to essential services; implementing fiscal reforms to reduce income inequality.
- For example, gender inequalities are still persistent across all regions and all country income groups. In Indonesia, a coastal community development project promoted sustainable fishery and aquaculture production practices by providing production inputs and establishing processing facilities and market linkages. Women, who are primarily engaged in fish processing and marketing, saw their empowerment increase by 27 percent, while fish productivity increased by 78 percent and post-harvest losses fell by 5 percent.

NOTES: For more examples across the six transformation pathways see *The State of Food Security and Nutrition in the World 2021*[30] and the in-depth reports on each of the major drivers and underlying structural factors: conflict (2017 edition),[13] climate variability and extremes (2018 edition),[34] economic slowdowns and downturns (2019 edition),[33] lack of access to and unaffordability of healthy diets (2020 edition).[29]

SOURCE: Adapted from FAO, IFAD, UNICEF, WFP & WHO. 2021. *The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all*. Rome, FAO. https://doi.org/10.4060/cb4474en

FIGURE 20 APPLICATION OF THE CORE AND EXTENDED DEFINITIONS OF FINANCING FOR FOOD SECURITY AND NUTRITION



SOURCE: Authors' (FAO) own elaboration.

» is not necessarily an issue, when mapping the definition of food security and nutrition to data representing financing flows, this could lead to the double counting of resources. To avoid overlaps in assigning financing flows, keywords are identified, and decision rules constructed to guide the allocation across the classification levels. See Table S3.3 for the keywords and Table S3.4 for the decision rules in the Supplementary material to Chapter 3.

Distinguishing financial allocations between "specific" and "supportive" financing for food security and nutrition is important. "Specific" refers to financing that contributes wholly or 100 percent to food security and nutrition. However, as discussed in **Section 3.1**, there are important financial allocations that contribute to food security and nutrition without exclusively supporting only food security and nutrition outcomes. For these types of "supportive" financing measures – those allocations that only partially contribute to food security and nutrition – a weight is applied to account for the percentage of their contribution to food security and nutrition. The identification and application of weights is fraught with challenges and limitations, due to the lack of data and evidence to establish weights; however, the alternatives – either to disregard supportive expenditures or to include their full amounts in estimates – would present even more limitations. For the methodology, data sources and application of weights, including the limitations, see **Section S3.2** and Table S3.3 in the Supplementary material to Chapter 3.

Moving from a definition of financing for food security and nutrition, to mapping it to financial allocations is a challenging task, but one that is necessary, irrespective of what definition is applied. Given that current financing flows and budgets are defined on a sectoral basis, as explained, it is difficult to apply any definition of financing for food security and nutrition, and to do so unavoidably requires making gross assumptions. This is true not only for the new definition presented above, but also for all other financing for food security and nutrition definitions applied in published studies, although this is not always explicitly staged or transparently mentioned. Because financial resources are categorized by sector, there is a risk of "overcounting" or "undercounting" expenditures and investments in support of food security and nutrition and their relative importance.

This report brings transparency to this process, while also providing a new definition of financing for food security and nutrition, and guidance for its application that is more in line with the financing efforts needed to meet SDG Targets 2.1 and 2.2. It is an initial step, going forwards, to take advantage of one definition that should continue to be refined and improved. With this report, the United Nations System and all governments now have an adequate definition and framework for tracking the financing available and needed for food security and nutrition, as part of the means of implementation to meet SDG Targets 2.1 and 2.2. Yet, do data allow us to apply them?

Chapter 4 shows that data to apply the new definition of financing for food security and nutrition exist only for some of the financing flows; hence, it is not possible to take realistic stock of how much financing is available, let alone calculate the financing gap to support efforts to meet SDG Targets 2.1 and 2.2. Therefore, data sources and methodologies must be advanced to ensure there are better data for evidence-based decisions on financing for food security and nutrition. This report, in fact, also sends a loud and clear call for better financial data that can be used for tracking financing for food security and nutrition. Without this, tracking financing for food security and nutrition will remain elusive.

This report thus also calls for universal adoption and transparency in the use of a standardized approach for operationalizing this new definition in its mapping and application to financial data. ■

BRAZIL
Agricultural machinery harvesting corn: financing facilitates access to new technologies.
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CHAPTER 4
CURRENT LEVELS OF AND GAPS IN FINANCING TO END HUNGER, FOOD INSECURITY AND MALNUTRITION

KEY MESSAGES

➔ Financing for food security and nutrition through domestic public spending, official development assistance (ODA) and other official flows (OOF) is trackable, which is not the case for most private flows.

➔ Public spending on agriculture per capita is very low and not steadily growing in low-income countries (LICs) and lower-middle-income countries (LMICs), where food insecurity and undernutrition are more serious; public spending on agriculture is only a fraction of public spending on food security and nutrition.

➔ Public spending on food security and nutrition, particularly on food consumption, was growing before the COVID-19 pandemic in two LICs and eight middle-income countries (MICs). In LICs, governments do not have high spending capacity to address the major drivers and underlying structural factors of food insecurity and malnutrition.

➔ Food security and nutrition take less than a quarter of ODA and OOF flows and seem to have been less of a priority for donors. Between 2017 and 2021, these flows amounted to USD 76 billion per year, of which only 34 percent (USD 26 billion) helped address the major drivers and underlying structural factors of food insecurity and malnutrition. In the same period, these flows overwhelmingly grew more for Africa (across regions) and for LMICs rather than for LICs (across income groups).

➔ Private sector financing is more difficult to track. Philanthropic flows (USD 4 billion on average over 2017–2021) look small compared to cross-border remittances from migrants invested in agrifood systems (USD 29 billion on average over 2017–2022) and foreign direct investment (USD 62 billion on average over 2017–2022). Blended finance represents more modest amounts, and net banking loans to agriculture, forestry and fishing show an almost continuous decline.

➔ Policies, legislation and interventions needed to meet SDG Targets 2.1 and 2.2 could require financing amounting to several trillion USD.

➔ Not bridging the financing gap by 2030 means millions of people will still be undernourished, millions will have been pushed into crisis or worse levels of acute food insecurity, and insufficient progress will have been made to meet all global nutrition targets. Addressing the social, economic and environmental repercussions of this failure will cost several trillion USD.

➔ Executing fully and more effectively national budgets and repurposing existing public support to enable more resilient, sustainable and equitable agrifood systems will help reduce the financing gap.

Financing for food security and nutrition at the country level is provided by the public and the private sectors and is sourced domestically or from abroad (see **Chapter 3**, Table 8). Public finance is the domestic source over which policymakers have most control for targeting food security and nutrition objectives, and it is mostly used through government spending, which is a numerically tractable flow. External public finance materializes through flows, some of which, notably official development assistance (ODA) and other official flows (OOF), can also be mapped to food security and nutrition purposes. A portion of these external flows may be channelled through national budgets, in which case they would become government spending. In practice, then, some financing that is relevant to food security and nutrition may appear both in government spending and in ODA flows that are channelled through national budgets. In regions where ODA is of paramount importance, such as sub-Saharan Africa, the execution of on-budget donor funds for agriculture tends to be complex and low, and about 40 percent of these allocations are left unspent.[1] Some ODA may be legally channelled through financial transactions out of national budgets, to implement projects and programmes much faster.

Available data mostly allow the tracking only of public spending flows, ODA (on-budget and off-budget) and OOF (on-budget and off-budget). The core and extended definitions of financing for food security and nutrition can be applied to these data (definitions are introduced in **Chapter 3** and explained in detail in the Supplementary material to Chapter 3 S3.2); how the definitions are applied to data for such financing flows is explained in detail in the Supplementary material to Chapter 4. The financing flows are mapped to interventions that help to: i) improve food consumption (i.e. food availability, access, utilization and stability) and health status (i.e. practices, and health services and environmental health) (core definition); and ii) transit through the pathways for addressing the major drivers and underlying structural factors behind recent increases in hunger, food insecurity and malnutrition[I] (i.e. conflict, climate variability and extremes, economic slowdowns and downturns, lack of access to and unaffordability of nutritious foods, unhealthy food environments, and high and persistent inequality), including interventions to lower the cost of nutritious foods and strengthen food environments (extended definition). These intervention areas are identified in Table S3.2 of the Supplementary material to Chapter 3 S3.2. Understanding whether the financing flows that support these interventions for food security and nutrition are growing, the specific areas of intervention that they are targeting, and whether the most important recipient countries (in the case of ODA and OOF) are those where hunger, food insecurity and malnutrition are the most challenging in the world are key elements of this chapter.

Private financing flows (both domestic and external) are generally more difficult to track, let alone use for applying the core and extended definitions of financing for food security and nutrition proposed in this report. As a consequence, a robust number for the total financing available in support of all the efforts towards meeting SDG Targets 2.1 and 2.2 is not yet quantifiable. Therefore, this chapter makes unavoidable inferences from patchy data and existing literature to detect patterns between private finance and food security and nutrition. Philanthropic flows are exceptional as data associated with these flows can be analysed after applying the core and extended definitions of financing for food security and nutrition. For other important private flows such as cross-border remittances and foreign direct investment (FDI), one can only rely on existing studies and data sources that offer only partial information relevant to food security and nutrition.

In the face of the impossibility of fully accounting for the total amount of public and private financing flows globally available for food security and nutrition, this chapter delves into existing model-based analyses that provide partial estimates of how much it may cost to finance several policies and interventions to end hunger, food insecurity and malnutrition and make healthy diets more affordable by 2030.

I As mentioned in **Chapter 1**, unless otherwise indicated, reference to the "major drivers" considers also the underlying structural factors behind the recent trends in hunger, food insecurity and malnutrition.

The cost ranges identified have limitations but provide a sense of the financing challenge for the future. Irrespective of exactly how much financing is needed to meet SDG Targets 2.1 and 2.2, the cost of not mobilizing it can be significant and detrimental for the world; hence, the cost of inaction is discussed at the end of the chapter, which also serves as a preamble to **Chapter 5** on what is needed to catalyse scalable financing to fill the gap. ■

4.1 TRACKING CURRENT LEVELS OF FINANCING FOR FOOD SECURITY AND NUTRITION

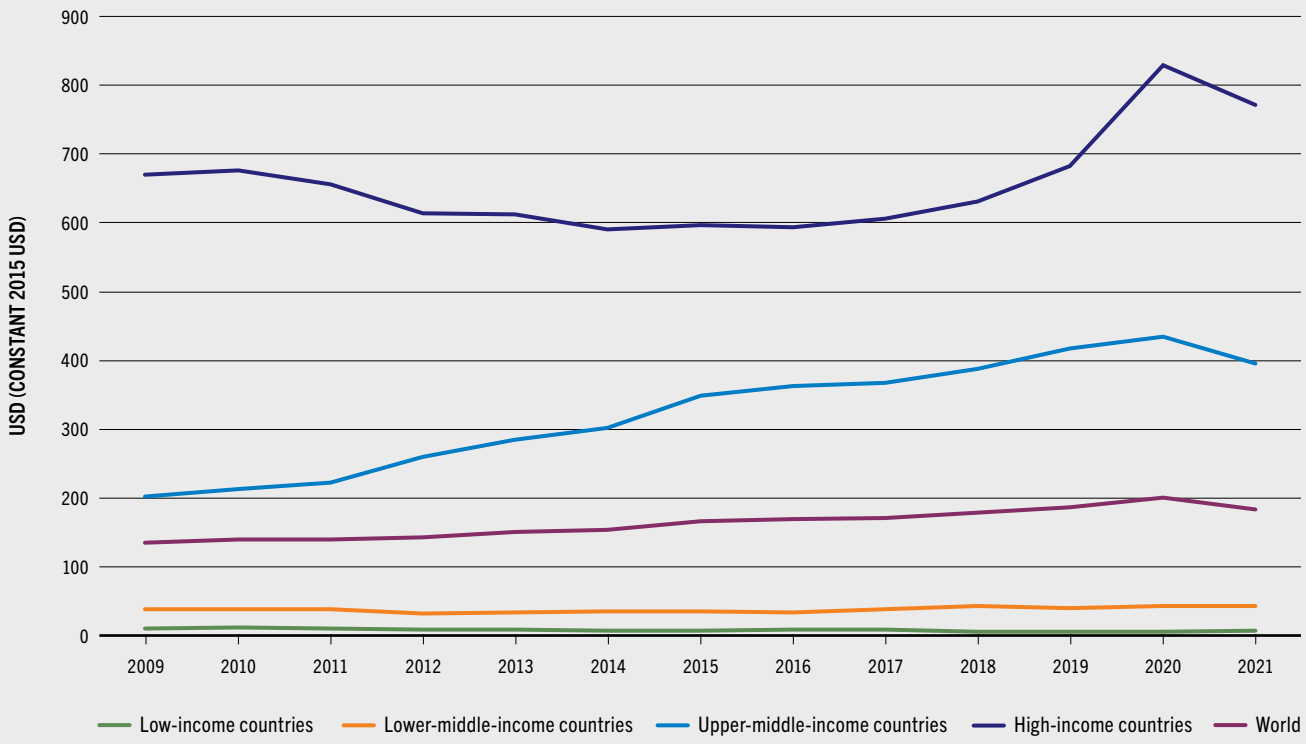
Public spending on agriculture is low and not increasing where it is most needed

Food and agriculture-specific expenditures are among the components of public finance that can most directly influence food security and nutrition outcomes. Following the definition of FAO's Monitoring and Analysing Food and Agricultural Policies (MAFAP) programme, these public expenditures can be grouped into: i) budget transfers for the provision of private goods that are allocated to agents such as producers, consumers, traders, transporters and input suppliers; ii) general support for agricultural infrastructure, research and development (R&D) and extension services, marketing, storage or inspection facilities, among others; and iii) administrative costs.[1] These public expenditures may be both recurrent in nature (e.g. to cover salaries of extensionists or administrative staff) or for investment in capital goods (e.g. agricultural infrastructure or rural roads and electrification). However, public spending that can affect food security and nutrition outcomes may also be channelled through sectors such as health (e.g. public health programmes for vitamin A deficiency control), and there may also be important overlaps with social protection programmes. This is precisely the reason why it is important to rely on a broader definition of financing – or, in this case, public spending – for food security and nutrition.

In the face of data limitations to comprehensively track government spending for the food and agriculture sector at the global level as defined by FAO's MAFAP programme, the general domestic government expenditure on agriculture per rural inhabitant (constant 2015 USD) at the global level is tracked, using information from FAOSTAT. This is a more limited approach because the spending tracked is not for the whole food and agriculture sector but only for agriculture – hence, it is interchangeably referred to in the chapter as public spending on agriculture. Furthermore, it is not possible to detect whether budget transfers for the provision of private goods are equally (or unequally) allocated to individual agents. As will be further shown below for selected low-income countries (LICs), lower-middle-income countries (LMICs) and upper-middle-income countries (UMICs), the public spending that is directly associated with food security and nutrition can be significantly higher than public spending on agriculture. Notwithstanding this limitation, the general domestic government expenditure on agriculture at the global level shows interesting facts and patterns. Total general domestic government expenditure on agriculture had been growing steadily since the early 2000s, reaching a maximum of USD 675.4 billion (constant 2015 USD) in 2020, and then it declined to USD 617.3 billion in 2021. This expenditure, when measured per rural inhabitant, barely changed between 2010 and 2021 in LICs and only saw a very slight increase in LMICs towards the last years of the period (Figure 21). In these two country income groups, public spending on agriculture was only USD 8 and USD 37, respectively, per rural inhabitant, on average, in the period from 2010 to 2019. This points to how limited the financing for food security and nutrition through public spending on agriculture generally is in these countries.

On the other hand, governments are spending more per inhabitant where food insecurity and undernutrition are, by and large, the least problematic in the world. General domestic government expenditure on agriculture per

FIGURE 21 GENERAL DOMESTIC GOVERNMENT EXPENDITURE ON AGRICULTURE PER RURAL INHABITANT IS EXTREMELY LOW AND NOT CLEARLY INCREASING IN LOW- AND LOWER-MIDDLE-INCOME COUNTRIES WHERE IT IS MOSTLY NEEDED TO REDUCE FOOD INSECURITY AND MALNUTRITION



NOTES: General expenditure includes central and subnational government expenditure where available, otherwise only central government expenditure is included. On-budget official development assistance and other official flows and public expenditure in research and development are not included. A total of 196 countries are included. Montenegro, New Caledonia, Saint Kitts and Nevis, and Serbia are excluded because of incomplete public expenditure data. The graph includes imputations for missing public expenditure data points where necessary.

SOURCE: Based on FAO. 2024. *FAOSTAT: Government Expenditure*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/IG.
Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig21

rural inhabitant is much higher in UMICs and high-income countries (HICs) (USD 317 and USD 626 per rural inhabitant, on average, during 2010–2019, before the COVID-19 pandemic). In UMICs, general domestic government expenditure on agriculture per rural inhabitant shows a steady increase up to 2020. In HICs, in contrast, this expenditure shows a reduction up to 2016 – likely in line with these countries' reduction in agriculture's share of gross domestic product (GDP); from 2017 onwards, this expenditure is notably stepped up – driven by a significant increase in spending in the United States of America.[m] General domestic government expenditure on agriculture per rural inhabitant is extremely low in LICs and LMICs, where it is mostly needed to reduce food insecurity and malnutrition, and it has increased systematically over the years only in UMICs.

m The Government of the United States of America significantly increased central government expenditures on agriculture in 2019 and 2020. The increase in 2019 reflects the pattern of agricultural subsidies from the United States Department of Agriculture Market Facilitation Program, which provides relief from tariffs on certain farm products. The increase in 2020 is predominantly related to various COVID-19 pandemic programmes to aid farmers.

As outlined in **Chapter 2** (Figure 2), hunger is still on the rise in Western Asia, the Caribbean and most subregions of Africa, regions that host the largest number of LICs. At the same time, progress has been made towards reducing hunger in most subregions in Asia and in Latin America, where middle-income countries (MICs) are more numerous than LICs. Furthermore, where public spending on agriculture per rural inhabitant is higher, such as in UMICs and HICs, this spending may not always fully contribute to the efficiency, equitability and sustainability of agrifood systems.[2] In fact, the 2022 edition of this report called for governments to repurpose some of the existing public support to agriculture to make healthy diets more affordable for all, offering alternative model-based scenarios.[2] The importance of repurposing and optimally allocating public spending on food and agriculture is further discussed at the end of this chapter.

Public spending on agriculture correlates negatively with food insecurity and some forms of malnutrition

The association between total public spending and food security and nutrition outcomes across LICs, LMICs and UMICs has attracted only scarce empirical cross-country research. Much of the existing statistical literature focuses on one country or region, or on HICs; on limited or approximative food security and nutrition indicators; on one public expenditure sector, generally agriculture given its most direct association with food security and nutrition; or on outcomes such as growth or poverty reduction that may be related to food security and nutrition but are distinct from them. Furthermore, existing studies may not control for other factors that affect food security and nutrition or consider government policies that do not involve significant expenditure.

Cross-country evidence for 65 countries (including 11 HICs) indicates that greater public spending on agriculture, social protection and health was associated with reduced stunting.[3] This has also been partially corroborated by an analysis for nine Southern African countries, which found a favourable association between public spending on agriculture, average dietary energy supply adequacy and the prevalence of undernourishment (PoU).[4] Significant impacts on food security indicators (i.e. average dietary energy supply adequacy, domestic food price index, domestic food price volatility, and proportion of population using improved sanitation facilities) have also been found for public spending on agricultural R&D in Africa and also for general public expenditure in agriculture, but only for the countries that allocate the larger proportions of their budgets to agriculture.[5]

Our analysis corroborates that public spending on agriculture correlates in expected ways with most – albeit not all – food security and nutrition outcomes, even if it is only a part, and sometimes even a small one, of all the public spending on food security and nutrition, as will be further shown below for some countries. This is an analysis of observed association, which does not imply a causal relationship and can be affected by the income level of a country, among other factors. Still, it shows that the lower the general domestic government expenditure on agriculture per capita, the larger the PoU in 87 LICs, LMICs and UMICs (Figure 22A). In more than half of these (49 countries), the PoU is above 10 percent, and governments in most of these countries (39 countries, mostly LICs and LMICs) spent on average USD 20 per person or less between 2017 and 2019. In a dozen LMICs and UMICs, the PoU is 7 percent or less, and yet the governments in these countries spent USD 20 per person or less on agriculture. This is to be expected for MICs, where the PoU is low since most people's incomes allow them to access food. The negative correlation between general domestic government expenditure on agriculture per capita and food security indicators is also seen for the prevalence of moderate or severe food insecurity (Figure 22B) and the prevalence of stunting (Figure 22C). These two additional correlations (as measured by a significant coefficient of correlation of −0.51 and −0.39, respectively) are stronger than the correlation observed for the PoU (as measured by a coefficient of correlation of −0.33).

The literature on the association between public spending and overweight and obesity is scarcer than that on the association between »

FIGURE 22 GENERAL DOMESTIC GOVERNMENT EXPENDITURE ON AGRICULTURE PER CAPITA IS NEGATIVELY CORRELATED WITH FOOD SECURITY AND UNDERNUTRITION INDICATORS, AVERAGE 2017–2019

NOTES: For all variables, the average for 2017–2019 or the most recent three years available is presented. General domestic government expenditure includes central and subnational government expenditure where available; otherwise, only central government expenditure is included. On-budget official development assistance and other official flows and public expenditure in research and development are not included. High-income countries are not included in these figures. In Figure 22A and Figure 22B, 87 countries are included. In Figure 22C and Figure 22D, 105 countries are included. Montenegro, New Caledonia, Saint Kitts and Nevis, and Serbia are excluded because of incomplete general domestic government expenditure data. China and Cuba are excluded because of the lack of sufficient data for undernourishment and prevalence of moderate or severe food insecurity. China is also excluded because of the lack of stunting and overweight data, and Cuba because it is an outlier on general domestic government expenditure.

SOURCES: FAO. 2024. *FAOSTAT: Government Expenditure*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/IG. Licence: CC-BY-4.0; FAO. 2024. FAOSTAT: *Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig22

» public spending and food insecurity and undernutrition, and this shall continue to be explored more regularly through future editions of this report. Regarding obesity, for example, the literature overwhelmingly focuses on HICs and looks much more often into the consequences of obesity on public expenditure (especially in the health sector) than into the possible effects of public expenditure on obesity. It finds a positive association between overweight and public expenditure on agriculture, social protection and health.[3] Social spending in Organisation for Economic Co-operation and Development (OECD) countries (mainly on early childhood education and care) has also been found to have a favourable impact on obesity among children aged 5 to 19 years, after controlling for other factors.[6]

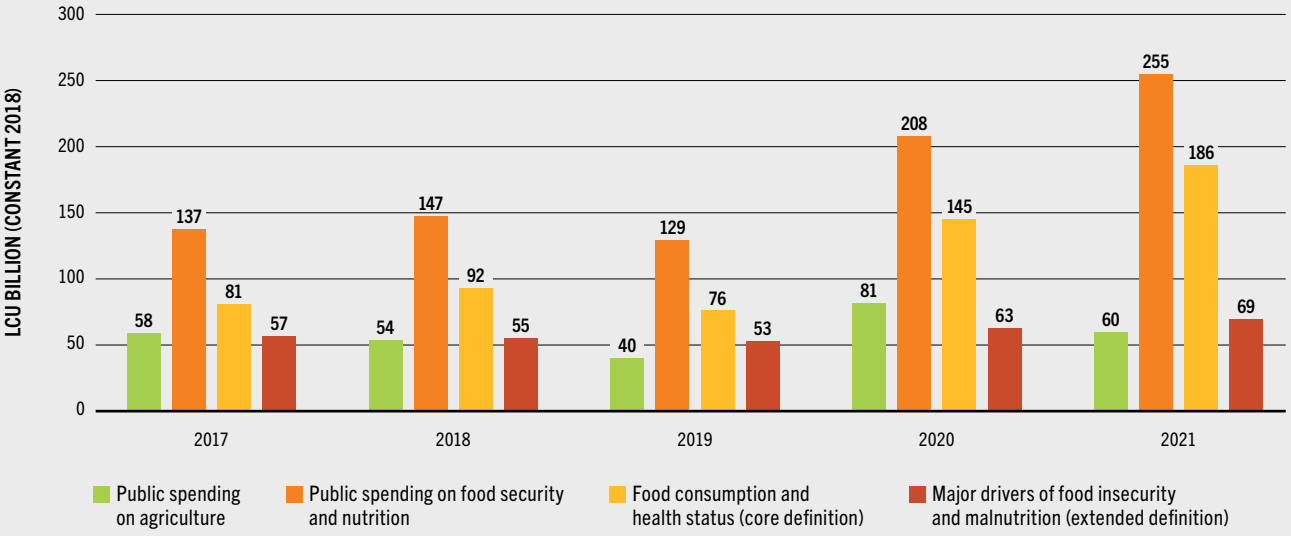
Our correlation analysis, which encompasses LICs and MICs instead of HICs, indicates that the more governments spend on agriculture, the more countries exhibit a high percentage of children under five years of age who are overweight – with a correlation coefficient of 0.27 for 105 LICs, LMICs and UMICs (Figure 22D). There may be several explanations for this, which merit more empirical exploration in future editions of this report. One could be that a higher prevalence of overweight among children may prompt governments to spend more on some nutrition-related programmes, although this response may not necessarily be overwhelmingly happening through national budgets for agriculture. Another hypothetical explanation is that public spending on agriculture does not support enough nutrition-sensitive actions, nor does it enable healthy food environments. As seen in previous editions of this report, not only are healthy diets unaffordable for billions, but also food environments are not conducive to healthy diets.[7] The world is also not producing sufficient fruits and vegetables and other nutritious foods for a growing population demanding them more, including in rural areas.[8] Public support to the food and agriculture sector, including fiscal subsidies, has also created incentives to increase the availability and reduce the price of staple foods and their derivatives – including highly processed foods high in unhealthy fats, sugars and/or salt and of minimal nutritional value – while at the same time discouraging and making relatively more expensive the consumption of unsubsidized or less subsidized commodities such as fruits, vegetables and pulses.[2] Unsurprisingly, as seen in **Chapter 2**, millions of children under five years of age are experiencing overweight.

Overweight may also be more highly correlated with public spending in the health sector compared with public spending in the agriculture sector. However, not only is there a positive correlation between general domestic government expenditure on treatment of nutritional deficiencies per capita and the percentage of children under five years of age who are overweight (not shown graphically here), but this correlation is also similar to that seen above for public spending on agriculture (i.e. coefficient of correlation equivalent to 0.33).[n] It may very well be the case that LICs and MICs that spend more on nutritional deficiencies are also those countries with higher levels of overweight and obesity – but this hypothesis needs further exploration. Clearly, not only will more domestic public finance be needed to support public spending on agriculture, but countries, particularly LMICs and UMICs, will need to invest more heavily in nutrition-sensitive agriculture and healthier food environments to address the problems of overweight and obesity more effectively.

The association between public spending on agriculture and food security and nutrition outcomes at the global level is likely weakened by inefficiencies in the actual public expenditures. The association between public spending on food security and nutrition and food security and nutrition outcomes is expected to be relatively stronger because, as shall be noted below, public spending on agriculture is only a small fraction of public spending on food security and nutrition.

n Interestingly, but not shown here, general domestic government expenditure on nutritional deficiencies per capita (current purchasing power parity [PPP]) is negatively associated with the PoU (coefficient of correlation = –0.07), the prevalence of moderate or severe food insecurity (coefficient of correlation = –0.32), and stunting (coefficient of correlation = –0.35). The data come from WHO's System of Health Accounts; it covers 40 LICs, LMICs and UMICs, of which 33 are in sub-Saharan Africa; it excludes China and India; three outliers are also excluded from the analysis: Armenia and South Africa for public expenditure, and Tunisia for overweight.

FIGURE 23 PUBLIC SPENDING ON FOOD SECURITY AND NUTRITION SHOWS ALMOST STEADY GROWTH IN BENIN UP TO 2021



NOTES: LCU = local currency unit. Estimates derived applying the methodology described in the Supplementary material to Chapter 4 S4.2.

SOURCE: Authors' (FAO) own elaboration based on World Bank. 2023. *World Bank Data Catalog: Benin BOOST platform: Public expenditure and revenue flows*. [Accessed on 24 July 2024]. https://datacatalog.worldbank.org/search/dataset/0038083. Licence: CC-BY-4.0.

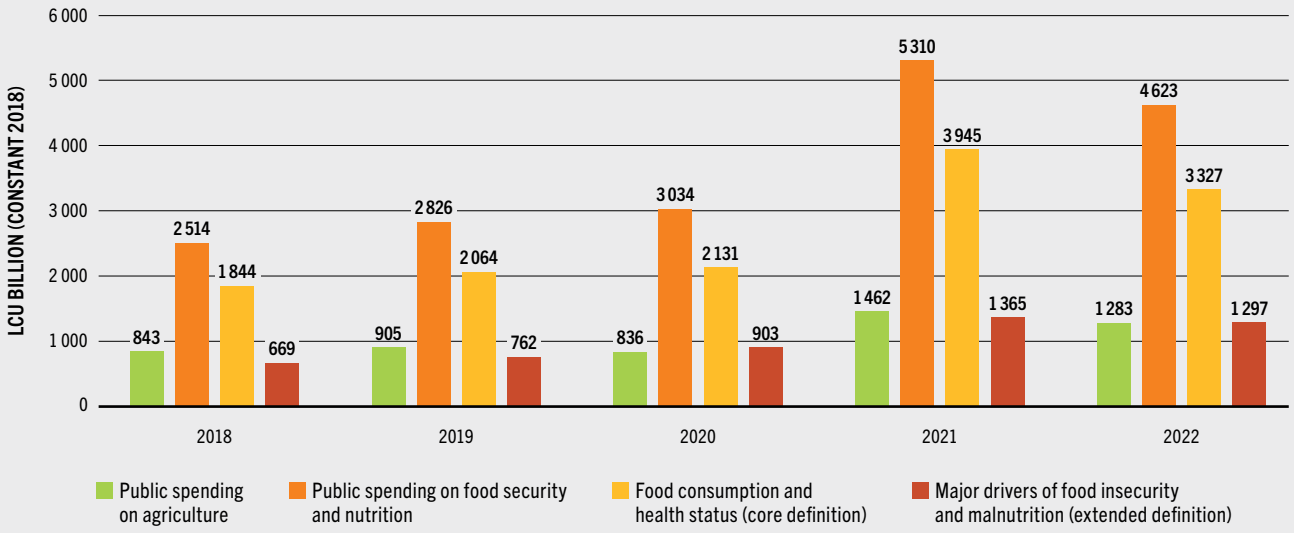
https://doi.org/10.4060/cd1254en-fig23

Public spending on food security and nutrition in selected low-income countries and middle-income countries

Readily available public spending data do not exist for all the countries in the world to apply the core and extended definitions of financing for food security and nutrition introduced in **Chapter 3** – so as to arrive at a global aggregate of this financing. This exercise has been piloted on public spending data for ten countries from different regions for this report: one LIC (Uganda), five LMICs (Benin, India, Kenya, Nigeria and Philippines), and four UMICs (Brazil, Georgia, Mexico and South Africa). Data sources and the approach for applying this exercise are described in the Supplementary material to Chapter 4 S4.2. The approach allows the calculation of public spending on food security and nutrition expressed in real terms for all ten countries.

A focus on how governments spend to support food security and nutrition in countries with the lowest income per capita levels is particularly important for two reasons: i) these are the countries where public spending per capita tends to be the lowest in the world; and ii) these are the countries with the more pressing food insecurity and malnutrition challenges which have traditionally faced higher levels of undernutrition. An interesting finding is that in the two countries with the lowest income per capita analysed here, Benin and Uganda, public spending on food security and nutrition seems to have been growing. In fact, the total public spending on food security and nutrition shows an important increase from 2017/18 to 2021, and it significantly exceeds public spending on agriculture in these two countries (Figure 23 and Figure 24). In the case of Benin, considerable growth of spending on food consumption in 2020 and also in 2021 seems to suggest that during and following the COVID-19 pandemic, high priority was given to financing key determinants of food security and nutrition such as domestic production, food

FIGURE 24 PUBLIC SPENDING ON FOOD SECURITY AND NUTRITION SHOWS STEADY GROWTH IN UGANDA, BUT THIS COULD NOT BE SUSTAINED IN 2022



NOTES: LCU = local currency unit. Estimates derived applying the methodology described in the Supplementary material to Chapter 4 S4.2.

SOURCE: Authors' (FAO) own elaboration based on World Bank. 2023. *BOOST open budget portal: Uganda BOOST Public Expenditure Database*. [Accessed on 24 July 2024]. https://datacatalog.worldbank.org/search/dataset/0038076

https://doi.org/10.4060/cd1254en-fig24

access and health services (Figure 23). In Uganda, considerable growth in public spending on food security and nutrition is observed only in 2021, but this stimulus was short-lived as this public spending decreased in 2022 – although it remained well above pre-COVID-19 levels (Figure 24).

The fact that public spending on food security and nutrition exceeds public spending on agriculture, reflects the important contribution of using the core and extended definitions of financing for food security and nutrition. These new definitions allow accounting for financing flows that target areas beyond the agrifood sector, such as health, water and sanitation, and education incurred in both rural and urban areas, as well as conflict-sensitive interventions that support livelihood resilience and do not fall within the boundaries of public spending on agriculture. An important share of the public spending on food security and nutrition is not accounted within the budget of the agriculture sector, but elsewhere, due to differences in where policies are being made.

On average, over the periods of analysis, 65 percent of total public spending on food security and nutrition in Benin (Table 9) and 73 percent in Uganda (Table 10) was allocated to food consumption and health status; the remaining share supported policies and actions along the six transformative pathways to address the major drivers of food insecurity and malnutrition (see **Chapter 3**, Figure 19). Food consumption took on average half or even more of the public spending on food security and nutrition over the period, and it mostly targeted food availability, but also food access, although to a lesser extent. Interestingly, 14 percent of these countries' public spending on food security and nutrition is related to health and is mostly oriented towards health services and environmental health. Practices do not seem to feature in such expenditures in either country, but this is to a large extent due to the difficulty

TABLE 9 COMPOSITION OF PUBLIC SPENDING ON FOOD SECURITY AND NUTRITION IN BENIN

	2017	2018	2019	2020	2021	Average
			(%)			
Food consumption and health status (core definition)	59	63	59	70	73	65
Food consumption	46	44	49	51	60	50
Food availability	30	23	28	18	16	23
Food access	16	15	14	26	23	19
Food utilization	1	5	8	7	22	9
Health status	13	19	9	19	12	14
Practices	0	1	0	0	0	0
Health services and environmental health	12	18	9	18	12	14
Major drivers of food insecurity and malnutrition (extended definition)	41	37	41	30	27	35

NOTES: Estimates derived applying the methodology described in the Supplementary material to Chapter 4 S4.2. Some subtotals may not fully add up due to rounding.

SOURCE: Authors' (FAO) own elaboration based on World Bank. 2023. *World Bank Data Catalog: Benin BOOST platform: Public expenditure and revenue flows*. [Accessed on 24 July 2024]. https://datacatalog.worldbank.org/search/dataset/0038083. Licence: CC-BY-4.0.

TABLE 10 COMPOSITION OF PUBLIC SPENDING ON FOOD SECURITY AND NUTRITION IN UGANDA

	2017	2018	2019	2020	2021	Average
			(%)			
Food consumption and health status (core definition)	73	73	70	74	72	73
Food consumption	61	61	56	61	55	59
Food availability	32	30	26	25	26	28
Food access	25	27	26	26	21	25
Food utilization	5	5	4	9	7	6
Health status	13	12	14	14	17	14
Practices	0	0	0	2	2	1
Health services and environmental health	13	12	14	11	15	13
Major drivers of food insecurity and malnutrition (extended definition)	27	27	30	26	28	27

NOTES: Estimates derived applying the methodology described in the Supplementary material to Chapter 4 S4.2. Some subtotals may not fully add up due to rounding.

SOURCE: Authors' (FAO) own elaboration based on World Bank. 2023. *World Bank Data Catalog: Uganda BOOST platform: Public expenditure database*. [Accessed on 24 July 2024]. https://datacatalog.worldbank.org/search/dataset/0038076. Licence: CC-BY-4.0.

of identifying such practices in government budgets. An important share of the public spending on food security and nutrition in both countries (35 percent in Benin and 27 percent in Uganda on average over the period) contributed to addressing the major drivers of food insecurity and malnutrition and, although not shown here, these resources mostly supported policies targeting structural inequalities.

Similar figures and tables to those presented here for Benin and Uganda are shown for eight MICs

TABLE 11 COMPOSITION OF PUBLIC SPENDING ON FOOD SECURITY AND NUTRITION IN SELECTED LOW- AND MIDDLE-INCOME COUNTRIES

	Benin	Brazil	Georgia	India	Kenya	Mexico	Nigeria	Philippines	South Africa	Uganda
	(% annual average)									
Food consumption and health status (core definition)	65	31	50	85	75	56	55	40	55	73
Food consumption	50	14	39	83	53	40	33	37	35	59
Food availability	23	11	30	45	21	34	23	33	10	28
Food access	19	1	7	35	31	0	8	3	18	25
Food utilization	9	1	2	3	0	6	2	1	7	6
Health status	14	17	11	2	20	17	21	3	19	14
Practices	0	0	0	0	1	0	0	0	0	1
Health services and environmental health	14	17	11	4	22	17	21	3	19	13
Major drivers of food insecurity and malnutrition (extended definition)	35	69	50	15	25	44	45	60	45	27

NOTES: Annual average (%) is for the following periods: 2018–2022 in Brazil, Georgia, India, Kenya, Mexico and Uganda; 2018–2021 in Nigeria; 2019–2023 in the Philippines; and 2017–2021 in Benin and South Africa. Uganda is a low-income country, Benin, India, Kenya, the Philippines and Nigeria are lower-middle-income countries whereas the other four countries are upper-middle-income countries. Estimates are derived applying the methodology described in the Supplementary material to Chapter 4 S4.2. Some subtotals may not fully add up due to rounding.

SOURCES: Authors' (FAO) own elaboration based on World Bank. 2023. *World Bank Data Catalog: Benin BOOST platform: Public expenditure and revenue flows*. [Accessed on 24 July 2024]. https://datacatalog.worldbank.org/search/dataset/0038083. Licence: CC-BY-4.0 for Benin; Government of Brazil. 2024. Orçamentos Anuais PLDO I LDO I PLOA I LOA - Atos Normativos. In: *gov.br – Ministério do Planejamento e Orçamento*. [Cited 30 April 2024]. https://www.gov.br/planejamento/pt-br/assuntos/orcamento/orcamentos-anuais for Brazil; Ministry of Finance of Georgia. 2024. *Ministry of Finance of Georgia*. [Cited 30 April 2024]. https://www.mof.ge/en/ for Georgia; Ministry of Finance, Government of India. 2024. Accounting information. In: *Controller General of Accounts, Department of Expenditure*. [Cited 30 April 2024]. https://cga.nic.in/index.aspx#account-section for India; The National Treasury & Economic Planning, Republic of Kenya. 2021. *Sector budget proposal reports*. [Cited 30 April 2024]. https://www.treasury.go.ke/sector-budget-proposal-reports for Kenya; Government of Mexico. 2024. Investor Relations Office of the Ministry of Finance and Public Credit. In: *Gobierno de México*. [Cited 9 May 2024]. https://www.finanzaspublicas.hacienda.gob.mx/es/Finanzas_Publicas/Ingles for Mexico; Government of Nigeria. 2024. *Open Treasury Portal*. [Cited 30 April 2024]. https://opentreasury.gov.ng for Nigeria; Republic of the Philippines, Department of Budget and Management. 2022. *Budget of expenditures and sources of financing FY 2023*. Manila. https://www.dbm.gov.ph/index.php/2023/budget-of-expenditures-and-sources-of-financing-fy-2023 for the Philippines; Republic of South Africa, National Treasury Department. 2024. National budget. In: *National Treasury*. [Cited 30 April 2024]. https://www.treasury.gov.za/documents/national%20budget/default.aspx for South Africa; World Bank. 2023. *World Bank Data Catalog: Uganda BOOST Public Expenditure Database*. [Accessed on 24 July 2024]. https://datacatalog.worldbank.org/search/dataset/0038076. Licence: CC-BY-4.0 for Uganda.

in the Supplementary material to Chapter 4 S4.2. Four general patterns can be identified from the data of these eight MICs. First, public spending on food security and nutrition exceeds general domestic government spending on agriculture more than it does in Benin and Uganda (compare Figure S4.1 to Figure S4.8 in the Supplementary material to Chapter 4 S4.2 with Figures 23 and Figure 24). In some UMICs, for example, general domestic government spending on agriculture on average represents less than 10 percent (9 percent in Brazil, 3 percent in Georgia) or around 15 percent (Mexico and South Africa) of total public spending on food security and nutrition. Second, like in Benin and Uganda, these eight MICs show an absolute increase in public spending on food security and nutrition but could not sustain the growth pace during the COVID-19 pandemic or right after, with two exceptions (Georgia and South Africa) (Figure S4.1 to Figure S4.8 in the Supplementary material to Chapter 4 S4.2). Third, the share of public spending on food security and nutrition that goes to addressing the major drivers of food insecurity and malnutrition tends to be on average higher for these eight MICs than for the countries with the lowest income per capita in the sample, Benin and Uganda. In fact, in some MICs more spending is allocated to address the major drivers of food insecurity and malnutrition (69 percent

in Brazil, 60 percent in the Philippines) than to support food consumption and health status (Table 11). In some other countries, this share is about half or slightly less than half (Georgia, Mexico, Nigeria and South Africa) (Table 11). Fourth, although the data are not shown here, it is worth noting that these eight MICs allocate an important share to addressing structural inequalities, just like Benin and Uganda. However, an important difference is that these MICs allocate a much higher share of their public spending on food security and nutrition to strengthen the economic resilience of the most vulnerable to economic adversity; for example, Brazil's share is an impressive 63 percent, and that of Georgia, the Philippines and South Africa is around 25 to 30 percent.

International development finance flows for food security and nutrition

The core and extended definitions of financing for food security and nutrition introduced in **Chapter 3** were applied to international development finance flows at the global level. Specifically, this was done for ODA and OOF for the period from 2017 to 2021, following the methodology described in the Supplementary material to Chapter 4 S4.3 with data from the OECD Creditor Reporting System (CRS)[9] and the AidData database,[10] where feasible.[o]

Food security and nutrition take almost a quarter of official development assistance and other official flows and this share is not growing

Global ODA and OOF flows for all aid sectors amounted to USD 354 billion in 2021. The part of these flows that can be deemed related to food security and nutrition according to the core and extended definitions amounted to USD 77 billion in 2021, of which the majority (USD 61 billion or 79 percent) corresponds to ODA (Table 12). This level of ODA is higher than each of the levels of ODA reported in the different studies mentioned in **Chapter 3** (see Figure 14), because the definition of financing for food security and nutrition is more comprehensive, especially as the extended definition includes interventions to address the major drivers of food insecurity and malnutrition.

Interestingly, not even a quarter of global ODA and OOF flows for all aid sectors were allocated to food security and nutrition between 2017 and 2021. In fact, food security and nutrition flows seem to have been less of a priority for donors during this period, as these flows grew less rapidly than the flows to all aid sectors (2 percent versus 4 percent, on average, in 2017–2021), and even contracted relatively more in 2021 (–5 percent versus –2 percent, on average) when the effects of the COVID-19 emergency were still being felt (Table 12). Flows for food security and nutrition are mostly allocated to support food consumption and health (core definition), and the rest to support interventions for addressing the major drivers of food insecurity and malnutrition (extended definition) (Figure 25). The composition of the flows for food security and nutrition is, by and large, very stable over time (Figure 26).

Food availability, health services and environmental health, conflict and inequality

As noted earlier, the composition of ODA and OOF flows for food security and nutrition is very stable over time (Figure 26) and, by 2021, most resources were flowing to food consumption (USD 35 billion out of USD 77 billion); relatively few were allocated to interventions for addressing the major drivers of food insecurity and malnutrition (USD 27 billion), and even fewer to health status (USD 15 billion) (Table 12). Little more than two-thirds of the flows for food consumption were allocated to address food availability concerns (of which, slightly more than 64 percent were allocated to support domestic production and 35 percent to support food aid); the remaining third was overwhelmingly taken by food access (Figure 27A). Health services and environmental health took the lion's share (92 percent) of the health-related flows, particularly in support of water and sanitation (Figure 27B). As for flows allocated to addressing the major drivers of food insecurity and malnutrition, conflict and inequality took a bit more than one-third each (Figure 27C).

o The bulk of the international development finance flows considered in this section's analysis (i.e. 97 percent) correspond to ODA and OOF from the CRS database.[9] The analysis does not consider the OOF tallied in the AidData database,[10] due to the difficulty of estimating the portion of these flows that present development aid characteristics.

TABLE 12 GLOBAL OFFICIAL DEVELOPMENT ASSISTANCE AND OTHER OFFICIAL FLOWS FOR ALL AID SECTORS AND FOR FOOD SECURITY AND NUTRITION

	2017	2018	2019	2020	2021	Average
	(constant 2021 USD billion and percentage)					
ODA and OOF for all aid sectors	305	310	312	362	354	329
Growth rate (%)		*1*	*1*	*16*	*–2*	*4*
ODA and OOF for food security and nutrition (core and extended definitions)	72	74	77	81	77	76
Growth rate (%)		*2*	*4*	*6*	*–5*	*2*
ODA and OOF for food security and nutrition (core definition)	48	49	51	55	50	51
Growth rate (%)		*2*	*6*	*7*	*–9*	*1*
ODA and OOF for food security and nutrition – food consumption (core definition)	36	36	38	40	35	37
Growth rate (%)		*1*	*6*	*4*	*–13*	*0*
ODA and OOF for food security and nutrition – health status (core definition)	12	13	13	15	15	14
Growth rate (%)		*4*	*4*	*15*	*1*	*6*
ODA and OOF for food security and nutrition – major drivers of food insecurity and malnutrition (extended definition)	24	25	25	27	27	26
Growth rate (%)		*3*	*1*	*4*	*3*	*3*
ODA for food security and nutrition (core and extended definitions)	59	58	60	62	61	60
Growth rate (%)		*–3*	*3*	*4*	*–2*	*1*
ODA for food security and nutrition (core definition)	38	37	38	40	37	38
Growth rate (%)		*–2*	*3*	*4*	*–6*	*0*
ODA for food security and nutrition – food consumption (core definition)	28	27	29	29	26	28
Growth rate (%)		*–3*	*4*	*2*	*–11*	*–2*
ODA for food security and nutrition – health status (core definition)	9	10	10	11	11	10
Growth rate (%)		*1*	*1*	*10*	*7*	*5*
ODA for food security and nutrition – major drivers of food insecurity and malnutrition (extended definition)	22	21	21	22	24	22
Growth rate (%)		*–4*	*3*	*4*	*6*	*2*

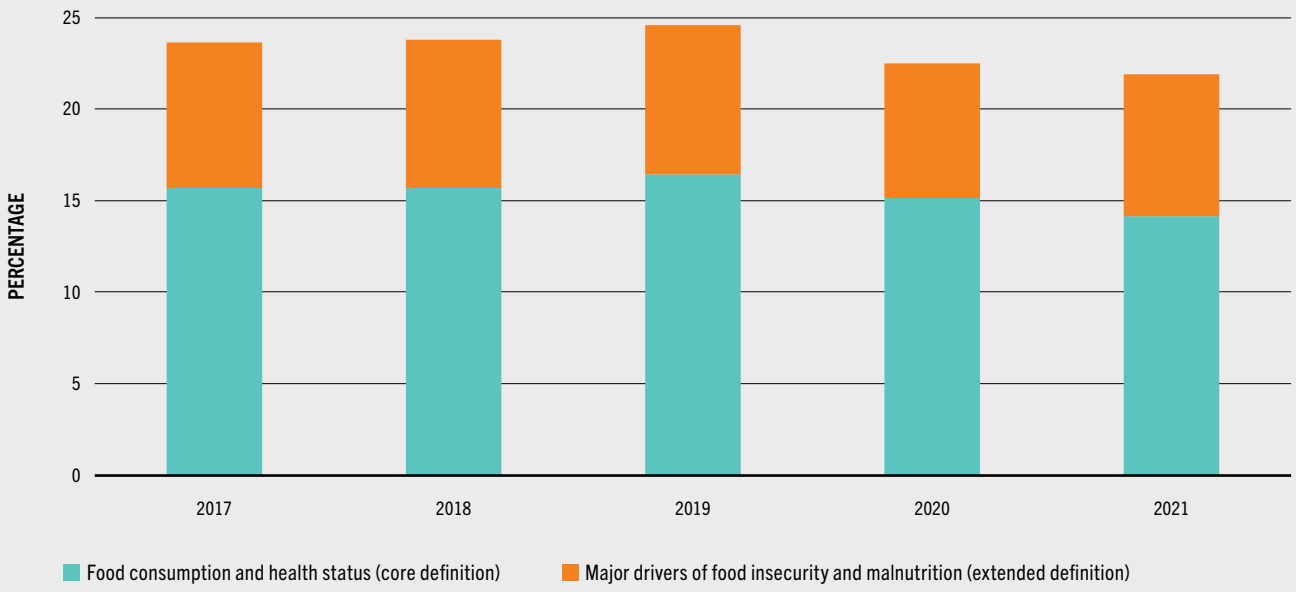
NOTES: ODA = official development assistance; OOF = other official flows. ODA flows included from AidData database represent little more than 5 percent of total flows, on average, during the period. OOF tallied in the AidData database are not included due to the difficulty of estimating the portion of these flows that present development aid characteristics. ODA and OOF for food security and nutrition result from applying the core and extended definitions of financing for food security and nutrition. Some subtotals may not fully add up due to rounding.

SOURCES: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 to data from OECD. 2024. *OECD Data Explorer*. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; William & Mary. 2024. *AidData: Data*. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

Flows broadly appear to target well the countries where hunger, food insecurity and malnutrition are more serious

Global ODA and OOF flows for food security and nutrition broadly appear to target well the country groups and regions where hunger, food insecurity and malnutrition are higher. On a per capita basis, on average, over the period from 2017 to 2021, these flows amounted to USD 30 in LICs, compared with USD 10 in LMICs and USD 8 in UMICs (Table 13). Interestingly, due to population growth over this period and to a reduction in flows in 2021, ODA and OOF flows for food security and nutrition per person were lower in 2021 than in any other year during the same period in the case of LICs, while this is not »

FIGURE 25 OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR FOOD SECURITY AND NUTRITION REPRESENT LESS THAN A QUARTER OF GLOBAL ODA AND OOF FLOWS AND ARE MOSTLY ALLOCATED TO FOOD CONSUMPTION AND HEALTH

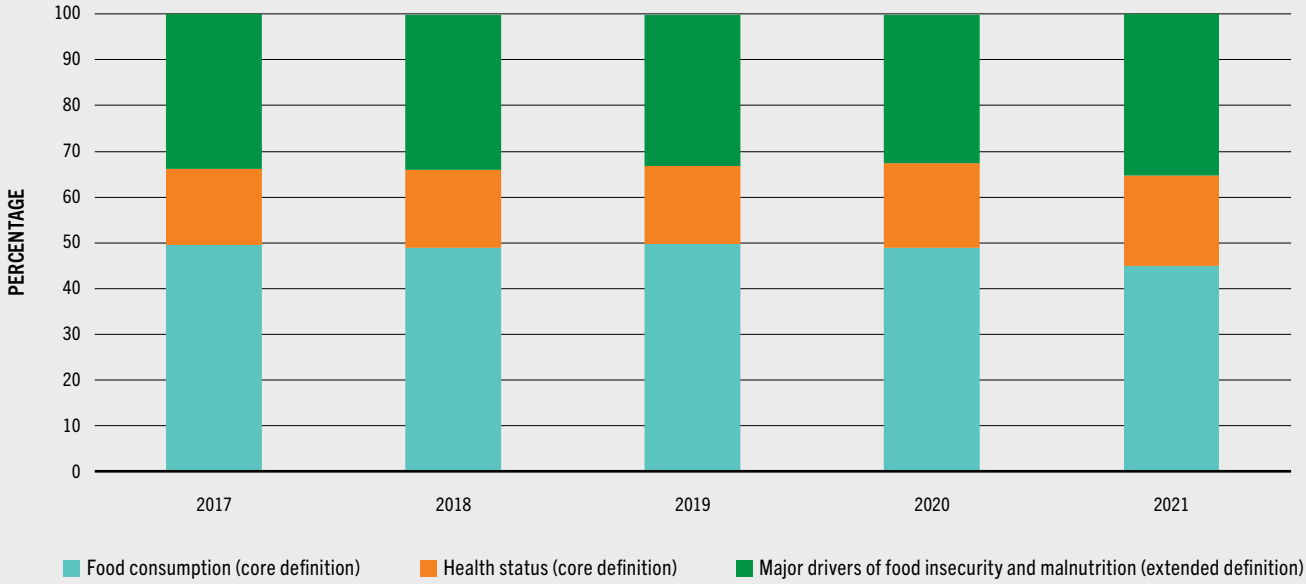


NOTE: Figures used are included in Table 12.

SOURCES: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. *OECD Data Explorer*. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; William & Mary. 2024. *AidData: Data*. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

https://doi.org/10.4060/cd1254en-fig25

FIGURE 26 THE COMPOSITION OF OFFICIAL DEVELOPMENT ASSISTANCE AND OTHER OFFICIAL FLOWS FOR FOOD SECURITY AND NUTRITION IS VERY STABLE OVER TIME



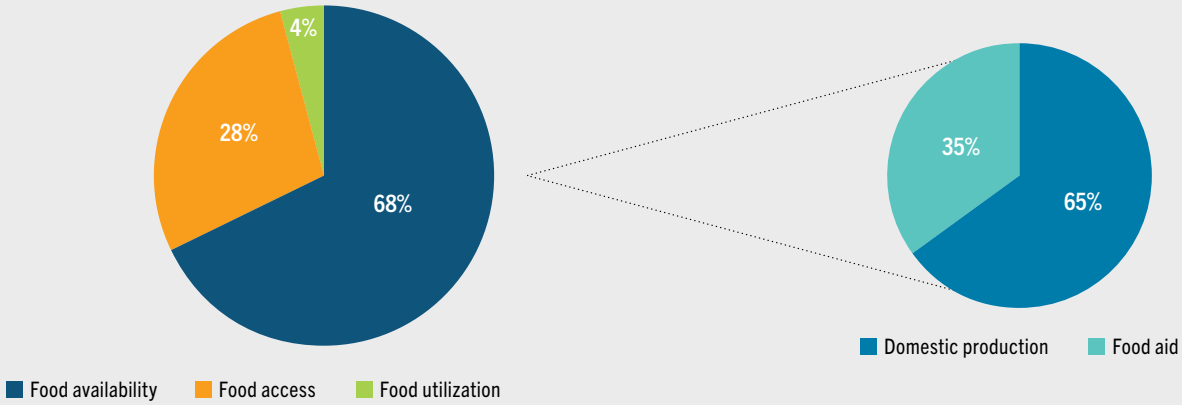
NOTE: Figures used are included in Table 12.

SOURCES: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. *OECD Data Explorer*. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; William & Mary. 2024. *AidData: Data*. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

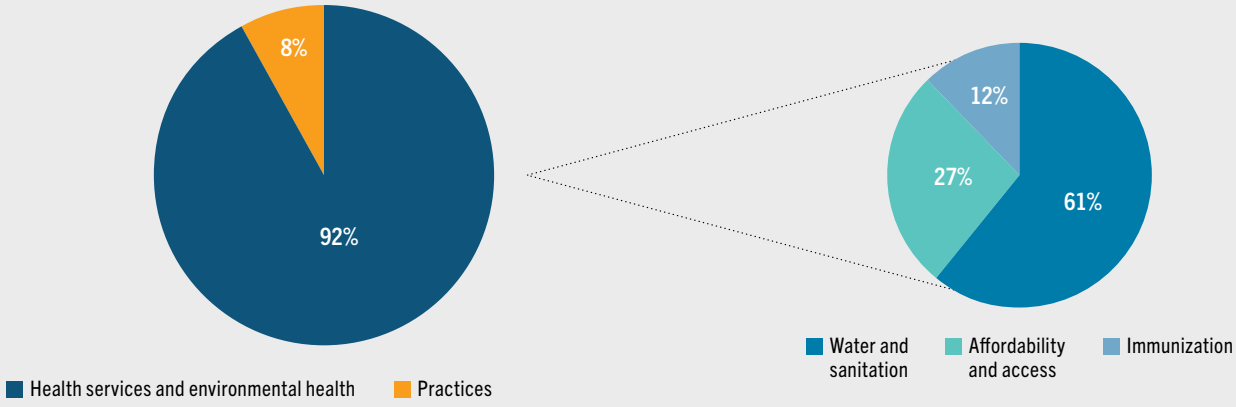
https://doi.org/10.4060/cd1254en-fig26

FIGURE 27 FOOD AVAILABILITY, HEALTH SERVICES AND ENVIRONMENTAL HEALTH, AND CONFLICT AND INEQUALITY TAKE THE MAJORITY OF THE OFFICIAL DEVELOPMENT ASSISTANCE AND OTHER OFFICIAL FLOWS FOR, RESPECTIVELY, FOOD CONSUMPTION, HEALTH, AND THE MAJOR DRIVERS OF FOOD INSECURITY AND MALNUTRITION, ANNUAL AVERAGE, 2017–2021

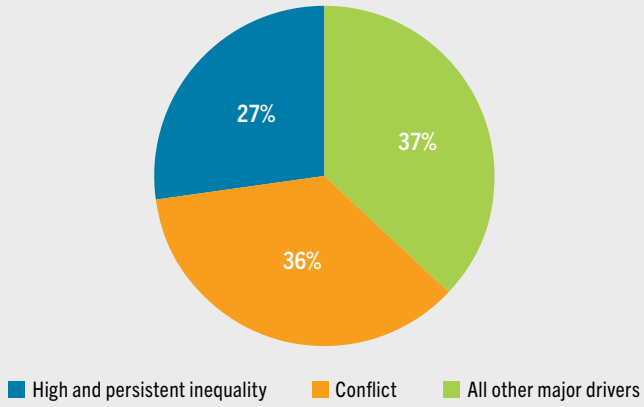
A) FOOD CONSUMPTION



B) HEALTH



C) MAJOR DRIVERS OF FOOD INSECURITY AND MALNUTRITION



NOTE: Annual average flows for food consumption, health and major drivers of food insecurity and malnutrition are included in Table 12.

SOURCES: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. *OECD Data Explorer.* [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; William & Mary. 2024. *AidData: Data.* [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

https://doi.org/10.4060/cd1254en-fig27

TABLE 13 DESTINATION OF OFFICIAL DEVELOPMENT ASSISTANCE AND OTHER OFFICIAL FLOWS FOR FOOD SECURITY AND NUTRITION BY RECIPIENT INCOME GROUP AND REGION

	2017	2018	2019	2020	2021	Average
	(USD billion and USD per capita)					
COUNTRY INCOME GROUP						
Low-income countries (USD billion)	18	19	20	21	20	20
Low-income countries (USD per capita)	30	30	30	32	29	30
Lower-middle-income countries (USD billion)	27	29	32	33	31	30
Lower-middle-income countries (USD per capita)	9	9	10	11	10	10
Upper-middle-income countries (USD billion)	17	17	16	17	16	16
Upper-middle-income countries (USD per capita)	6	10	9	9	9	8
REGION						
Africa (USD billion)	25	25	27	28	27	26
Africa (USD per capita)	20	19	21	21	19	20
Americas (USD billion)	7	8	7	8	7	7
Americas (USD per capita)	12	13	11	13	12	12
Asia (USD billion)	28	30	31	32	29	30
Asia (USD per capita)	7	7	7	7	7	7

NOTES: All amounts of flows used are expressed in constant 2021 USD. For income groups and regions, flows in USD per capita are estimated using population by, respectively, income groups from the World Bank and regions from FAOSTAT (following M49 classification). About USD 10 billion per year on average over the period cannot be allocated to individual countries and thus to income groups and regions. In addition, Oceania and Europe (USD 3 billion per year on average during the period) are not represented. The population by region covers only LICs, LMICs and UMICs in the respective regions.

SOURCES: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 to data from OECD. 2024. *OECD Data Explorer.* [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; William & Mary. 2024. *AidData: Data*. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

» observed for MICs. These flows also target chiefly Africa where, on a per capita basis between 2017 and 2021, on average, they amounted to USD 20, compared with USD 12 in the Americas and USD 7 in Asia – using the regional disaggregation allowed by the data (Table 13). Official development assistance and other official flows for food security and nutrition in absolute terms, from 2017 to 2021, overwhelmingly grew more for Africa across regions and for LMICs (rather than LICs) across income groups.

The private sector supports the financing of food security and nutrition, but proper accounting of private financing flows is not possible

There are several potential sources of private financing for food security and nutrition, both domestic and external, which were identified in **Chapter 3** (Table 8). Unfortunately, it is not possible to track all global private sector financing for food security and nutrition to provide a single number for a given year.

Hence, in this section conclusions are drawn from incomplete data from different sources to detect patterns between global private finance and food security and nutrition. Under "private sector", extremely distinct types of sources of financing that fall under two broad categories, non-commercial private financing and commercial private financing, are lumped together – following the methodology in the Supplementary material to Chapter 4 S4.4.

Non-commercial private financing

Non-commercial private financing comprises two main types of sources of financing, with some opposite characteristics. On the one hand, there are funds flowing from philanthropists; these amounts are comparatively modest

TABLE 14 PHILANTHROPIC FLOWS TO FOOD SECURITY AND NUTRITION

	2017	2018	2019	2020	2021	Average
	(constant 2021 USD billion and percentage)					
Total philanthropic flows	10	11	11	12	13	12
Growth rate (%)		*4*	*3*	*10*	*4*	*6*
Philanthropic flows for food security and nutrition (core and extended definitions)	3	3	3	4	4	4
Growth rate (%)		*5*	*1*	*10*	*2*	*4*
% of total philanthropic flows	*31*	*31*	*30*	*30*	*29*	*30*
Food consumption and health status (core definition)	2	2	2	2	2	2
Major drivers of food insecurity and malnutrition (extended definition)	1	1	1	1	1	1

NOTE: See Supplementary material to Chapter 4 S4.4 and S4.3 for methodology.

SOURCE: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 to data from OECD. 2024. *OECD Data Explorer.* [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580

TABLE 15 GROWTH AND DISTRIBUTION OF CROSS-BORDER REMITTANCES THAT SUPPORT FOOD SECURITY AND NUTRITION TO LOW- AND MIDDLE-INCOME COUNTRIES

	2017	2018	2019	2020	2021	2022	Average
	(current USD billion and percentage)						
Remittances to low- and middle-income countries	640	695	727	717	792	**836**	735
Remittances contributing to food security and nutrition	300	326	341	336	371	**392**	344
Growth rate (%)		*9*	*5*	*–1*	*10*	*6*	*6*
Invested in agrifood systems in rural areas	19	21	22	22	24	**25**	22
Invested in agrifood systems in urban areas	6	6	7	6	7	**8**	7
Used for food consumption	275	299	313	308	341	**359**	316

NOTE: See Supplementary material to Chapter 4 S4.4 for references and methodology.

SOURCE: Authors' (FAO) own elaboration based on Ratha, D., Chandra, V., Ju Kim, E., Plaza, S. & Shaw, W. 2023. *Leveraging diaspora finances for private capital mobilization*. Migration and Development Brief 39. Washington, DC, World Bank. https://www.knomad.org/sites/default/files/publication-doc/migration_development_brief_39_0.pdf

(compared to international development assistance and public spending), but they are easy to analyse thanks to many of the main philanthropic foundations who report them in the CRS database.[9] On the other hand, there are cross-border remittances from migrants;[p] these are much larger than the sums from international development assistance, but it is only possible to guestimate their contribution to food security and nutrition.

According to the CRS database,[9] and after applying the core and extended definitions of financing for food security and nutrition (see Supplementary material to Chapter 4 S4.4 and S4.3, in this order), philanthropic flows to food security and nutrition amounted to only USD 4 billion per year on average between 2017 and 2021 and represented a stable share of 30 percent of all philanthropic flows. These flows increased by USD 1 billion from 2019 to 2020 but are nevertheless only a modest amount compared to other private flows. Two-thirds of philanthropic flows for food security and nutrition supported food consumption and health

p Domestic remittances also exist but are not tracked globally and are effectuated in large part informally.

BOX 10 SOME PRIVATE INVESTMENTS CAN HAVE NEGATIVE IMPACTS ON SUSTAINABLE DEVELOPMENT GOAL 2

On food security, a recent study ran a meta-regression analysis of 24 studies that found little evidence for either negative or positive effects of foreign direct investment (FDI) on food security in developing countries, although it did suggest that the effect might be positive in the short term but negative in the long term.[12]

On nutrition, however, *The Lancet*, in its "Commercial determinants of health" series,[13] observed in 2023 that a substantial group of commercial actors are escalating avoidable levels of ill health, planetary damage, and inequity – the commercial determinants of health. Similarly, a review of quantitative evidence conducted in 2019[14] found that FDI appears to be more clearly associated with increases in overweight, obesity and non-communicable disease prevalence than with changes in undernutrition. In addition, a network analysis revealed that many of the large players in the global food and beverage industries are at the centre of interest groups representing the "ultra-processed food" industry.[15]

Two recent studies in the *British Medical Journal* highlight that hundreds of epidemiological studies and meta-analyses have reported associations between "ultra-processed food" consumption and adverse health outcomes.[16, 17] A review of 35 550 products manufactured by the global top 20 food and beverage companies (representing 22 percent of worldwide sales in the sector) in a few key countries including Brazil, China, India and South Africa found that the overwhelming majority were unhealthy according to the World Health Organization Regional Office for Europe nutrient profile model, with a small number of significant exceptions. In these four countries, healthier products accounted for just 4–12 percent of the 2020 sales of these companies.[18]

As far as environmental impacts are concerned, "ultra-processed foods" are associated with intensive agriculture and livestock and threaten all dimensions of agrifood systems sustainability due to the combination of low-cost ingredients at purchase and increased consumption worldwide.[19] Similarly, "ultra-processed food" production and consumption have been found to have impacts on land degradation, herbicide use, eutrophication and packaging use.[20]

(as per the core definition), while the remaining third contributed to addressing the major drivers of food insecurity and malnutrition (Table 14).

Drawing on data available from the World Bank and the Global Knowledge Partnership on Migration and Development (KNOMAD),[11] cross-border remittances to LICs and MICs are estimated at USD 735 billion on average over the period from 2017 to 2022 (at current prices), with some growth every year except for a 1 percent drop in 2020. Of these flows, USD 344 billion (or nearly half) per year were allocated to uses that likely contributed to food security and nutrition over the same period (Table 15). Most of this sum (92 percent on average) was used for food consumption, while only the remaining small part financed investments in agriculture and other agrifood systems activities.

Commercial private financing

Two issues stand out when analysing commercial private financing for food security and nutrition. The first is the highly incomplete and fragmented access to data and the lack of information on the precise utilization of the funds. Comprehensive and relevant numbers on market finance (i.e. issuances of stocks and corporate bonds), international bank loans and domestic private equity could not be obtained to meaningfully arrive at a global number.

The second major issue is the difficulty of assessing whether these financing flows positively affect food security and, even more crucially, nutrition. This issue, which also exists for public spending on food and agriculture, is even more acute for the private sector. This is the case, particularly because the private sector may not necessarily be investing its resources in agrifood-related business in ways that always help reduce hunger, food insecurity

TABLE 16 FOREIGN DIRECT INVESTMENT SPECIFIC TO FOOD SECURITY AND NUTRITION FLOWING TO DEVELOPING ECONOMIES

	2017	2018	2019	2020	2021	2022	Average
	(USD billion and percentage)						
Food and agriculture (2017–2019)/ agrifood systems (2020–2022)	20	29	20	11	12	20	19
Growth rate (%)		*45*	*–31*	*–44*	*4*	*69*	*9*
Supportive expenditure	23	20	21	16	19	46	24
Growth rate (%)		*–13*	*5*	*–24*	*19*	*142*	*26*
of which:							
Power	10	5	4	2	1	1	4
Renewable energy	5	6	9	8	12	36	13
Transport services and infrastructure	5	5	6	2	3	5	4
Telecom	2	1	2	2	2	2	2
Water/WASH	0	0	0	0	1	0	0
Health	1	1	1	1	1	2	1
Education	0	0	0	0	0	0	0
Total	43	49	41	27	31	66	43
Growth rate (%)		*14*	*–16*	*–34*	*17*	*112*	*18*

NOTES: WASH = water, sanitation and hygiene. Foreign direct investment (FDI) related to food security and nutrition is the FDI that United Nations Trade and Development (UNCTAD) reported for food and agriculture in 2017–2019 and for agrifood systems in 2020–2022. Supportive expenditures, which are regarded as having food security and nutrition outcomes but other outcomes as well, are weighted with a coefficient of 22 percent to reflect their contribution to food security and nutrition, as explained in the Supplementary material to Chapter 4 S4.1. Power excludes renewable energy and Telecom includes information services activities. Foreign direct investment data refer exclusively to announced greenfield projects in "developing economies" (low-, lower-middle-, and upper-middle-income countries, excluding Eastern Europe). Due to rounding, the total of each column may not be exactly the same as the sum of its components. For more details on definitions and methodology, see Supplementary material to Chapter 4 S4.4.

SOURCES: UNCTAD. 2020. *World Investment Report 2020. International production beyond the pandemic*. Geneva, Switzerland. https://unctad.org/system/files/official-document/wir2020_en.pdf; UNCTAD. 2023. *World Investment Report 2023. Investing in sustainable energy for all*. Geneva, Switzerland. https://unctad.org/publication/world-investment-report-2023

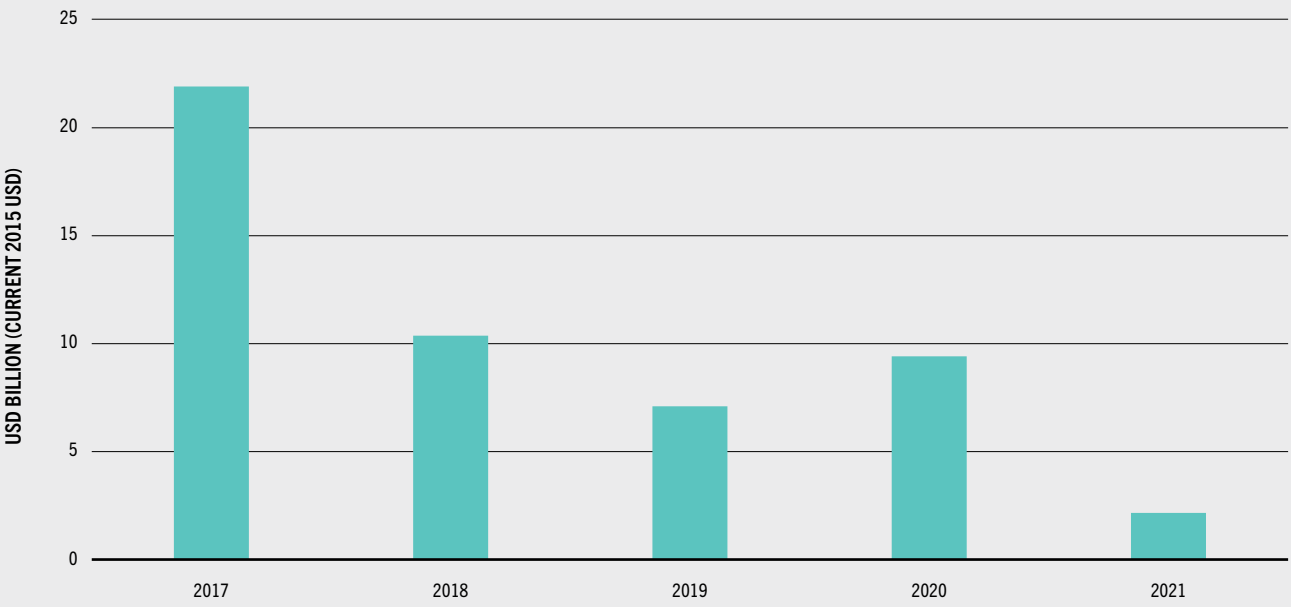
and malnutrition. Large international food and beverage companies, for example, are often viewed as being part of food security and nutrition problems, rather than part of the solution to these problems (see Box 10).

Among international commercial private financing flows, FDI is the flow type with the most comprehensive data source. According to United Nations Trade and Development (UNCTAD), between 2017 and 2022, FDI amounted to an average of USD 19 billon for "food and agriculture" (as defined in 2017–2019) or "agrifood systems" (as defined in 2020–2022), with a 44 percent drop in 2020 due to the COVID-19 pandemic and a rebound to 2019 levels in 2022 (Table 16). If one adds to this the FDIs in other sectors that can be regarded as supportive expenditure for food security and nutrition (as explained in the Supplementary material to Chapter 4 S4.1), one arrives at an additional USD 43 billon supportive of food security and nutrition on average over the period, with a 34 percent drop in 2020 mainly due to contractions in investment in transport services and infrastructure and, to a lesser extent, in the power sector during the pandemic, and a major jump of 112 percent in 2022 caused mainly by increased investment in renewable energy.

Blended finance[q] represents much more modest amounts, according to the limited data available. The 2023 edition of *State of Blended Finance*[21] estimates that, on average over the period from

q See Supplementary material to Chapter 4 S4.4 for definition from convergence blended finance.

FIGURE 28 NET BANKING LOANS TO AGRICULTURE, FORESTRY AND FISHING SHOW AN ALMOST CONTINUOUS DECLINE



NOTES: The change in stock from one year to the next was used to estimate net lending. Ninety-three low-, lower-middle- and upper-middle-income countries are included. Data are missing for three of these 93 countries (Afghanistan, Belarus and Syrian Arab Republic) for 2021 and for China for 2020 and 2021. Data from the last available year were used to fill the gaps.

SOURCE: FAO. 2024. *FAOSTAT: Credit to Agriculture*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/IC. Licence: CC-BY-4.0.

https://doi.org/10.4060/cd1254en-fig28

2020 to 2022, 26 percent of blended finance transactions, amounting to USD 1.2 billion per year, were "aligned" with SDG 2,[r] compared with 19 percent and USD 0.9 billion per year for the period from 2014 to 2019.[22] Sustainable Development Goal 2 was in eighth position for 2020 to 2022 and in ninth for 2014 to 2019 in terms of its alignment with blended finance transactions.[s] To this, one might add numbers for "private indirect mobilization"[t] in LICs and MICs provided by the joint report of the multilateral development bank (MDB) Task Force on Mobilization of Private Finance. However, these numbers (USD 46 billion on average over 2017–2021 for all sectors) are broken down only into "infrastructures" and "non-infrastructures", which is insufficient to assess their contribution to food security and nutrition.[23]

With regard to domestic commercial financing, FAOSTAT[24] provides numbers for banking credit to agriculture in LICs, LMICs and UMICs. Net banking loans – according to this source – amount to an average of USD 10 billion between 2017 and 2021, and exhibit an almost continuous decline from USD 22 billion in 2017 to USD 2 billion in 2021 (Figure 28). While these numbers are small, one may assume that, based on ISF Advisors,[25] they represent about three-quarters of the total financing available

r As transactions can be and frequently are attached to several SDGs, it is not advisable, to avoid double counting, to add to these numbers a share of the amounts for other SDGs that could be used as proxies for supportive expenditures.

s Not counting SDG 17, with which all transactions were claimed to be aligned.

t See Supplementary material to Chapter 4 S4.4 for definition from the MDB Task Force on Mobilization of Private Finance.

to "agri-SMEs", at least in sub-Saharan Africa and Southeast Asia.[u] Furthermore, these numbers reveal a clear declining trend in net banking loans that could support food security and nutrition.

Ultimately, the main source of financing for companies in sectors relevant to food security and nutrition, at least for farmers and small and medium enterprises (SMEs), appears to be self-financing. No data exist, however, on this self-financing. FAOSTAT[26] provides data on capital stock in agriculture in LICs, LMICs and UMICs, from which net capital expenditure (USD 412 billion on average over 2017–2021, at constant 2015 prices) can be calculated. Self-financing could in theory be calculated by subtracting from the net capital expenditure the external financing that backs these investments, including the flows mentioned above (i.e. banking credits, cross-border remittances used for agricultural investments, domestic government subsidies to capital expenditure, and so forth). Although data on this external financing are too partial to allow for such an exercise, it is likely that the lion's share of net capital expenditure in agriculture is being financed by farmers and SMEs themselves. ■

u The remaining quarter comprises non-bank financial institutions, public development banks, impact-oriented funds and social lenders, and private equity and venture capital funds. These estimates, however, present an incomplete geographical and company-type coverage as well as several methodological challenges. For more details on their estimation, see Supplementary material to Chapter 3.

4.2 THE COST OF POLICIES AND INTERVENTIONS TO END HUNGER AND MALNUTRITION BY 2030

All of the data on (domestic and external) public and private financing flows that are needed to apply the core and extended definitions of financing for food security and nutrition are not yet available. Consequently, it is not possible to gauge the financing gap that must be bridged globally to meet SDG Targets 2.1 and 2.2 by 2030.

Data development for a better accounting system is needed globally to understand how much financing is available to support internationally agreed upon goals such as SDG 2, using proper definitions to map financing flows to the development aspirations of the goals, including food security and nutrition goals. Filling the information deficit will require bold steps from the international community; otherwise, the likelihood of achieving development goals cannot be realistically estimated and projected.

Due to these existing data gaps to fully estimate how much additional financing is needed to end hunger, food insecurity and malnutrition, economic models are often used to estimate the necessary additional investments, mostly to reduce hunger, but also to address nutrition concerns, although to a lesser extent. This section reviews existing relevant studies, aiming to arrive at some indicative ranges of the cost of policies and interventions – that will require new financing – to end hunger, food insecurity and malnutrition by 2030. Cost estimates are partial, though, for several reasons explained below.

How much will ending hunger and malnutrition by 2030 cost at the minimum?

Several studies have estimated the global cost of additional investments to end hunger by 2030, whereas studies on ending malnutrition in its multiple forms are scarcer. These studies often rely on economic models such as global

computable general equilibrium (CGE) models and global partial equilibrium models, marginal abatement cost curves (MACC), and investment cost minimization and cost–benefit analysis. The first two types of models have the advantage that they allow for first- and second-round effects of the additional investments for food security and nutrition on either specific sectors or the economy at large, or both, including through private investment and household consumption responses. For this reason, the review of studies relies a great deal on the literature that uses those models.

The studies provide different cost estimates for several reasons. To begin with, different global economic models or estimation techniques are used. There are also differences in the questions asked and objectives targeted, in the investment strategies or set of interventions considered to meet targets, and in the period of analysis. Most – but not all – analyses available use 2030 as the target year in line with the SDGs. Different measures to ascertain the end of hunger are also considered across studies; while most consider it to be achieved when the PoU is under 5 percent, others target almost or fully eliminating undernourishment. Most analyses use a base or business-as-usual scenario that begins in a past year and projects how many million people will still be undernourished in 2030. Subsequently, these exercises develop alternative scenarios whereby policies and interventions are stepped up to trigger changes to reduce hunger and malnutrition. The different analyses available may have a different first year for the base scenario, which affects the period of analysis and, hence, the cost estimates for the period from that first year to 2030 (or any other final year).

Because not all the relevant pillars of food security and not all the forms of malnutrition are systematically accounted for in existing studies, the cost estimates are only partial. Furthermore, because the quantitative methods differ across studies, the focus is mostly on the cost of new policies and interventions (which is the most comparable aspect across studies) and less on the resources mobilized for private investment and household food consumption in response to the policies and interventions, the magnitude of which is also important for food security and nutrition.

While these global analyses provide useful costings for different policies and interventions, it is not possible to know whether these policies and interventions can realistically be financed in practice to the extent estimated, not to mention the macroeconomic trade-offs of using one source of finance over another, and countries' absorptive capacity for foreign resources and for fully executing newly available financing. These are important considerations at the country level as shown by a body of CGE modelling literature.[v, 27] The global cost estimates here presented operate under the assumption that all the financing needed is available, which may not necessarily be the case for countries that have no easy access to grant aid or borrowing, or where there is no political feasibility to raise taxes. They also assume that countries that have access to such financing have full absorptive capacity, meaning that their economies can properly adjust to any local currency appreciation from foreign exchange inflows, which may also not be the case for some countries. The cost estimates must be taken with the assumption that the additional annual costs estimated by the studies for past years (i.e. before 2024) were never fully borne, because the exact investments and interventions whose costs are estimated were not necessarily implemented. Furthermore, these global analyses assume that groups of countries or regions implement the same policies and interventions in unison, which in practice would require a comprehensive global accord. The financial cost associated with enacting new legislation, which is a key tool for improving »

v Existing global model-based analyses, such as those referred to here, include, for each country or region, a current account balance (that can be in surplus or deficit) for the domestic economic institutions (i.e. households, enterprises and the government) and the rest of the world. These domestic and foreign balances are summed up to estimate the total savings to which total investment is equalized for each country or region. With some refinement, some of these global models may have a current account balance for each institution. However, they do not include a capital account for each economic institution that allows mapping up institutions' surpluses and deficits to specific sources of domestic and foreign financing. The body of CGE modelling literature at the country level referred to here includes capital accounts for each economic institution and recognizes the different potential macroeconomic trade-offs from using alternative ways of financing public investment, although its focus is on country-level applications.

TABLE 17 OVERVIEW OF STUDIES WITH COST ESTIMATES FOR ENDING HUNGER, FOOD INSECURITY AND MALNUTRITION

Study	Main question asked	Targets and time frame	Modelling approach	Additional annual costs up to 2030 (unless otherwise indicated) for a specific period	Investments/interventions
FAO, IFAD and WFP (2015)	What are the additional transfers and investments needed to end poverty and hunger in all countries by 2030?	No Poverty and Zero Hunger targets by 2030.	Global partial equilibrium model with country projections of food supply and demand (called GAPS).	USD 265 billion per year, of which USD 198 billion for pro-poor investments (2016–2030).	Poverty gap transfers and pro-poor investments in irrigation, genetic resources, mechanization, primary agriculture and natural resources, agroprocessing operations, infrastructure, institutional framework, research and development (R&D), extension; social protection.
Global Nutrition Report (2021)	What is the minimum cost to meet the World Health Assembly (WHA) goals on reducing undernutrition by 2030?	40% reduction in child stunting; 50% reduction in anaemia in women; 50% increase in exclusive breastfeeding rates; child wasting at 5%.	Investment cost minimization and cost–benefit analysis.	USD 10.8 billion per year (2022–2030).	Targeted nutrition interventions (micronutrient and protein supplementation, promoting good health and hygiene, complementary foods) and select nutrition-sensitive interventions (staple food fortification and pro-breastfeeding policies).
Laborde *et al.* (2016)	What is the minimum cost to end hunger for vulnerable households in all countries by 2030?	Prevalence of undernourishment at 5% or less by 2030; bottom-up approach with household-level targeted interventions.	Global computable general equilibrium (CGE) model (MIRAGRODEP) combined with household surveys for targeted interventions.	USD 11 billion per year (2015–2030).	Social safety nets (food subsidies); farm support (production subsidies, fertilizer subsidies, investment grants, R&D, extension); rural development and infrastructure (reduction of post-harvest losses, irrigation, roads).
Laborde *et al.* (2020)	What will it cost governments to end hunger, double the incomes of small-scale producers, and protect the climate by 2030?	End hunger (saving 490 million people from hunger by 2030); double the incomes of 545 million small-scale producers; maintain greenhouse gas emissions below commitments made in Paris Agreement.	Global CGE model (MIRAGRODEP) combined with household surveys for targeted interventions.	Additional USD 33 billion per year; donor share of USD 14 billion and country share of USD 19 billion (2020–2030).	14 policy interventions categorized into 3 categories. "On the Farm": aimed at directly assisting farmers, including provision of farm inputs, R&D, improved livestock feed, and irrigation infrastructure. "Food on the Move": targeting the reduction of post-harvest losses through measures such as storage improvement, enhancing returns from sales, and supporting services offered by small and medium enterprises. "Empower the Excluded": social protection and vocational training programmes.
Laborde and Torero (2023)	How much would it cost to reduce chronic hunger to a 5% level by 2030?	Chronic hunger at 5% by 2030; cut the number of people in chronic hunger by 314 million; an additional 568 million people able to afford healthy diets by 2030.	Global CGE model (MIRAGRODEP) including various social and environmental outcomes to track the various trade-offs at stake.	Countries would have to redistribute USD 1.4 trillion per year (2020–2030).	Eliminating hunger by implementing a major redistribution of income, massively subsidizing production, or investing massively in agricultural R&D.

TABLE 17 (Continued)

Study	Main question asked	Targets and time frame	Modelling approach	Additional annual costs up to 2030 (unless otherwise indicated) for a specific period	Investments/interventions
Mason-D'Croz *et al.* (2019)	How much would hunger decrease given investments to achieve target yield increases by 2030?	World hunger at 5% by 2030; 10% only for Eastern and Central Africa.	Agriculture sector partial-equilibrium model linked to biophysical models and a CGE model; impacts of climate change included.	USD 52 billion per year (2010–2030).	Agricultural R&D, irrigation expansion, water-use efficiency, soil management, transport and infrastructure.
Shekar *et al.* (2017)	What is the minimum cost to meet the WHA goals on reducing undernutrition by 2025?	40% reduction in child stunting; 50% reduction in anaemia in women; 50% increase in exclusive breastfeeding rates; child wasting at 5%.	Investment cost minimization and cost–benefit analysis.	USD 7 billion per year (2015–2025).	Targeted nutrition interventions (micronutrient and protein supplementation, promoting good health and hygiene, complementary foods); select nutrition-sensitive interventions (staple food fortification and pro-breastfeeding policies).
ZEF and FAO (2020)	What are the costs of ending hunger?	G7 commitment of lifting 500 million people out of hunger by 2030.	Marginal abatement cost curve (MACC) to identify a mix of least-cost investment options with the highest potential for reduction in hunger and malnutrition.	Total annual investments in a range of about USD 39–50 billion per year (2020–2030).	Mix of cost-effective investments including enhancing efficiency in R&D, extending agricultural advisory services, improving agricultural information services, expanding small-scale irrigation in Africa, enhancing female literacy rates, and amplifying existing social safety nets.

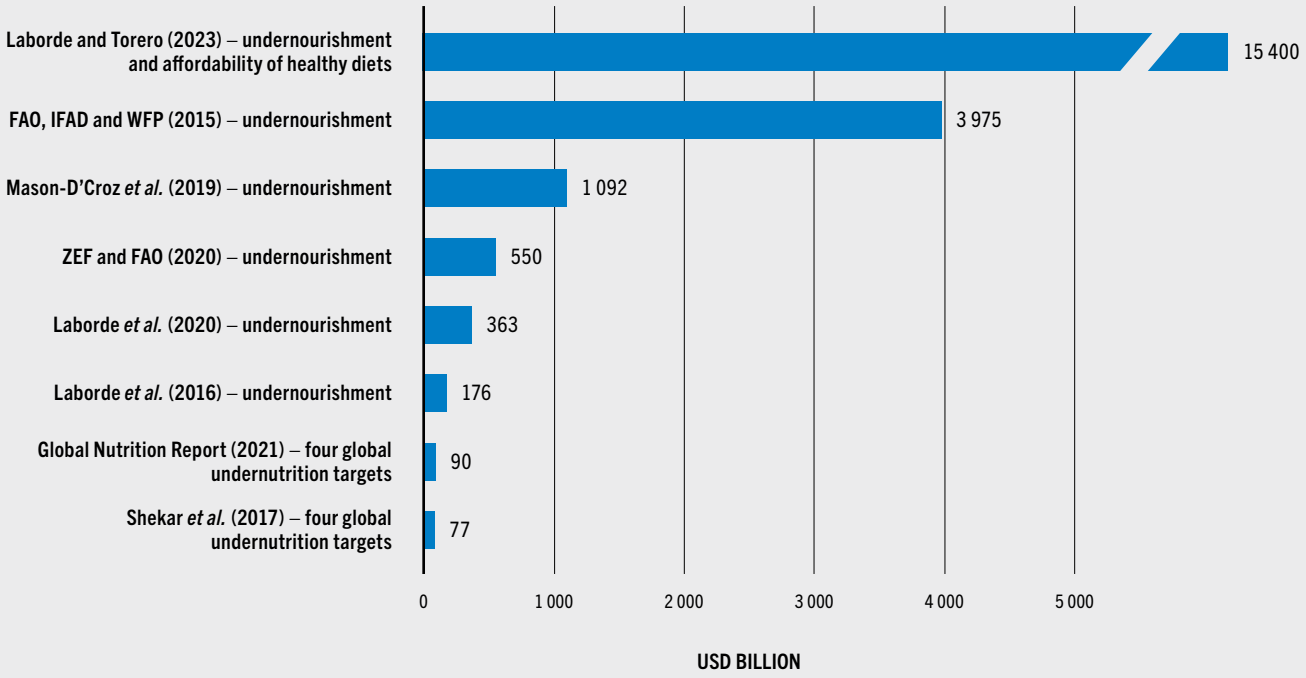
SOURCES: Authors' (FAO) own elaboration based on FAO, IFAD & WFP. 2015. *Achieving Zero Hunger: The critical role of investments in social protection and agriculture*. Rome, FAO. https://www.fao.org/3/i4951e/i4951e.pdf; Global Nutrition Report. 2021. *2021 Global Nutrition Report. The state of global nutrition*. Bristol, UK, Development Initiatives. https://globalnutritionreport.org/reports/2021-global-nutrition-report; Laborde, D., Bizikova, L., Lallemant, T. & Smaller, C. 2016. *Ending Hunger: What would it cost?* Winnipeg, Canada, IISD (International Institute for Sustainable Development) and IFPRI (International Food Policy Research Institute). https://www.iisd.org/system/files/publications/ending-hunger-what-would-it-cost.pdf; Laborde, D., Murphy, S., Parent, M., Porciello, J. & Smaller, C. 2020. *Ceres2030: Sustainable solutions to end hunger. Summary report*. Cornell University, IFPRI and IISD. https://ceres2030.iisd.org/wp-content/uploads/2021/03/ceres2030_en-summary-report.pdf; Laborde, D. & Torero, M. 2023. Modeling actions for transforming agrifood systems. In: J. von Braun, K. Afsana, L.O. Fresco & M.H. Ali Hassan, eds. *Science and Innovations for Food Systems Transformation*, pp. 105–132. https://link.springer.com/chapter/10.1007/978-3-031-15703-5_7; Mason-D'Croz, D., Sulser, T.B., Wiebe, K., Rosegrant, M.W., Lowder, S.K., Nin-Pratt, A., Willenbockel, D., Robinson, S., Zhu, T., Cenacchi, N., Dunston, S. & Robertson, R.D. 2019. Agricultural investments and hunger in Africa modeling potential contributions to SDG2 – Zero Hunger. *World Development*, 116, 38–53. https://doi.org/10.1016/j.worlddev.2018.12.006; Shekar, M., Kakietek, J., Eberwein, J.D. & Walters, D. 2017. *An investment framework for nutrition: Reaching the global targets for stunting, anemia, breastfeeding, and wasting*. Directions in Development Series. Washington, DC, World Bank. https://hdl.handle.net/10986/26069; ZEF (Center for Development Research of the University of Bonn) & FAO. 2020. *Investment costs and policy action opportunities for reaching a world without hunger (SDG2)*. Rome and Bonn. https://doi.org/10.4060/cb1497en

» food security and nutrition and is inherently different from policies due to its capacity to create enforceable rights and obligations, is also not included in these studies.

Caveats aside, the reviewed studies provide an idea of the additional financing that could be needed to support policies and interventions for the world to be on track to meet SDG Targets 2.1 and 2.2. The main characteristics and findings of these studies are summarized in Table 17.

The findings are that policies and interventions to get on track to meet SDG Targets 2.1 and 2.2 would require additional resources from now until 2030 ranging between USD 176 billion and

FIGURE 29 TRILLIONS OF USD ARE ESTIMATED TO BE NEEDED TO FINANCE INVESTMENTS FOR ENDING HUNGER AND SOME FORMS OF MALNUTRITION, AND TO INCREASE THE AFFORDABILITY OF HEALTHY DIETS BY 2030



NOTE: For all studies, the additional average cost estimate per year is multiplied by the number of years in the period of their simulation, which is identified in Table 17.

SOURCE: Authors' (FAO) own elaboration based on sources of Table 17.

https://doi.org/10.4060/cd1254en-fig29

USD 3.98 trillion to eradicate undernourishment, plus an additional USD 77–90 billion to meet selected global undernutrition targets. Estimates jump sharply to USD 15.4 trillion when adding the types of transformational policies that would require financing in order to increase the affordability of healthy diets for millions while still reducing undernourishment (Figure 29).[w] It is not possible to know exactly the extent to which these numbers are overestimating or underestimating the real financing gap. On the one hand, the baselines of these studies use PoU and malnutrition indicators that are outdated compared to those reported in **Chapter 2** – because they have shown either progress or statistical improvement due to increased data availability, which may very well result in an overestimation of the real financing gap. On the other hand, since the existing studies have not comprehensively considered all the dimensions (or indicators) of food security and nutrition and the effects of the COVID-19 pandemic on all of them, among other shocks, there may also be an underestimation of the real financing gap. Nevertheless, the analyses reviewed prove useful to show that trillions of USD will be needed – in addition to existing financing – to finance alternative policy mixes so that meeting SDG Targets 2.1 and 2.2 can still be within reach.

w These absolute amounts for the period from now until 2030 are calculated by multiplying the additional annual cost that has been estimated by the number of years for which the additional annual cost was estimated in each of the studies that have been selected to do this exercise. The information used is presented in Table 17.

Different interventions, same targets, different cost estimates

The various studies suggest that different policies and interventions can be used to meet the same SDG 2 target, but at different costs. Some case studies embrace the premise that hunger stems from a deficiency in purchasing power, resulting in lack of access to sufficient, safe and nutritious food. Consequently, achieving the goal of eliminating hunger (SDG 2) is contingent upon eliminating poverty (SDG 1) and upon broader economy-wide investments that boost GDP growth and people's incomes. FAO, IFAD and WFP (2015)[28] estimated that USD 265 billion per year are needed to eliminate hunger, of which USD 198 billion per year would be for targeted pro-poor private and public investments, especially in rural areas and agriculture.

In several studies, increasing agricultural productivity through new investments is seen as a channel to reduce hunger. It has been estimated – using a global economy-wide model – that investing an additional USD 52 billion annually between 2015 and 2030 to boost agricultural productivity in the face of climate change in LICs and MICs would fill the yield gaps and reduce the PoU to 10 percent in Eastern and Central African countries and to 5 percent in all other countries.[29]

Some studies focus on the most vulnerable households in all countries. A global economy-wide modelling study projects that the number of hungry people would decrease to 599 million from 2015 to 2030, primarily driven by economic growth, and to reduce this number to 310 million (or the PoU to 5 percent) by 2025, a policy mix would be needed. This includes a reallocation of public spending for countries to prioritize social safety nets supporting consumers through cash transfers and food stamps; farm support to increase production and farmers' incomes; and investments in infrastructure, education, storage, market access and value chains. This policy mix results in an overall cost of USD 11 billion annually between 2015 and 2030 – of which USD 4 billion are expected to come from donor contributions and the remaining USD 7 billion from countries themselves. These measures are also projected to stimulate an additional USD 5 billion in private investment per year, on average.[30]

Another global economy-wide modelling study identifies 14 policy interventions that are clustered into three categories to, respectively: i) directly assist farmers, including through provision of farm inputs, research and development, improved livestock feed, and irrigation infrastructure; ii) reduce post-harvest losses through measures such as storage improvement, enhancing returns from sales, and supporting services offered by SMEs; and iii) empower excluded populations through social protection and vocational training programmes. It estimates that USD 33 billion per year would be needed between 2020 and 2030 to support these public interventions and reduce the PoU to 3 percent – of which USD 14 billion from donors and the remaining USD 19 billion from domestic resource mobilization. These public interventions would increase the profitability of primary and processed food sectors, attracting the private sector to invest USD 52 billion per year on average in such sectors.[31]

Using marginal cost curve analysis – a simpler approach that does not account for economy-wide effects – helped to estimate the additional costs associated with lifting people out of hunger through 24 interventions that have been proven to be the least-cost measures with significant potential for reducing hunger and malnutrition. These include a mix of enhancing efficiency in agricultural R&D, expanding agricultural extension services, improving agricultural information services, expanding small-scale irrigation in Africa, enhancing female literacy rates, and scaling up existing social safety nets. They would require an additional annual investment of about USD 39 to 50 billion to lift approximately 840 to 909 million people out of hunger by 2030.[32]

An investment cost minimization and cost–benefit approach helped estimate the minimum cost to meet four of the six World Health Assembly targets by 2025: i) reducing the number of stunted children under the age of five by 40 percent; ii) reducing the number of women at reproductive age with anaemia by 50 percent; iii) increasing the rate of exclusive breastfeeding in the first six months to 50 percent; and iv) reducing and maintaining child wasting at less than 5 percent. This study aligns with SDG Target 2.2 but does

not fully cover it – as, for example, interventions to address child overweight are not included – and the study leaves out SDG Target 2.1. It estimates that an additional USD 7 billion per year is needed between 2015 and 2025 to achieve these four global nutrition targets through nutrition-specific investments in micronutrient supplementation, good infant and young child nutrition practices, and staple food fortification.[33] To include additional costs for mitigating the impact of the COVID-19 pandemic, this cost estimate was updated to USD 10.8 billion per year, and the period of analysis was extended to 2030 (rather than 2025) from 2022.[34]

Cost estimates jump sharply when transformational policies and interventions to increase the affordability of healthy diets are factored in. Using a global economy-wide model, a study arrives at a much higher estimate of the cost of investments needed not only to reduce the PoU to 5 percent by 2030, but also to increase the affordability of healthy diets for 568 million people. Adding the latter target requires multiple policies and interventions to simultaneously transform agrifood systems and achieve SDG 2 targets. These interventions are tailored to increase calorie consumption while ensuring healthy diets, increasing the productivity and incomes of small producers, enabling the sustainable use of biodiversity and ecosystems, and addressing climate change. They are estimated to cost USD 1.4 trillion every year and include spending on social safety nets to ensure healthy diets for all; implementing school feeding programmes; repurposing farm subsidies; reforming consumer incentives; enhancing innovation, technology and knowledge for farmers; and reducing food loss and waste.[35]

It is important when considering the different cost estimates to keep all the aforementioned caveats in mind. Nonetheless, irrespective of what the exact amount of financing needed might be to make the necessary progress in all the indicators associated with SDG Targets 2.1 and 2.2, the financing gap is by no means negligible and the cost of not bridging it will be high, as is further explained in the next section. ■

4.3 THE COST OF INACTION OR SLOW ACTION

There are two ways of examining the cost of not timely addressing the financing gap for the world to be on track to meet SDG Targets 2.1 and 2.2. Although it is not possible to realistically and fully estimate this gap, the different studies reviewed in the previous section indicate that it would be in the trillions of USD from today up until 2030. The first way to examine the cost of not bridging the financing gap is by measuring the millions of people that, by 2030 and beyond, will still be hungry, food insecure, malnourished and unable to afford a healthy diet, not to mention the medium- to long-term socioeconomic and health repercussions of this food insecurity and malnutrition.

The second way to examine the cost of inaction relates to the inefficiency, inequity and lack of sustainability with which current financing is being spent and allocated. In this section, reference is also made to the opportunity cost of not efficiently implementing and allocating public funds that are important for food security and nutrition.

Not bridging the financing gap will make hunger, food insecurity, malnutrition and unhealthy living prevail while costing trillions

Chapter 2 provides stark evidence of what business as usual means for hunger, food insecurity and malnutrition. Projections indicate that with a continuation of past trends, millions of people will still be undernourished by 2030 (see **Chapter 2**, Figure 3). Furthermore, for seven global nutrition targets, the progress will be less than needed to achieve the 2030 targets, and obesity is actually projected to increase in all regions and in almost all age groups (see **Chapter 2**, Figure 8).

Current amounts of financing are insufficient for the quantity and quality of programmes and interventions needed to eradicate acute and chronic food insecurity, which is affecting the

people in most need of food assistance. Studies by the World Food Programme (WFP) show that failing to fund the assistance that must be provided to these people will have negative consequences for individuals, but also for local communities and even for donor countries. At the individual level, for example, estimates demonstrate that, on average, every percentage point cut in food assistance provided by WFP could push more than 400 000 additional people into emergency levels of hunger.[36] Microsimulations indicate that halving the value of transfers to each beneficiary suffering from acute hunger in countries such as Afghanistan, Haiti, Iraq and Yemen could push an additional 7 million people into emergency or worse levels of acute food insecurity, up from the 2022 baseline of 14 million people.[36]

In the absence of more financing to scale up programmes and interventions to reduce hunger, people adopt negative coping strategies, but the consequences of these strategies do not necessarily materialize immediately. The *Global Report on Food Crises 2024*[37] notes that, to survive now, people tend to trade off their potential future food security and livelihoods by exhausting or selling their productive assets or cutting down on education, health care or other essential needs. For this reason, as well as because of the long-term health consequences of famine, several studies cited in the report calculate that early action saves money compared to belated action. The report also notes that many deaths can occur before a situation reaches famine level, which is often the scale of acute food insecurity that triggers the scaling up of assistance.

For local communities, there is evidence of a high risk that inadequate assistance increases social tensions, such as conflict over land and limited resources, and contributes to national and regional destabilization.[38] In protracted situations without prospects of return, resettlement or a sustainable life outside of a camp, it has been found that refugees may be at higher risk of being targeted and recruited by militant and extremist groups,[39] which in turn fuels regional or even international conflict, further exacerbating food insecurity and malnutrition.[40] Humanitarian inaction can further imply lost opportunities to facilitate post-conflict recovery and peacebuilding, thereby setting the stage for future exodus, as some studies have observed.[41, 42]

For donor countries, inadequate assistance can have a higher financial cost than adequate assistance. This especially holds true for assistance for forcibly displaced people – whose number has skyrocketed in recent years[43, 44] – when they reach the Global North.[45] According to preliminary ODA estimates, member countries of the Development Assistance Committee spent USD 31 billion on in-donor refugee costs in 2023, which is more than the USD 25.9 billion that the same countries spent on humanitarian aid.[46]

While there are short-term urgencies that need more financing, including for humanitarian aid, failing to finance the actions that will once and for all address the main determinants of food insecurity and malnutrition will result in an even bleaker future when it comes to the likelihood of meeting SDG Targets 2.1 and 2.2. This action failure will result in higher social, economic and environmental costs.

A study has found that the cost of inaction on stunting represents annually at least USD 135 billion (between 0.01 percent and 1.2 percent of national GDP across countries) in lost sales, in addition to a monthly income loss by private sector workers ranging between USD 700 million in the Near East and North Africa and USD 16.5 billion in East Asia and the Pacific.[47] The African Union Commission and WFP have put the cost of child undernutrition (including the cost to health and education systems and the productivity loss) in 21 African countries at USD 15.3 billion per year in 2025, assuming efforts to reduce it would stay at existing levels.[48]

The *World Obesity Atlas 2023*,[49] based on another global study,[50] estimates the worldwide economic impact of overweight and obesity at USD 3.3 trillion in 2030 and USD 4.3 trillion in 2035 (in constant 2019 USD). Studies have also estimated that without further interventions, childhood and adolescent obesity would translate into economic losses at constant 2020

USD (due to higher health care expenditure and reduced wages and productivity) in the range of USD 1.84 trillion in Mexico[51] and USD 31.6 trillion in China,[52] over the periods 2026 to 2090 and 2025 to 2092, respectively.

As explored in **Chapter 2**, countries are increasingly facing multiple simultaneous nutrition challenges in the form of the coexistence of undernutrition and overweight and obesity. The double burden of malnutrition (DBM) confers a serious and negative economic impact on individuals and populations. What is more concerning is that severe levels of this double burden are shifting towards the poorest countries. In contrast to the 1990s, when the DBM was typically seen in the highest income bracket countries among LMICs, it nowadays predominates in the poorest LMICs, particularly in Southern and Eastern Asia and sub-Saharan Africa. This will likely have implications for countries' ability to address malnutrition in all its forms. Estimates suggest that all undernutrition, micronutrient deficiencies and overweight cost the global economy an estimated USD 3.5 trillion per year.[33] Addressing multiple forms of malnutrition makes most sense in the face of such evidence. If actions are not accelerated to address them simultaneously, countries stand to face high costs across the spectrum of disease, especially given the interconnections between various forms of malnutrition across the life course and across generations. The *2021 Global Nutrition Report 2021*[34] provided an updated estimate that the total economic gains to society of investing in nutrition could reach USD 5.7 trillion a year by 2030 and USD 10.5 trillion a year by 2050 (all in constant 2021 USD).[34]

Although some transformative policies and legislation for better and more sustainable production may cost billions of USD that will need to be financed, the cost of not mobilizing such financing would easily be in the trillions of USD. The Food and Land Use Coalition's Global Consultation Report estimated that current food and land-use systems generate worldwide health, nutrition and environmental costs that amounted to USD 12 trillion a year in 2018 prices (of which USD 2.7 trillion were due to obesity and USD 1.8 trillion were due to undernutrition), which could rise to USD 16 trillion a year by 2050 under a continuation of current trends in malnutrition, global warming, ecosystem degradation and biodiversity loss.[53]

The 2020 edition of this report provided evidence that under current food consumption patterns, diet-related health costs linked to mortality and non-communicable diseases are projected to exceed USD 1.3 trillion per year by 2030. On the other hand, the diet-related social cost of greenhouse gas (GHG) emissions associated with current dietary patterns is estimated to be more than USD 1.7 trillion per year by 2030.[7] Similar evidence from another study shows that in the absence of interventions, covering the income gap of those who cannot afford a healthy diet will cost USD 1.4 trillion annually by 2030. The interventions recommended in this study would cut this amount to USD 428 billion, but additional financing would be required to finance them.[35]

FAO's *The State of Food and Agriculture 2023*[54] report found that – with a very high degree of confidence, using national-level assessment for 154 countries – the global quantified hidden costs of agrifood systems amount to USD 10 trillion or more at 2020 purchasing power parity (PPP). Interestingly, this study finds that the dominant quantified hidden costs are those arising from dietary patterns that increase the risk of diseases and may lead to lower labour productivity.[54]

No doubt, these findings reveal the urgent need to factor these hidden costs into decision-making to transform agrifood systems before the cost and financing needed to address them become completely out of reach for governments. This implies addressing the issues of unhealthy dietary patterns, which will necessitate significant additional financing for policies, legislation and interventions.

Not improving execution and the quality of spending will also be costly

Even if more financing for food security and nutrition becomes available, changes and reforms are necessary to guarantee a higher execution and quality of spending. Governments »

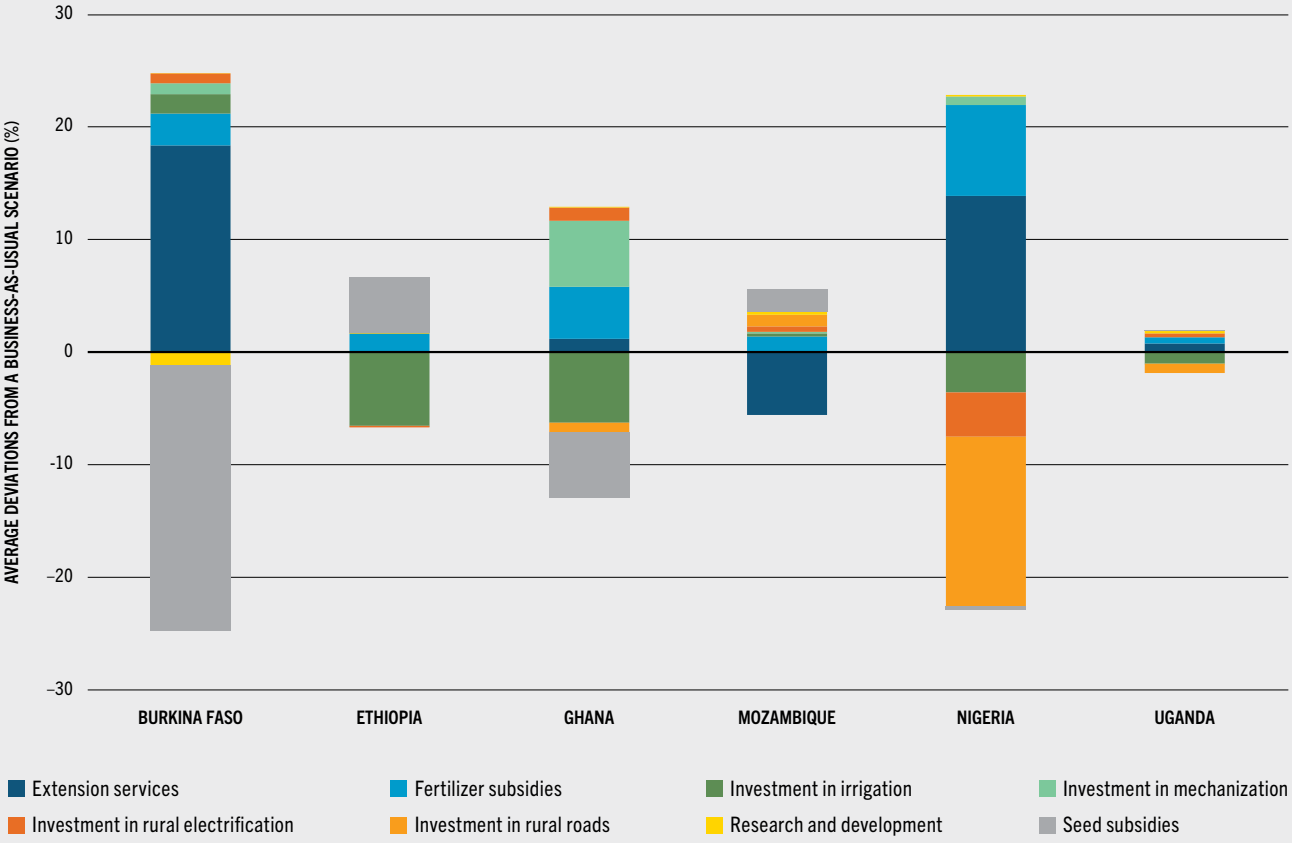
BOX 11 THE OPPORTUNITY COST OF NOT REPURPOSING BUDGET ALLOCATIONS FOR THE AGRICULTURE AND LIVESTOCK SECTORS IN SIX SUB-SAHARAN AFRICAN COUNTRIES

The 2022 edition of this report[2] analysed a scenario of what would happen if public spending across different support measures (i.e. extension services, fertilizer subsidies, investment in irrigation, investment in mechanization, investment in rural electrification, investment in rural roads, research and development, and seed subsidies) and commodities in the agriculture and livestock sectors were reallocated to pursue four objectives: maximize agrifood gross domestic product (GDP), maximize off-farm jobs in rural areas, minimize the incidence of rural poverty, and minimize the cost of a least-cost healthy diet. The reallocation is optimal because, given a set of preferences, the best possible outcome for the four objectives is obtained subject to a set of economic constraints. Using an innovative policy optimization modelling tool with data for Ethiopia, this optimization scenario was compared with a business-as-usual scenario whereby the current budget continued to be allocated without changes across support measures and commodities. The results showed that the optimal reallocation of the budget in 2025 would allow the Ethiopian Government to boost agrifood output, create thousands of off-farm jobs in rural areas, lift thousands of people out of poverty, and ensure that millions of additional Ethiopians could afford a healthy diet – without any additional fiscal costs.[60]

For this edition of the report, the analysis has been updated for Ethiopia and extended to include Burkina Faso, Ghana, Mozambique, Nigeria and Uganda.[59] The potential gains from optimizing budget allocations are not estimated only for 2025 but also cumulatively up to 2030.

Results show that the budget would have to be reallocated very differently in these six countries for it to efficiently help governments improve on the four objectives (see Figure A), considering the differences in the effectiveness, coverage and unit cost of the different support measures or interventions. It is

FIGURE A OPTIMAL REALLOCATION OF PUBLIC SPENDING ACROSS SUPPORT MEASURES IN THE AGRICULTURE AND LIVESTOCK SECTORS TO MAXIMIZE AGRIFOOD GDP AND OFF-FARM EMPLOYMENT IN RURAL AREAS, AND TO MINIMIZE RURAL POVERTY AND THE COST OF THE LEAST-COST HEALTHY DIET, 2025–2030



NOTES: GDP = gross domestic product. Breeding and feeding services are excluded for simplicity, because they are used only in Ethiopia among the countries covered, and because they barely show a percentage change as a result of the optimal reallocation.

SOURCE: Sánchez, M.V., Cicowiez, M., Pernechele, V. & Battaglia, L. (forthcoming). *The opportunity cost of not repurposing public expenditure in food and agriculture in sub-Saharan African countries – Background paper for The State of Food Security and Nutrition in the World 2024*. FAO Agricultural Development Economics Working Paper. Rome, FAO.

https://doi.org/10.4060/cd1254en-figB11-A

found that, for example, from 2025 to 2030, several countries would have to reduce average spending on irrigation (Ghana, Ethiopia, Nigeria and Uganda) or seed subsidies (Burkina Faso and Ghana), whereas other countries – or even the same countries in some cases – would have to step up spending on seed subsidies (Ethiopia and Mozambique), mechanization (Burkina Faso, Ghana and Nigeria) or extension services (Burkina Faso, Ghana, Nigeria and Uganda). Interestingly, while extension services would need to be prioritized in certain countries, in other countries these services would have to be the most deprioritized, at the cost of subsidizing more inputs and building more rural roads (Mozambique). The larger the required budget reallocations (e.g. Burkina Faso and Nigeria), the further away the country is from the optimal budget allocation. The reallocation across commodities is even more varied across countries, as is shown in the study[59] – but not here for simplicity.

The optimal budget reallocations, irrespective of their size in each country, can significantly increase the value for public money. At the country level, there would be significant efficiency gains in agrifood output, thousands of off-farm jobs would be created in rural areas, thousands of people would be lifted out of poverty, and millions could newly afford a healthy diet (Table A). Importantly, even if one of the objectives is to minimize rural poverty, the economy-wide gains would go beyond rural areas such that, as explained in the study, thousands of people would also be lifted out of poverty in urban areas.[59] Gains would be seen immediately in 2025, the first year of budget optimization, but impressive gains would also build up over time to 2030 – except in Uganda where the required budget reallocations would be the most modest as this is the country where the current budget allocated to the agriculture and livestock sectors seems closest to the optimal allocation. Agrifood GDP would be 8 percent (Burkina Faso and Ghana) or even 11 percent (Nigeria) higher in 2030 compared with 2025. When summed up across the six countries, by 2030, almost 1 million off-farm jobs would be created in rural areas, 2.8 million people would be lifted out of poverty, and 16 million additional people would be able to afford a least-cost healthy diet, all with the same budget. In other words, not optimally repurposing the budget allocated to the agriculture and livestock sectors in these six sub-Saharan African countries would have a substantial cost.

TABLE A POTENTIAL SOCIOECONOMIC GAINS RESULTING FROM OPTIMALLY REALLOCATING PUBLIC SPENDING ACROSS SUPPORT MEASURES AND COMMODITIES IN THE AGRICULTURE AND LIVESTOCK SECTORS (DEVIATIONS FROM A BUSINESS-AS-USUAL SCENARIO)

	Burkina Faso		Ethiopia		Ghana		Mozambique		Nigeria		Uganda	
	2025	2025–2030	2025	2025–2030	2025	2025–2030	2025	2025–2030	2025	2025–2030	2025	2025–2030
Number of people lifted out of poverty	185 214	616 717	596 802	728 939	236 992	275 699	321 955	555 336	427 166	460 287	250 120	139 049
Off-farm jobs created in rural areas	54 800	182 709	46 371	66 256	133 310	181 503	90 095	150 914	183 819	213 092	81 954	57 988
Additional people who can afford a healthy diet	337 621	1 448 952	3 186 681	5 254 814	4 216 027	5 383 325	661 723	1 265 444	1 023 286	1 857 148	1 043 022	939 929
Agrifood GDP increase (%)	2	8	2	2	6	8	9	11	1	1	3	2

NOTES: GDP = gross domestic product. The second column for each country shows the absolute change between 2025 and 2030 for each of the four indicators.

SOURCE: Sánchez, M.V., Cicowiez, M., Pernechele, V. & Battaglia, L. (forthcoming). *The opportunity cost of not repurposing public expenditure in food and agriculture in sub-Saharan African countries – Background paper for The State of Food Security and Nutrition in the World 2024*. FAO Agricultural Development Economics Working Paper. Rome, FAO.

» in many countries find it difficult to execute the budgets they have funded. A study by FAO's MAFAP programme finds that 21 percent of the public budget on food and agriculture was left unspent across 13 sub-Saharan African countries between 2004 and 2018, undermining transformative investments. In addition to concerns with regard to weak public financial management, this study noted that agriculture is a seasonal business, and funds may be disbursed at the wrong time or periodicity. Furthermore, it notes that regarding civil servants' salaries, which are more predictable and easier to implement than investments, the relative share of public spending in the agriculture sector is much lower than in other sectors. The significant reliance on donor funds, that are more difficult to implement, further contributes to the low execution rates of agricultural budgets. It should be noted, however, that execution rates can vary across sectors even within infrastructures. A World Bank study found execution ratios of 94 percent for roads versus only 75 percent for the power sector,[55] and differences in execution rates can even be observed within one country over time, even over short periods, as is shown in public expenditure reviews for some African countries.[x]

Some of the financing available may nonetheless not be utilized in the most cost-effective, equitable and environmentally sustainable manner in countries across all income groups. Billions of USD are financing some poorly designed and distortive government policies and subsidies that are not only inequitably targeting producers but are also harming rather than helping efforts to achieve SDG 2 and are behind some of the hidden costs discussed above. In 2021, FAO, the United Nations Environment Programme and the United Nations Development Programme estimated that – with a continuation of past trends – the total agricultural producer support in LICs, LMICs and UMICs would reach USD 1.3 trillion in 2030; of this, USD 1 trillion would provide support through border measures (mainly import tariffs and duties) and USD 276 billion would finance fiscal subsidies (for inputs and production).[57]

x See, for example, *Tanzania Agriculture Public Expenditure Review 2022*.[56]

Beyond the billions of USD currently allocated to support food and agriculture, there is also a significant opportunity cost of not repurposing some of these resources to achieve better outcomes for people, the economy and the planet. This opportunity cost may itself be important to reduce the financing gap to meet SDG Targets 2.1 and 2.2. The 2022 edition of this report[2] analysed several scenarios of repurposing some of the worldwide support to food and agriculture, which accounted for almost USD 630 billion per year, on average over the period from 2013 to 2018. It showed that repurposing some of this support to increase the availability of nutritious foods to consumers, in particular, can result in making a healthy diet less costly and more affordable, globally and particularly in MICs. The scenarios showed the potential global gains of repurposing in terms of GDP growth, poverty reduction, and GHG emissions reduction. A similar study by the World Bank and the International Food Policy Research Institute for 79 countries (including OECD member states) found that the bulk of transfers to producers are provided through measures that the OECD refers to as "potentially most distorting", and they amounted to USD 456 billion per year from 2016 to 2018. For a scenario where a portion of said support is repurposed for increased spending on green innovations, this study finds that by 2040, global real income would increase by 1.6 percent while global extreme poverty, the cost of a healthy diet, and overall emissions from agriculture would decrease by, respectively, 1 percent, 18 percent and 40 percent compared to a business-as-usual projection.[58] No doubt, repurposing some of the worldwide support to food and agriculture is an important move to improve food security and nutrition outcomes and this would help to reduce the financing needed to meet SDG Targets 2.1 and 2.2.

In practice, however, governments in LICs, but also perhaps in some LMICs, do not provide significant support to food and agriculture due to fiscal constraints. For this reason, a new FAO study developed for this report has evaluated what would happen if the limited budget allocated to the agriculture and livestock sectors were reallocated optimally across support measures (i.e. subsidies, investments, services)

and commodities, without changing the current budget, in six sub-Saharan African countries.[59] The results are staggering: The opportunity of achieving higher agrifood output, creating thousands of off-farm jobs in rural areas and allowing millions of people to get out of poverty and afford a healthy diet will be lost unless these countries' governments optimize the way in which they allocate their budget across the agriculture and livestock sectors (Box 11). Taking advantage of this opportunity will help these countries reduce their financing needs to meet SDG Targets 2.1 and 2.2. While optimizing policies will be important mostly in LICs, but also in MICs, there is evidence that diminishing marginal returns to additional public spending over time increases the marginal costs to achieve development goals;[27] hence, public spending optimization must be a recurrent action of policymaking. ■

KENYA
Farm worker walking across drying maize to pour corn kernels onto a tarpaulin to dry.
© Jen Watson/ Shutterstock.com

CHAPTER 5
WHAT IS NEEDED TO CATALYSE SCALABLE FINANCING TO FILL THE GAP?

KEY MESSAGES

➔ Finding innovative, more inclusive and equitable solutions to scale up financing for food security and nutrition in countries with high levels of hunger, food insecurity and/or malnutrition and important constraints in accessing affordable financing flows, is urgently needed. Only a minority (37 percent) of 119 low- and middle-income countries have many financing options.

➔ The prevalence of undernourishment and that of stunting in children below five years of age tend to be much higher in countries with limited ability to access financing. Countries with more ability to access financing exhibit a higher prevalence of overweight in children below five years of age.

➔ Countries with limited access to financing are generally affected by one or more major drivers of food insecurity and malnutrition, particularly climate extremes but also conflict, which opens up opportunities for leveraging climate and humanitarian finance activities for financing food security and nutrition. For these countries, grants or concessional loans remain the most suitable option to scale up financing for food security and nutrition and can be leveraged through collaborative financing partnerships as part of blended finance strategies.

➔ Countries with moderate ability to access financing can rely more heavily on domestic tax revenues due to their wider tax base and stronger public institutions. Their governments can raise revenues by steeping up health taxes to promote the consumption of healthy diets.

➔ Countries with a high ability to access financing can take advantage of increasingly promising financing instruments such as green, social, sustainability and sustainability-linked bonds, which may also embed food security and nutrition objectives.

➔ Making innovative financing instruments more accessible to population groups facing constraints in accessing financial services, such as women, Indigenous Peoples, smallholder farmers and small and medium agrifood enterprises, will be key for financing to work for food security and nutrition.

➔ The current financing architecture for food security and nutrition is highly fragmented. Country donors, multilateral development banks, development finance institutions, international financial institutions and philanthropic foundations have risen in number, but this has created coordination challenges, not only for these actors, but also for recipient countries whose political and financial priorities are not always considered.

➔ Commercial private actors consider food security and nutrition a risky area to invest in, and the lack of data and transparency in the financial sector does not facilitate the creation of an “investment case” for meeting SDG Targets 2.1 and 2.2.

➔ The financing architecture for food security and nutrition needs to shift from a siloed approach towards a more holistic perspective whereby stakeholders consider food security and nutrition to be a single policy goal that is featured in their broader financing flows and investments.

➔ Policy priorities of national and local actors must be considered while building this new narrative for an enhanced financing architecture for food security and nutrition. Multilateral development banks, development finance institutions and international financial institutions should take the lead in scaling up financing for food security and nutrition, increase their risk tolerance and be more involved in de-risking activities.

➔ The public sector should fill gaps not addressed by commercially oriented actors, primarily by investing in public goods and enhancing social values, which requires relying on tax revenues, reducing corruption and tax evasion, stepping up food security and nutrition expenditure, and repurposing policy support.

➔ Improving transparency is essential for enhancing coordination and efficiency among the different stakeholders and will require harmonizing data collection standards at the national and global levels and making data available, which, in turn, is critical to target financing towards the countries most affected by food insecurity and malnutrition and their drivers.

5.1 SCALING UP FINANCING FLOWS TO FOOD SECURITY AND NUTRITION

What are the levels of ability to access financing for food security and nutrition and what determines a country's level?

The determinants of access to financing at national level

The spread and severity of how the major drivers of food insecurity and malnutrition are affecting the world is alarming (**Chapter 3**). At the same time, the ever-widening gap between current financing and the financing needed to meet SDG Targets 2.1 and 2.2 (**Chapter 4**) renders the challenge even more urgent: How can all financing for food security and nutrition stakeholders scale up financing for the countries most affected by food insecurity and malnutrition, which also are those most affected by multiple major drivers concurrently?

One of the most important variables that determines countries' ability to access financing is **national income**. Naturally, low- and middle-income countries (LICs and MICs) face more barriers than high-income countries (HICs) do in accessing financing flows, as national income is an indicator of a country's capacity to pay back debts. For instance, the World Bank uses per capita income as a main indicator to establish whether countries are part of the International Development Association (IDA), the branch of the World Bank that provides concessional finance to the poorest countries,[1, 2] while the focus of the financing flows mobilized by the United Nations Capital Development Fund is on the world's least developed countries (LDCs).[y, 4]

In addition to national income, a **country's level of debt** is without doubt a key assessment variable. Countries that are highly indebted are unlikely to receive more resources from external sources, and certainly not from private stakeholders (banking systems, capital markets, and so on), but nor do they receive non-concessional financing inflows from other stakeholders such as development finance institutions (DFIs) or international financial institutions (IFIs).[z] For instance, the World Bank and the International Monetary Fund (IMF) assess countries' debt sustainability to make decisions on the allocation of concessional finance for LICs and lower-middle-income countries (LMICs) in the form of grants or loans.[5]

Unsustainable levels of debt, especially when interest rates are high, limit the much-needed public investments for LICs and MICs in sectors that are key for development; such limitations likewise create uncertainty that can undermine economic growth.[6] Debt service levels are increasingly burdensome for debtor countries and can restrict public spending options. For instance, Africa's external debt service has been increasing, and projections show it can reach a peak of USD 74 billion in 2024.[7] While not all countries at risk of debt distress are necessarily facing a high prevalence of undernourishment and food insecurity and multiple burdens of malnutrition, when these issues are faced concurrently the situation can become even worse: In some cases, a country's debt default can lead to economic downturns and rising food prices, which can certainly increase the risk of becoming food insecure and/or malnourished.[8]

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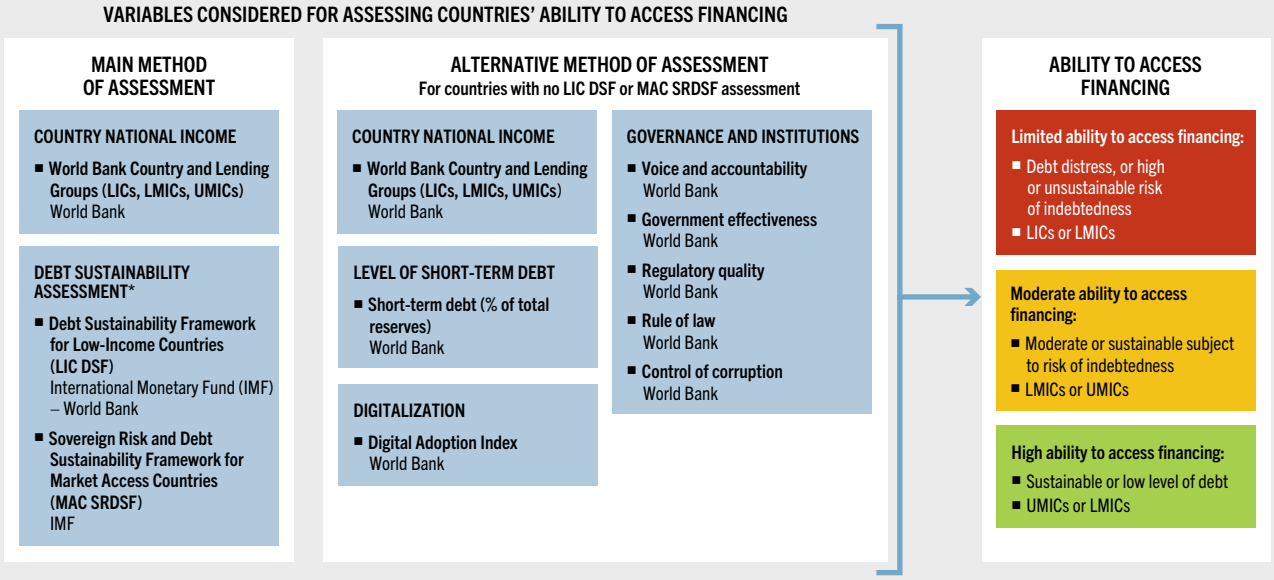
y Please note that the LDC identification criteria consider not only national income, but also other variable groups in two categories: human assets and economic and environmental vulnerability. Therefore, the composition of LDCs is different from the World Bank's LICs.[3]

z Please consider that DFIs can be bilateral, serving to implement their government's foreign development and cooperation policy, or multilateral, acting as private sector arms of IFIs established by more than one country.

FIGURE 30 SUMMARY OF THE METHODOLOGY FOR ASSESSING COUNTRIES' ABILITY TO ACCESS FINANCING



NOTES: LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries. See Supplementary material to Chapter 5 for the details about the criteria for assessing countries' ability to access financing. * LIC DSF and MAC SRDSF are composite indicators that consider several variables relevant for assessing countries' ability to access financing, including governance and transparency assessments.

SOURCE: Authors' (FAO) own elaboration.

In addition, **governance quality** can affect a country's ability to access financing. Even in contexts of high debt and/or low-income levels, the capacity and effectiveness of national institutions, rule of law, accountability and transparency, and the quality of regulations may influence the outcome of financing decisions. In fact, financial institutions such as the World Bank and the IMF already consider governance quality in their country assessments.[aa] Governance is also a key factor in addressing the major drivers of food insecurity and malnutrition and can accelerate the building of resilience to these drivers through the implementation of sound policies, investments and legislation;[10] it is widely recognized as an essential condition for scaling up different financing flows such as domestic revenues[11] or foreign direct investments,[12] and it is even considered an important factor for achieving an adequate national food supply.[13] Therefore, strengthening national governance and institutions is essential – not only to increase countries' ability to access financing, but also to enable them to use financial resources effectively to achieve food security and end all forms of malnutrition.

Finally, the level of **digitalization** is increasingly considered relevant for improving access to financing,[14] and studies have shown that countries' investments in digitalization can boost economic growth, employment and governance quality.[15] Digitalization also supports enhanced levels of traceability of financing flows, which could lead to higher levels of transparency and increased trust among financial stakeholders, thereby improving countries' ability to access financing. Especially in situations where other

aa For instance, the World Bank's Country Policy and Institutional Assessment[9] is a diagnostic tool used for assessing the quality of national policies and institutions; it is a key variable for allocating the IDA's resources for LICs and LMICs and is also used as part of the Debt Sustainability Framework for Low-Income Countries (LIC DSF) indicator.[5]

determinants of countries' ability to access financing still need to be improved, high digitalization levels can facilitate a financial stakeholder's decision to invest.

The operationalization of these variables to create three groups, assessing countries' ability to access financing, is presented in Figure 30. Three indicators were identified for the four variables discussed above: i) the World Bank's country and lending groups; ii) the World Bank and IMF's Debt Sustainability Framework for Low-Income Countries (LIC DSF); and iii) the Sovereign Risk and Debt Sustainability Framework for Market Access Countries (MAC SRDSF). For countries not assessed by either LIC DSF or MAC SRDSF, in addition to the World Bank's country and lending groups, the short-term debt as a percentage of total reserves is used for the debt levels; five out of six of the World Bank's Worldwide Governance Indicators[ab] are used for governance quality; and the World Bank's Digital Adoption Index (DAI) is used for digitalization.[ac]

Do countries with high levels of hunger, food insecurity, childhood stunting and childhood overweight, including those affected by the major drivers, have the ability to access financing for food security and nutrition?

The results of applying the methodology outlined in Figure 30, jointly with data of food security and nutrition indicators and of countries affected by the major drivers of food insecurity and malnutrition, are shown in Table 18.[ad]

Table 18 shows the urgency to find innovative solutions to scale up financing for food security and nutrition in LICs and MICs. Sixty-three percent of these countries have limited or moderate ability to access financing,[ae] while the minority (37 percent) have high ability. The prevalence of undernourishment (PoU) is, on average, much higher in countries with limited ability to access financing (23.1 percent) than in countries with moderate and high ability to access financing (10.4 percent and 6.9 percent, respectively). A similar trend is observed for the prevalence of stunting in children below five years of age, although the average prevalence of stunting in countries with limited and moderate ability to access financing (23.9 percent and 20.9 percent, respectively) is much closer than the average PoU. These results are aligned with the findings of **Chapter 4**, which found a negative association between general domestic government expenditure on agriculture and PoU and stunting. As discussed in the next section, countries with limited ability to access financing have lower possibilities of increasing public spending, and therefore, their current spending levels are probably low. Similarly, the average of overweight in children below five years of age follows the same pattern as the findings in **Chapter 4**: The higher the ability to access financing (or the general domestic expenditure in agriculture), the higher the levels of childhood overweight.

On the other hand, 74 percent of all countries analysed are affected by one or multiple major drivers, and 66 percent of these countries have limited or moderate ability to access financing (most of them limited, 42 percent). Among countries affected by major drivers, climate extremes are the most prevalent driver at all levels – limited (75 percent, alone or in combination with other drivers), moderate (76 percent) or high (80 percent) ability to access financing – which is expected considering that climate extremes are the most common driver, as analysed in **Chapter 3**. For countries with moderate or high ability, there is no difference between conflict and economic downturns: 28 percent of countries with moderate ability to access financing are affected by conflict or by economic downturns, alone or in combination, and for countries with high ability, this proportion increases to 36 percent. However, for countries with limited ability to access financing, more are affected by conflict (48 percent) than by economic slowdowns (35 percent). In fact, as observed in Table 18, across all categories of financial access, and for all combinations of drivers, conflict affects more countries with limited access to financing than countries with moderate or high financing options.

ab Voice and accountability, government effectiveness, regulatory quality, rule of law, and control of corruption.

ac See Supplementary material to Chapter 5 for more details.

ad See Supplementary material to Chapter 5 for more details.

ae Please note that this assessment is only indicative for analytical purposes and is not to be considered an assessment tool for financial purposes.

TABLE 18 LOW- AND MIDDLE-INCOME COUNTRIES' DEGREE OF ABILITY TO ACCESS FINANCING, CONSIDERING FOOD SECURITY AND NUTRITION INDICATORS AND THE MAJOR DRIVERS

Countries' ability to access financing	Number of countries affected by food insecurity and malnutrition major drivers									Food security and nutrition indicators		
	Total	Climate extremes	Economic downturns	Conflict	Climate extremes – economic downturns	Conflict – economic downturns	Conflict – climate extremes	Climate extremes – economic downturns – conflict	Not affected by major drivers	Prevalence of undernourishment in total population	Prevalence of stunting in children (<5 years)	Prevalence of overweight in children (<5 years)
	2013–2022									2023	2022	2022
	(number of countries)									(% average)		
Limited ability: High financial risk	44	12	4	3	3	2	9	4	7	23.1	23.9	4.9
Moderate ability: Medium financial risk	31	9	3	2	3	0	4	0	10	10.4	20.9	6.4
High ability: Low financial risk	44	11	3	2	5	1	6	2	14	6.9	13.3	7.7
Total	**119**	**32**	**10**	**7**	**11**	**3**	**19**	**6**	**31**	–	–	–

NOTES: Prevalence of undernourishment, childhood stunting and childhood overweight averages are unweighted. See Supplementary material to Chapter 3 for the list of countries analysed and the methodology on defining countries affected by major drivers of food insecurity and malnutrition. See Supplementary material to Chapter 5 for the details about the criteria for assessing countries' ability to access financing.

SOURCE: Authors' (FAO) own elaboration.

The high proportion of countries affected by at least one major driver builds the case for mainstreaming food security and nutrition objectives across other sector financing where the priorities do not always include meeting SDG Targets 2.1 and 2.2. Considering that climate extremes are the most prevalent driver in all country groups, the opportunity of creating synergies between food security and nutrition and climate objectives will be essential for scaling up enough resources to fill the funding gap. On the other hand, the relevance of conflict as a driver in countries with limited access to financing calls for strengthening the humanitarian–development–peace nexus, as well as for bridging the short-term horizon of humanitarian operations with the needed long-term perspective of investments oriented to eradicating hunger, food insecurity and malnutrition. In addition, the higher PoU and stunting levels found in countries with limited or moderate access to financing emphasize the urgency of scaling up financing flows for ending hunger, food insecurity and malnutrition. This, together with the higher prevalence of children's overweight in countries with high ability to access financing, opens the window for innovative financing instruments that may consider objectives related to SDG Targets 2.1 and 2.2 in their design and implementation.

Nevertheless, the opportunity to create such synergies and seize those opportunities is challenged by the conditions limiting the access to financing in most of these countries. As mentioned above, most of the countries analysed are facing the double challenge of eradicating hunger, food insecurity and malnutrition, as well as building resilience to the three major drivers, in adverse financial

FIGURE 31 RISK GRADIENT FOR FINANCIAL STAKEHOLDERS

SOURCE: Zoubek, S., Lateef, A., Carrasco Azzini, G. & Holleman, C. (forthcoming). *Reorientation, innovation and the global architecture for financing for food security and nutrition – Background paper for The State of Food Security and Nutrition in the World 2024*. FAO Agricultural Development Economics Working Paper. Rome, FAO.

conditions, because they have limited or moderate ability to access financing. How do these conditions affect the risk perception among financial stakeholders, and what alternatives do these countries have to effectively increase their financing options for meeting SDG Targets 2.1 and 2.2?

Which are the available and most affordable financing tools, depending on a country's ability to access financing, to fill the financing gap for meeting SDG Targets 2.1 and 2.2?

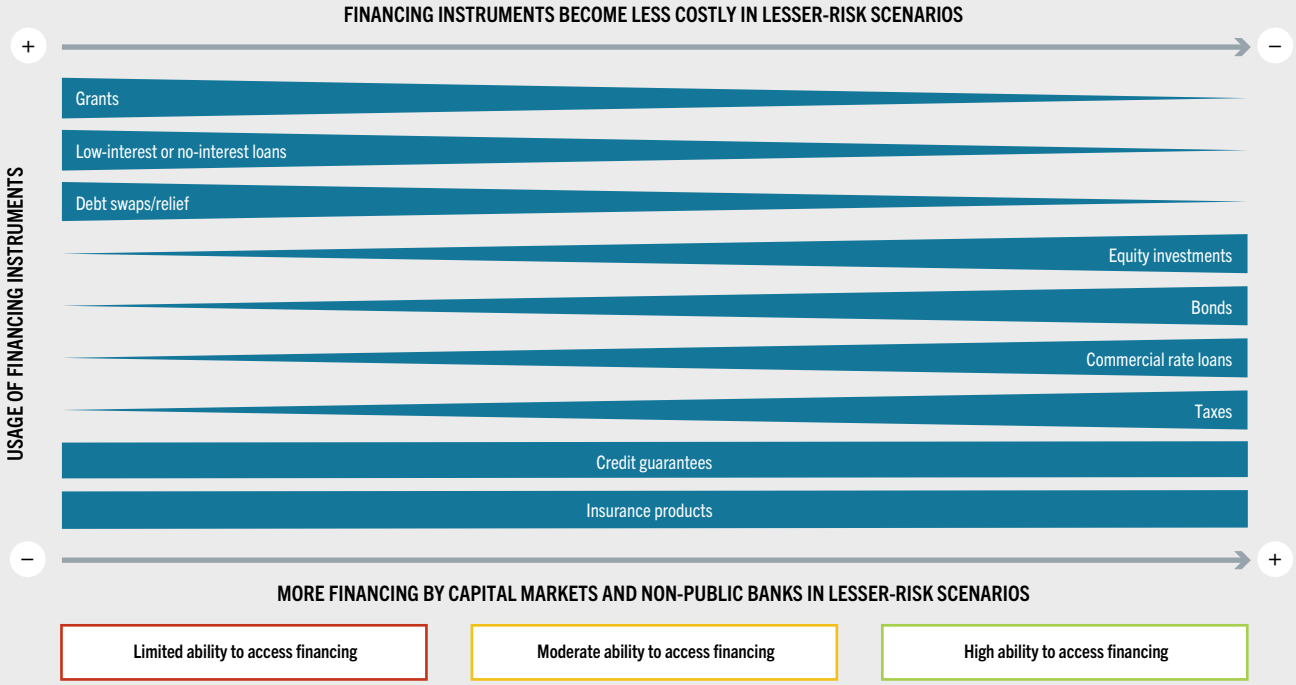
Scaling up financing flows towards countries with the highest levels of hunger, food insecurity and malnutrition and/or those most affected by the major drivers is essential. For example, considering only official development assistance (ODA), Asia and Africa have received most of the ODA for agriculture in recent years,[af] which is to be expected since most of the hungry and food insecure live in these regions. In terms of budgetary needs from external donors, high-priority countries (i.e. countries with more than 50 percent of their budget dependent on donors) are all located in Africa.[17] In addition, the increased financing should be consistent with the global roadmap for achieving SDG 2 without breaching the 1.5 °C threshold,[18] to ensure that there is access to sufficient, nutritious foods for all today and tomorrow.[ag]

However, in most cases, countries that are the most in need, in terms of both hunger and food insecurity levels, as well as in terms of how they are affected by the major drivers, are facing structural limitations to increase financing for food security and nutrition, as shown in Table 18. Even if, formally speaking, all countries have access to most of the existing options for financing, their ability to access financing is driven by levels of perceived financial risk and the associated costs (see Figure 31). The obvious risk aversion of all financial stakeholders, especially

af From 2003 to 2018.[16]

ag The last Intergovernmental Panel on Climate Change report[19] outlined that in the period from 2011 to 2020, global surface temperature was already 1.1 °C above that in the period from 1850 to 1900, while the World Meteorological Organization confirmed that in 2023, the annual global temperature was 1.45 ± 0.12 °C above that in the period from 1850 to 1900.[20]

FIGURE 32 WHICH ARE THE MOST ADEQUATE FINANCING TOOLS AND MECHANISMS DEPENDING ON THE COUNTRY CONTEXT?



SOURCE: Zoubek, S., Lateef, A., Carrasco Azzini, G. & Holleman, C. (forthcoming). *Reorientation, innovation and the global architecture for financing for food security and nutrition – Background paper for The State of Food Security and Nutrition in the World 2024*. FAO Agricultural Development Economics Working Paper. Rome, FAO.

in the case of private, commercially oriented ones, renders their engagement practically impossible in the most financially risky countries.

When the confidence in countries' ability to repay loans decreases (thus, a higher financial risk), the affordability of financing flows is reduced.[ah] Therefore, countries with limited ability to access financing may rely only on grants or low- to no-interest loans from international development flows (e.g. ODA), as other financing instruments may not be available – or, more precisely, financial stakeholders may not be interested due to a country's high financial risk profile (see Figure 31 and Figure 32). The involvement of private, commercially oriented actors in these countries is unlikely as risks are high, affecting, for instance, the cost of borrowing. Only large corporations and/or export-oriented actors have a higher likelihood of being financed by private flows, and even in these cases, these entities may be considered risky investments. In addition, the low tax base of many of these countries – due, inter alia, to structural factors, with a predominantly informal environment not conducive to tax collection, and to governance weakness – makes public investment with domestic resources difficult.[11]

The high dependence on concessional finance for countries with limited ability to access financing could lead to the consideration of some possible trade-offs. For example, some

ah While the focus here is on the sovereign level, this also applies within countries to companies and other commercial, private actors.

scholars have studied the possibility that scaling up concessional finance (e.g. grants and no-interest loans) could cause "Dutch disease",[ai] highlighting the need to create capacities in national governments to absorb and spend these resources, particularly on public investments and capital goods.[22] Likewise, the orientation of concessional finance itself matters for meeting SDG Targets 2.1 and 2.2. It has been observed, in a sample of 95 LICs and MICs, that an increase of 10 percent in certain categories of ODA related to food security and nutrition[aj] can reduce hunger by 1.1 percent, on average two years after the financing flow is disbursed.[23]

The high reliance on concessional finance can also affect the trends of other sources of financing. For instance, one study found a negative association between ODA grants and tax revenues, particularly in LICs.[24] Another[25] showed that some grants from international development flows include conditionalities such as increases in tax revenues over time and reductions in external debt through borrowing. However, as indicated above, countries with limited ability to access financing in most cases are not able to increase tax revenues. Therefore, a country's reduction in borrowing and the inability to increase tax revenues can lead to fewer available resources and, in turn, place a lower-than-expected expenditure on the sector to which the grant was directed.

Countries with limited ability to access financing have high levels of sovereign debt and must spend significant amounts of public revenue on servicing debt. For these countries, debt swaps and debt relief measures can allow the reallocation of resources towards food security and nutrition.[ak]

In sum, in countries with limited ability to access financing, the role of donors and other development institutions in delivering international development flows is essential to fill the financing gap for meeting SDG Targets 2.1 and 2.2. In countries with moderate ability to access financing, utilizing concessional finance and commerce-oriented instruments following a blended finance approach[al] will still be essential for de-risking investments and providing the right incentives for private actors to participate in these markets. However, while moving towards lower levels of risk, it is expected that public and private actors can progressively increase their engagement, making more financing flows available (i.e. more affordable).

Mobilizing domestic tax revenues is more feasible in countries with moderate ability to access financing (see Figure 32). Deepening the tax base could reduce some countries' dependence on concessional finance (or commercial loans and debt), and in several countries, there is the potential to increase tax revenues from their current levels.[26] However, as mentioned, the potential expansion of tax revenues has income as a strong determinant (the higher the GDP per capita, the higher the tax potential), as well as other factors such as the composition and formalization of national economies, and institutional and governance mechanisms.[am] Some scholars have studied countries' "tax effort" (the ratio of actual tax collection to tax potential) to analyse whether there is space to improve mobilization of domestic resources. While the numbers vary, there is agreement on the potential for expanding revenues globally, and such potential is greater in LMICs and upper-middle-income countries (UMICs) than in LICs.[26, 28]

ai The term "Dutch Disease" refers to the discovery of large natural gas deposits in the territorial sea of the Kingdom of the Netherlands, which led to a rapid rise in revenues and the consequent appreciation of the national currency; as a result, other sectors' exports were more expensive (and imports for the same sectors cheaper), reducing their competitivity. The phenomenon is often associated with the discovery of natural resources, but it can occur in the case of any sudden inflow of foreign currency.[21]

aj The paper calls it "nutrition-sensitive ODA" and includes the following categories from the database of the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD): food aid/food security programs (CRS code 52010), emergency food assistance (72040), reproductive health care (13020), basic health care (12220), material relief assistance and services (72010), STD control including HIV/AIDS (13040), urban development and management (43030), agricultural development (31120) and agricultural research (31182).[23]

ak Debt swaps are discussed more in depth in **Section 5.2**.

al Blended finance is analysed more in depth in **Section 5.2**.

am Regarding the importance of institutions and governance for increasing tax revenues, corruption is an important determinant of tax revenues. It has been found that corruption has a significant negative effect on tax collection, and an improved, transparent and accountable tax administration is critical for improving tax revenues.[27]

As financial risk decreases, more financing flows are available for countries. Countries with a high ability to access financing will draw in equity investments, commercial rate loans and bonds from private financing flows such as company investments, banking systems and capital markets, with many fewer de-risking activities needed from donors or the public sector (Figure 31 and Figure 32). However, as analysed in detail in **Section 5.2**, even in these countries, access to guarantees and insurance is still essential for de-risking private financing flows. While the way in which guarantees or insurance are delivered varies depending on a country's ability to access financing, these instruments are essential for scaling up financing in the three categories of countries. Therefore, these instruments are recommended for all country groups in Figure 32.

Scaling up private financing is essential for meeting SDG Targets 2.1 and 2.2 because of its well-known role in overall economic development, and for the simple reason that funding from other financing flows like international development flows or public budgets is not sufficient to fill the financing gap to end hunger, food insecurity and malnutrition. For instance, foreign direct investment (FDI) has an important role for LICs and MICs, but its effects may vary depending on a country's income level and the sector of the FDI. For example, agriculture and industry FDI have a significant impact on GDP growth in LICs, while FDI oriented to other sectors (e.g. manufacturing and services) has insignificant effects. On the other hand, all kinds of FDI positively impact GDP growth in HICs.[29] Foreign direct investment directed to agriculture has also been shown to increase agricultural production in LICs and MICs, and its effects are higher when these are combined with agricultural ODA.[30] Nevertheless, as indicated, LICs have mostly limited ability to access financing, making private financing flows costly and rarely available. How can countries reduce their financial risk to attract other sources of financing?

Figure 32 provides recommendations for financing instruments, depending on a country's ability to access financing flows, as assessed in Table 18. Private financing flows (e.g. equity investments, bonds and commercial rate loans), as well as public domestic financing (e.g. taxes), are more affordable as countries' financial risk decreases, making them more suitable options; on the other hand, international development flows and concessional finance (e.g. grants, low-interest loans and debt swaps) are the best alternative in contexts of high financial risk, as other options could be too expensive. While Figure 32 proposes examples of financing instruments that could fit each category and be used to increase a country's ability to access financing (as analysed in detail in **Section 5.2**), the most effective way to increase a country's financial options is undoubtedly to address the determinants of their ability to access financing. Addressing these development challenges can result in win–win solutions; for instance, sound economic and monetary policies that reward savings and deepen capital markets are essential for creating a better environment for private investments. Improving tax systems not only increases the financing flows needed to fill the funding gap, but can also lead, through public expenditure, to gains in economic growth and inequality reduction. The strategic adoption of digital technology can make tax collection easier and lead to enhanced transparency, which is key for building trust in national public administrations.[31] Reducing and making sovereign debt levels more manageable is an essential requisite for mobilizing the financing needed to implement urgent food security and nutrition actions, as well as policies to build resilience to the major drivers of food insecurity and malnutrition.[8] Therefore, better macroeconomic management for income growth, reducing a country's sovereign risk and debt, and strengthening national institutions and governance, are essential, not only from a financial perspective, but also from the overall development perspective of the countries most affected by hunger, food insecurity and malnutrition. ■

5.2 INNOVATIVE FINANCING APPROACHES AND TOOLS TO BRIDGE THE FINANCING GAP FOR SDG TARGETS 2.1 AND 2.2

The adoption of innovative financing instruments will be essential for scaling up food security and nutrition financing flows to meet SDG Targets 2.1 and 2.2. Of course, as mentioned previously, it is critical that countries also consider repurposing their current public spending to make it more cost effective (**Chapter 4**), as well as implementing reforms to enhance their macroeconomic performance and governance quality. In any case, considering that eradicating hunger, food insecurity and malnutrition requires not only strategic medium- and long-term actions, but also immediate answers, this section focuses on the financing instruments currently available to countries. While the first part of this section analyses in detail the most promising instruments considering the country's ability to access financing (see Figure 31), the second part discusses how financial inclusion can be strengthened within countries, focusing on the population segments that face more constraints in accessing financial services. These financing instruments should, from a food security and nutrition perspective, provide the necessary resources to implement the policies and investments recommended in the six transformative pathways presented in **Chapter 3**. The examples of investments financed through these financing instruments, provided in this section, are linked with elements of the food security and nutrition financing definition, when relevant.

Instruments for scaling up financing at global, regional and national levels

Available financing tools for increasing food security and nutrition financing flows are described below, following the categories of a country's ability to access financing presented in **Section 5.1**. This section covers the tools mainly used for mobilizing financing flows at the sovereign level (for country governments), as well as tools for private actors within countries, from companies to smallholder farmers, as they are all crucial for ending hunger, food insecurity and malnutrition. Among these tools, emphasis is placed on the type of financing instruments that promise innovative approaches to fill the financing for food security and nutrition gap. Yet, why is innovation needed and how can it mend the gap that traditional mechanisms cannot?

Innovations, particularly market-creating innovations,[32] provide a strong economic foundation since they offer the mass population access to a product or service that was previously unaffordable, unattainable or non-existent. In the case of financing, innovation mobilizes, leverages and redirects resources to increase the effectiveness and efficiency of financing flows, directing them to specific purposes[33] such as food security and nutrition that they would otherwise not be directed or channelled to. That said, although all instruments and mechanisms are at countries' disposal – depending on their risk profile and thereby the cost of capital – the optimal financing options for achieving food security and improving nutrition are not easily accessible for countries with high levels of financial risk.

The term "innovative finance" became more widely used during the 2000s, amidst concern about the resources required to meet the Millennium Development Goals. It is difficult to agree on a universal definition, considering the different beliefs regarding what constitutes "innovation". For this report, an innovative financing instrument for food security and nutrition is one that fulfils at least one of the following conditions:[34]

1. It has been developed in the last ten years.
2. It is implemented in a different way from its original purpose.
3. It is new to being used in financing for food security and nutrition.
4. It involves new combinations of actors.

Financing instruments for countries with limited ability to access financing flows

As mentioned in **Section 5.1**, the high perception of risk from private stakeholders for this country group, and the often limited capacity of increasing

public domestic revenues, makes **concessional finance** from international development flows the most suitable option for scaling up financing for these countries.

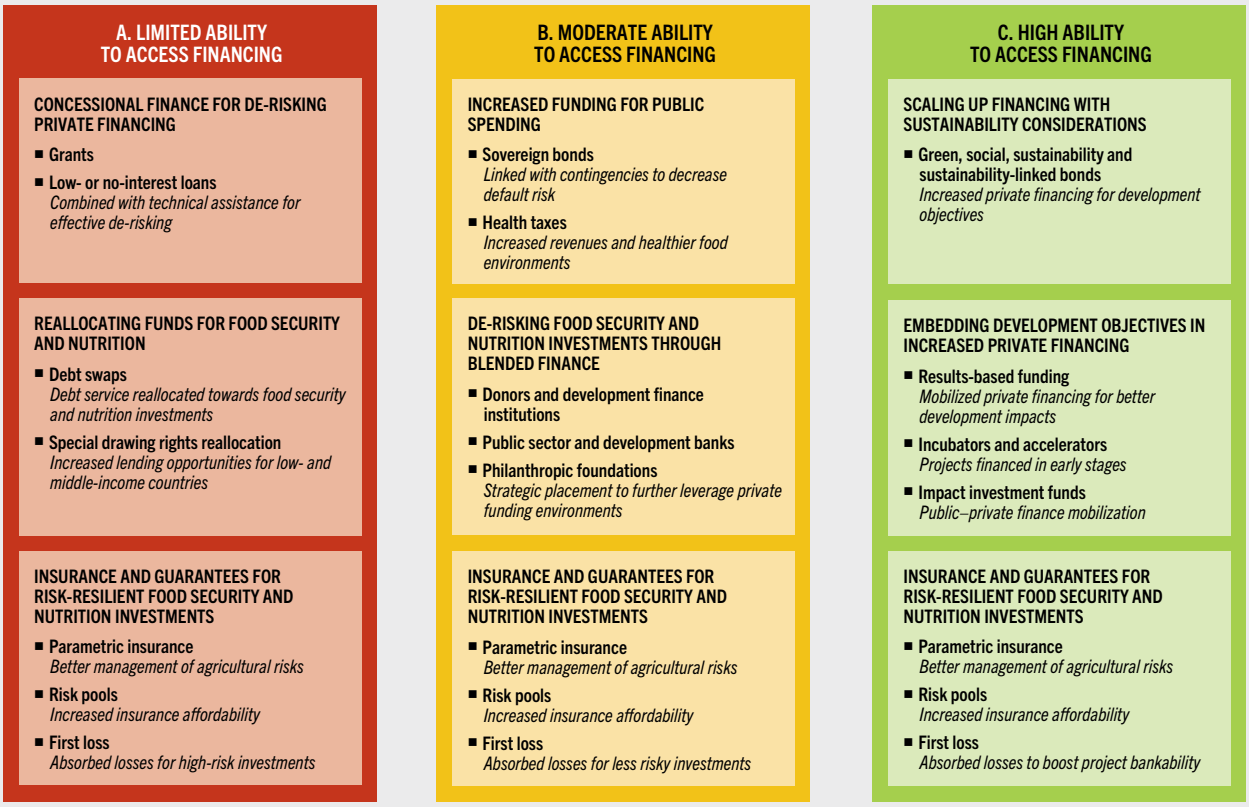
While **grants** and **low- or no-interest loans** are certainly among the most traditional concessional financing instruments, they can be designed in more innovative ways to collaborate with de-risking initiatives to increase private financing flows, as part of blended finance strategies. As the amount from grants and other concessional financing instruments falls short of the funding needed to meet SDG Targets 2.1 and 2.2, these instruments should focus on countries most in need and invest in activities that are not likely to be financed by other instruments, for example, public goods.[35] Grants and/or loans, jointly implemented with **technical assistance**, can be leveraged to address the main limitations for accessing private financing flows – for example, poor bankability and lack of operational readiness to access finance – often faced by food security and nutrition initiatives (Figure 33A). For instance, the Good Food Innovation Fund uses both grants and interest-free loans to support initial investments in midstream small and medium enterprises (SMEs) producing nutritious foods (e.g. biofortified foods, dairy and aquatic food products), with the objective of increasing the SMEs' ability to access other sources of financing after that first investment (**Pathway 4**).[36] The injection of grants can likewise support initiatives to pioneer high-tech solutions to enhance food security and nutrition by protecting and regenerating traditional and/or indigenous crops, which often in time strengthen climate resilience and improve nutrition within their territories: Rockefeller Foundation grants are financing the Vision for the Adapted Crops and Soils initiative, a project focused on identifying and promoting the production of crops with the greatest potential to improve nutrition in Africa (**Pathway 4**). In the first phase, a research institution analyses the indigenous and traditional crops' productivity under different climate scenarios, while in the second phase, a private company steps in to leverage artificial intelligence to analyse current barriers and potential facilitators for scaling up these crops.[37]

Grants can also be implemented alongside loans for countries facing high climate variability, such as hilly landlocked or small island countries. In Nepal, the Adaptation for Smallholders in Hilly Areas project totalled USD 37.6 million, funded by a grant, a government contribution and participants' contributions. The project contributed to strengthening the capacity of vulnerable smallholder farmers and local institutions to adapt to climate-related risks (**Pathway 2**). Impact assessment findings show that the project improved production capacity – for example, by increasing access to irrigation especially during the dry season by 4 percentage points – and increased livestock sales by 112 percent.[38] In Kiribati, the Outer Islands Food and Water Project, aimed at improving the livelihoods and resilience of people living in nine of the country's poorest islands, was financed with a grant complemented by government investments. The project enhanced beneficiaries' nutrition and health by improving water management through installation of rainwater harvesting for households, promoting home gardening and the consumption of underutilized species, and providing training and farming tools (**food availability**). Between inception and completion, results indicated a 41 percent reduction in severe food insecurity and increases in dietary diversity.[39]

The term **debt swaps** (or, more precisely, **debt-for-development swaps**) refers to a conditional restructuring of a specific part of debt, which in most cases is linked to some form of debt relief. The condition requires that the liberated funds (or a portion of them) are redirected towards a predefined development investment. Especially at times when many LICs and MICs – home to the most food-insecure people – are highly indebted, debt swaps provide debtor countries with fiscal space, whereby the cancelled amount is repurposed domestically and typically earmarked for sustainable projects (Figure 33A).

The most common form of debt-for-development swaps are bilateral public debt swaps, directly negotiated between a creditor and the debtor country. The creditor foregoes all or part of the principal and/or interest due; in exchange, the debtor country commits a set amount (in local

FIGURE 33 RECOMMENDED INNOVATIVE FINANCING INSTRUMENTS FOR COUNTRIES, CONSIDERING THEIR ABILITY TO ACCESS FINANCING FLOWS



NOTES: As mentioned in this report, all financing instruments are potentially available for all countries, but they might be too expensive depending on countries' ability to access financing flows, making these instruments unaffordable in practice. Nevertheless, please note that these recommendations are not restrictive. The instruments recommended for countries with a certain degree of ability to access financing can be, if possible, adopted by countries belonging to other groups. In addition, please note that this figure includes instruments that can be adopted by public or private actors, at sovereign or local levels, with just a few of them applicable only to a certain type of actor or level (e.g. taxes). The requirements, means of implementation and results may vary depending on the implementing actor, and these are indicated, when possible, in the examples provided for each instrument.

SOURCE: Authors' (FAO) own elaboration.

currency, when possible) towards a development project agreed upon by the two parties. Payment in local currency by the debtor country reduces the country's external debt obligations in foreign-denominated currency, freeing up scarce foreign currency reserves. The type of sustainable investment differs among debt-for-development swaps and may include investments in education, health, food security and nutrition.

Debt-for-nature or debt-for-climate swaps exchange debt in return for environmental or climate investments. Recent debt-for-climate swaps have attracted a great deal of attention due to transactions involving substantial volumes of debt and amounts of money. Their design differs significantly from the design of the traditional debt-for-development swap discussed above. Debt-for-climate and debt-for-food security swaps are explained in more detail in Box 12.

Special drawing rights (SDRs) are an international reserve asset created by the IMF that can supplement countries' foreign exchange reserves »

BOX 12 DEBT SWAPS FOR CLIMATE AND FOOD SECURITY AND NUTRITION OBJECTIVES

Since 2000, global debt levels have surged fourfold.[40] Many of the countries grappling with debt problems are also among the most vulnerable to climate change.[41] Countries facing this double challenge are caught in a vicious cycle. Climate-related destruction and disasters necessitate substantial investments, but their fiscal space is constrained as a significant portion of resources must be allocated to debt servicing.[42] The debt servicing obligations of 58 of the low- and middle-income countries (LICs and MICs) most vulnerable to climate change are projected to reach nearly USD 500 billion between 2023 and 2026.[42]

For countries struggling with both unsustainable public debt and high levels of food insecurity and/or malnutrition among their population, the situation is similarly dire. Substantial debt servicing obligations impede the ability of governments to invest in crucial food security and nutrition policies. They reduce foreign exchange reserves otherwise available for food imports and hamper investments in health, nutrition and education, critical for enhancing future human capital and laying the foundation for sustainable pathways out of food insecurity and malnutrition. The analysis in **Section 5.1** underscores the large number of countries struggling with this double challenge: Out of 119 LICs and MICs, 75 have limited or moderate access to any financing flow (see Table 18).

In the three decades up to 2017, debt swaps have alleviated governmental liabilities amounting to USD 2.6 billion in exchange for investments in development or climate action totalling USD 1.2 billion.[41] The bulk of these transactions comprise modest-sized bilateral, directly negotiated between debtor and creditor countries.[41] To date, creditors have been Paris Club countries.* Recent years have witnessed heightened attention towards debt-for-climate swaps. Current transactions, such as those in Belize, Ecuador and Gabon, have individually reached volumes of USD 1.6 billion, USD 553 million and USD 500 million, respectively.[43–45] In 2023, China, the largest bilateral creditor for LICs and MICs, signed a first memorandum of understanding with Egypt to negotiate a debt swap for development projects.[46, 47] Although still considered a niche financial instrument, debt-for-climate swaps hold immense potential, with an estimated market size of USD 800 billion.[42, 48]

These recent debt-for-climate swaps – so-called tripartite swaps – involve development partners as financial intermediaries providing loans to debtor countries for the repurchase of debt. The loans are contingent upon the recipient country's commitment to introduce and implement nature or climate policy measures. Financing for these loans typically involves labelled bonds (see details on green bonds in this chapter), bolstered by support from donors or guarantees from multilateral banks, enabling favourable credit terms including beyond market interest rates and maturities.[41] This approach allows both bilateral swapping and swapping of privately held debt. It further broadens refinancing options and offers a lifeline to countries excluded from credit markets.

Given the critical challenges posed by unsustainable debt burdens and high levels of food insecurity and malnutrition in many countries, exchanging debt for food emerges as a practical solution with good potential. Debt-for-food security swaps have already been instrumental in addressing food insecurity and malnutrition. Noteworthy initiatives, such as home-grown school feeding and social protection programmes, have been supported. In the current situation, where some countries' food import volumes have fallen, leveraging freed-up foreign exchange through debt relief to procure essential foodstuffs on international markets presents a viable option.

To date, debt-for-food security swaps have been used primarily to swap bilateral debt.[41] In practice, they are typically executed through development partners to ensure effective implementation, transparency, mutual accountability and thorough monitoring and evaluation. Successful examples led by the World Food Programme (WFP) in countries such as Egypt, Guinea-Bissau, Madagascar, Mauritania, Mozambique and Pakistan demonstrate the effectiveness of this approach. Notably, resources totalling USD 145 million since 2007 were allocated to existing WFP programmes within these countries. For instance, a debt swap signed by Egypt and Italy in 2009 channelled approximately USD 15 million worth of Egyptian debt towards a school feeding project implemented by WFP, significantly improving nutritional outcomes and educational participation.[49]

NOTE: * The Paris Club is "an informal group of official creditors whose role is to find coordinated and sustainable solutions to the payment difficulties experienced by debtor countries".[50]

BOX 13 INSURANCE AND GUARANTEES, ESSENTIAL TOOLS FOR DE-RISKING FOOD SECURITY AND NUTRITION INVESTMENTS

Insurance is an essential tool for building resilience to risks in agrifood systems, enabling improved access to credit and financial services. Even so, insuring agrifood small and medium enterprises (SMEs) and smallholder farmers is still very challenging, and important public or donor subsidies are often needed to make insurance work for them.[57] In fact, insurance coverage remains very low in low- and middle-income countries due to its high premium costs and the low awareness of its benefits among agrifood SMEs and smallholder farmers.[58] For example, out of 600 million farmers in Africa, only 600 000 possess insurance coverage.[59] Women, particularly in rural areas, face more challenges than men to access insurance products, due to their lack of resources and lower levels of financial literacy, the distrust of financial institutions, and discriminatory social norms and policies that may prevent them from signing legal contracts without male signatories. As a result, they tend to acquire lower value coverage.[60]

Innovative insurance tools include yield-index insurance, parametric/index-based weather insurance and trade credit insurance.[61] Case studies from sub-Saharan Africa have shown that the adequate combination of de-risking instruments depending on the national and subnational context is key for maximizing their impact in rural contexts. In addition, it is important to include technical assistance components and implement them before engaging the beneficiaries with other rural finance instruments.[62] In particular, **parametric insurance** is a valuable instrument for managing agricultural risks associated with weather-related events such as droughts, floods or extreme temperatures, contributing to reducing risks by offering a dependable income source in the face of weather-induced crop failures (Figure 33). Parametric insurance is typically used to complement traditional insurance. While conventional insurance refunds adjusted losses suffered by policyholders caused by an insured peril, up to the policy limit, parametric insurance pays out a specified sum when a certain, very specific event occurs – the "parameter".

However, the implementation of parametric insurance can be financially burdensome, encompassing expenses associated with data collection, index development and administrative operations. These elevated costs often translate into higher premiums, impeding the affordability of insurance coverage. Moreover, parametric insurance may not comprehensively address all risks, for example, those stemming from pests, diseases or market fluctuations. Consequently, farmers remain exposed to losses outside the coverage scope of the insurance scheme.[34] These challenges have been addressed in some countries using **risk pools**, which are groups of stakeholders that band together to share insurance resources and costs (Figure 33). For example, in 2023, the African Risk Capacity (ARC) Group, comprising two agencies* from the African Union, which provides insurance services through risk pooling, launched a new parametric insurance mechanism for African countries to cope with the devastating effects of flooding. This product provides countries with predictable and rapid financing for early response to cope with emergency disaster events caused by floods (**Pathway 2**). The flood product generates daily flood analysis and calculates the associated impacts for each country. These impacts are compared to the parametric triggers (economic losses or the number of people affected), and pay-outs are calculated if flood impacts exceed the trigger threshold defined by the country.[63]

There are also interesting examples of parametric insurance in countries with limited access to financing flows. Pula, an insurtech** company, together with the World Food Programme's Rural Resilience Initiative (R4) in Kenya, allows farmers to access a combination of crop insurance and risk reduction practices which protect them from the impact of climatic shocks (**Pathway 2**).*** Specifically, the initiative invests in the Area Yield Insurance Index (AYII) in support of government efforts to offer microinsurance coverage to farmers. The AYII adopts ecological zones as a way of measuring unit areas for insurance compared to the previous administrative boundaries. This method reduces the risk basis and provides fairer compensation to farmers.[64]

In Rwanda, the Ministry of Agriculture and Animal Resources initiated the National Agriculture Insurance Scheme in collaboration with three insurance firms: SONARWA Life, Prime Insurance and RADIANT. The programme involved governmental subsidies covering 40 percent of the premiums for weather-indexed and yield-indexed insurance (**Pathway 2**). Consequently, it expanded the access of smallholder farmers and agrifood SMEs to pre-harvest

BOX 13 (Continued)

financing. Additionally, the One Acre Fund, backed by concessional finance from donors, plays a significant role in advancing Rwanda's agricultural insurance sector.[58]

Guarantees serve as cash collateral against loan defaults for lenders who are considered high risk. This instrument is particularly important within countries to close the financing gap for smallholder farmers and agrifood SMEs in LICs and MICs.[65] However, guarantees have not proved very effective in terms of incentivizing domestic banks to expand their lending activities in agrifood systems, primarily due to inadequate expertise and the absence of tools for assessing sector-specific credit risks.[58] For example, the ARIZ fund, launched by the French Development Agency and jointly operated by Alliance for a Green Revolution in Africa (AGRA) and Standard Bank, guarantee credit to fertilizer distributors in Africa. AGRA and partners provided a USD 10 million loan guarantee fund, and in turn, Standard Bank made USD 100 million available for loans over three years. Nevertheless, the programme did not perform well due either to low utilization or to financial institutions' risk appetite vis-à-vis the guarantee amount.[66] To overcome this challenge, scaling up results-based lending incentives for domestic banks is needed to incentivize them to increase their lending to smallholder farmers and agrifood SMEs.[58]

Finally, **first loss** is a guarantee instrument in which the investor is the first to take losses if the project or business fails (Figure 33).[36] For instance, INVEST – a United States Agency for International Development mechanism supporting funding mobilization – provides first-loss coverage and directly influences the risk profile of a project by absorbing losses should the investment not perform as forecasted, thereby presenting a more attractive investment target.[67]

NOTES: * The ARC Agency is oriented to improving country members' capacities to address weather-related disasters, and the ARC Insurance Company Limited, a mutual insurance facility, implements the risk pooling.[63]
** The term "insurtech" refers to the use of technology to develop accessible insurance initiatives; it is part of "fintech", financial technology applications oriented to improve the access of smallholder farmers and other agrifood actors to financial services.[68]
*** Interestingly, the cost of the premium is paid not in cash but upon fulfilling the condition of participating in asset-producing activities.[57]

» in case of need.[51] Special drawing rights have the potential to alleviate cost escalation and exchange rate losses resulting from diminished foreign currency reserves by bolstering foreign reserves, thereby assisting in currency stabilization. Acting as part of IMF members' foreign exchange reserves, SDRs can be sold – or exchanged freely as usable currency – to other countries and prescribed holders who are allowed to acquire, hold and use SDRs. Therefore, the use of SDRs can reduce inflationary pressure on capital expenditure and on working capital finance for businesses.[34] There were four SDR allocations, the last one in 2021, in response to the COVID-19 pandemic. Special drawing rights are allocated proportionally to the relative size of a country's economy, which means that most allocations go to HICs. Considering that HICs have a wide fiscal space compared to the limited access to financing flows of many LICs and MICs, **SDR reallocation** towards the latter country groups can provide an adequate window of new resources for development finance,[52] which can be used to fill the financing gap to end hunger, food insecurity and malnutrition (Figure 33A). Such reallocation can be channelled through multilateral development banks (MDBs); for example, the African Development Bank (AfDB) and Inter-American Development Bank (IDB) have already signed agreements to that effect. This channelling could allow SDR financing to then be leveraged for food security and nutrition and other development purposes. An alternative is to continue using the resources from SDRs in the IMF's Resilience and Sustainability Trust (RST)[an] and the Poverty Reduction and Growth Trust (PRGT).[ao, 54]

an The RST is an IMF lending initiative oriented to building resilience to shocks in LICs and MICs, and is already using reallocated SDRs.[53]

ao The PRGT is the main vehicle of IMF to provide concessional financing to LICs.

The G20 pledged to reallocate about USD 100 billion worth of SDRs sitting unused in HICs' central banks to LICs and MICs at the end of October 2021 (20 percent of each G20 country's reserves). However, the actual pledges are still nearly USD 13 billion short, and less than 1 percent of support has been received by countries in the direst economic straits. Australia, Canada, China, France, Japan and Saudi Arabia have exceeded their 20 percent pledge, but many countries have either not engaged at all or are having difficulty reaching 10 percent.[34]

One potential utilization of the SDRs is for lending: An example is the hybrid capital model proposed by the AfDB and the IDB, both IMF prescribed holders. The initiative proposes to borrow rechannelled SDRs and leverage these static foreign reserves in HICs into lending instruments to finance transformational development projects. The African Development Bank would then channel the financing into regional entities such as the African Export–Import Bank and other regional development banks for capacity building, credit enhancement and beyond. With the current imbalanced holding of SDRs between the major holders and African and other developing nations, prescribed holders such as the multilateral banks are in a perfect position to garner the necessary resources for their respective regions as a whole.[55]

Insurance and guarantees are instruments to facilitate lending and financing, particularly to specific sectors and actors that might be considered "risky".[56] As indicated in Figure 31 and Figure 33, these instruments are relevant at all levels: for countries with limited access to financing and high financial risk perception, but also for other countries that have more options to access financing instruments. Of course, the cost of implementing these instruments may vary depending on the level of financial risk (being more expensive in contexts of higher risk). Box 13 analyses these instruments and provides relevant examples for all levels of access to financing.

Financing instruments for countries with moderate ability to access financing flows

Countries with moderate ability to access financing can start moving beyond the use of concessional finance towards other instruments. One alternative for governments is scaling up public resources. For example, **income-linked sovereign bonds** have gained attention since the onset of debt crisis situations such as the 2008–2009 financial crisis; they link the obligation to pay to countries with an indicator of the ability to pay, thus reducing the risk of defaults (**Pathway 3**). These bonds can create important welfare gains and allow national fiscal policies to be more stable and predictable.[69] Pure income-linked bonds are related to GDP growth (e.g. the bonds issued by Argentina some years ago), while similar bonds – **contingent bonds** – can be related to export levels, commodity prices or the occurrence of natural disasters, among others (Figure 33B).[70]

Governments can also increase their tax revenue linking these with other development outcomes.[ap] One of the most interesting examples for enhancing health and nutrition is **health taxes.** These are excise taxes levied on products of high energy density and minimal nutritional value, such as sugar-sweetened beverages (SSBs) (**Pathways 4 and 5**). They are cost effective – but largely underused[aq] – policies for creating incentives to reduce dietary risk factors for non-communicable diseases (NCDs) with untapped potential for the triple win of improving health, generating government revenue and enhancing equity (Figure 33B).[72–74] By reducing the consumption of products with high energy density and minimal nutritional value, and creating incentives to substitute them with healthier options, health taxes can contribute to the prevention and control of overweight, obesity and other forms of malnutrition or dietary risks, reducing costs to the health care system.[71, 75] Governments can also use health taxes as a tool to increase revenues for financing

ap Repurposing policy support, which is discussed in **Chapter 4** and more in depth in the 2022 edition of this report, is also an important alternative for increasing financing for food security and nutrition, through a better and evidence-based use of the current fiscal resources available.

aq Health taxes are often opposed by commercial industry because of a potential reduction in their profits. As such, the food and beverage industry presents arguments similar to those used by the tobacco industry to prevent or delay implementation of taxes. Globally, stakeholders with vested interests often use lobbying tactics to sway decision-makers away from implementing such taxes, or to structure taxes in such a way as to minimize their negative impact on profits and consumer purchasing. To increase policy effectiveness, it is important for decision-makers to prepare for potential industry opposition to health tax policies during all stages of the policy cycle.[71]

actions that can combat food insecurity and malnutrition in all its forms, either through specific spending prioritization or by increasing overall national budgets. While revenues obtained through health taxes tend to represent only a small fraction of GDP, the revenue increases from taxes can be significant, particularly when taxes across a range of harmful products are combined. In addition, health tax revenues tend to account for a significant share of public health expenditure, ranging from 15 percent in HICs to over 30 percent in LMICs.[76] A recent World Bank analysis found that the largest financing gap for universal health coverage in LMICs could be largely mitigated by tax increases on SSBs, tobacco and alcohol.[77] By releasing additional resources to be spent on food or improving food environments, such taxes can indirectly help reduce undernourishment and food insecurity.

Some countries have opted to earmark part or all of revenues generated from health taxes towards health promotion (**Pathway 5**). Of the nine countries that apply excise taxes to SSBs with revenues earmarked for specific purposes, most are destined for NCD prevention and treatment, health system financing and promotion of physical activity.[71, 75] For instance, in Portugal, revenue generated by the specific excise tax on non-alcoholic beverages is destined for health care. Within one year of implementation, USD 90 million were generated, all of which contributed to funding the Portuguese national health service.[75] Health taxes can also be used to shape agricultural practices. In the Philippines, for example, 15 percent of the revenue generated from taxing tobacco is earmarked to assist tobacco farmers in planting alternative crops. Similar approaches could be taken with SSB taxes, using revenues to support farmers in the transition from sugar production to other crops. It will be imperative for such schemes to ensure that the alternative crops are nutritious foods that contribute to a healthy diet. Ultimately, the decision to earmark funds depends on the contextual factors faced by individual countries. Opponents of this practice argue that it can increase rigidities in the budget and inefficiencies in spending, since earmarked funds cannot be easily diverted to other purposes, should new priorities arise. Some also argue that, although earmarking funds for health can diversify sources of public health funding, this does not necessarily lead to an increase in overall revenue for public health. This is because budgets are fungible, meaning that earmarked revenue from one source is likely to be offset by reductions in contributions from other sources of financing. An alternative is to implement a soft earmark, aligning more closely with the standard budgeting process. With this approach, the recommended earmark remains flexible – because no set amount is prescribed for the earmark, or the expenditure benefiting from the earmark is quite broad, or the duration is limited. By highlighting a political priority, soft earmarking can enhance the visibility and political acceptability of a health tax.[76, 78, 79]

As indicated in **Section 5.1**, countries with limited ability to access financing urgently need to de-risk financing flows, and this is possible through concessional finance. Nevertheless, even if countries with moderate ability to access financing have better chances of leveraging private financing flows, these flows still need to be de-risked. In both cases, implementing **blended finance** – a development finance strategy combining different types of sources of financing to attract private capital – is essential. It is a de-risking tool for private investors, increasing investment in agrifood systems transformation, and has been increasingly used at the global level to de-risk financing flows towards agrifood systems (Figure 33B). Blended finance is used when there is a high perception of risk among private investors, channelling financial resources that can take on more risk with a longer investment horizon.[80] Especially when there is a substantial development benefit, actors such as governments and donors can use blended finance as a vehicle to channel the financing flows needed to achieve that outcome. The objective is that, over time, the risk perception will diminish due to the initial support of the more risk-tolerant capital, and that commercial finance can then replace the grants or concessional financing which played a crucial and catalytic role in the initial stage.[81]

Considering that agrifood investments are often considered high-risk, blended finance is particularly important for catalysing private investments to meet SDG Targets 2.1 and 2.2. Data show divergent evidence. For example, in 2022, 36 percent of global climate blended

finance deals supported rural and smallholder farmers, marking a significant increase from 26 percent in the period from 2016 to 2018;[61] overall (not counting only climate finance), nearly 25 percent of the total transactions between 2016 and 2018 were oriented towards agriculture.[70] In contrast, another study identified that, by value, the blended finance transactions deployed across food value chains[ar] in the world represent just 6 percent of the total market value.[82] Nevertheless, as indicated in **Chapter 4**, a modest amount of blended finance transactions were oriented to SDG 2 in the period from 2020 to 2022; therefore, there is ample room for increasing the importance of blended finance for ending hunger, food insecurity and malnutrition.

The Nutritious Foods Financing Facility (N3F) expects to be an example of how blended finance can support the attainment of SDG 2, taking into consideration the cost and affordability of healthy diets. Focused on sub-Saharan Africa, N3F's objective is to mobilize financing flows into agrifood SMEs that process and produce safe and nutritious foods (**Pathway 4**). Its structure, comprising multiple capital tranches, is expected to attract a wide range of actors, from those with a high risk-taking and catalytic profile to short- and long-term investors. While many financing actors have a focus on climate, smallholder farmers or sustainable agriculture, focusing on midstream SMEs contributing to healthy diets and positive nutrition outcomes is quite new, and may be perceived as risky due to the complex landscape. The support of different public and private actors, including government donors (United States Agency for International Development) and philanthropic foundations (Rockefeller Foundation), in addition to the technical background of the Global Alliance for Improved Nutrition, has allowed N3F to reduce the perception of risk among private investors.[36, 83]

Another recent example of blended finance applied to food security and nutrition is the Africa and Middle East SAFE (Scale-up Agriculture and Food systems for Economic development) Initiative, launched at the end of 2023 at the Twenty-eighth Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28) by the leading DFIs from Africa and the Near East. The objective of the initiative is to mobilize USD 10 billion to develop climate-smart agricultural investments that can contribute to food security and economic growth (**Pathways 2 and 3**). Contrasting with the above example, the initial investment opportunities identified are related to staple foods – rice in Senegal and wheat in Ethiopia – with the objective of increasing the domestic production of these crops and, therefore, reducing the import bill for staple foods.[84]

Nevertheless, an open question is the effectiveness of this financial approach. Evidence has shown that the leverage ratio (the additional amount of financing flows mobilized) of traditional blended finance instruments is lower than expected for LICs, where the total amount of blended finance instruments (particularly concessional debts and guarantees) of every US dollar from a DFI or national development bank has mobilized only an additional USD 0.37 from private commercial sources. On the other hand, LMICs show different results, mobilizing slightly more than the invested US dollar (a ratio of 1:1.06), while the leverage ratio falls again in UMICs to USD 1:0.65. These numbers may imply lowering the expectations regarding the amount of money that blended finance can mobilize.[34, 85] In addition, the most recent data show that the overall volume of blended finance operations decreased by about 45 percent in 2022, reflecting the key macroeconomic and political challenges that the world – particularly LICs and MICs – is facing.[86] However, it is important to consider blended finance results not only from a resource mobilization perspective but also in terms of other "additionalities" beyond resource mobilization,[34] i.e. the achievement of an outcome that would not have been reached without the inflow of the financial resources, for example, the diversification of financial intermediaries.[67]

Multilateral Financial Institutions (MFIs) can play a lead role in enhancing blended finance's mobilization of resources.[as] Nevertheless, playing that role would imply achieving a delicate

ar When unbundled by food value chain stage, most resources were channelled to food value chains upstream, followed by the processing phase of the midstream stage. Most of these investments were in sub-Saharan Africa.[82]

as For more details, see **Section 5.3**.

balance: They should take a greater risk to unlock other commercial private flows, but not so great that these are crowded out.[67, 87] One example is the Rural Kenya Financial Inclusion Facility Project, a USD 142.6 million project that aims to provide catalytic financing and technical assistance to support the financial inclusion of 190 000 rural Kenyan households. The project combines the capacity building of local commercial banks, MFIs and deposit-taking savings and credit cooperatives, alongside training for potential borrowers with a Rural Credit Guarantee Scheme and a Green Financing Facility. The project also works with local financial service providers to provide innovative green financing solutions specifically for youth (**Pathway 6**).[88]

In East Africa, the Africa Rural Climate Adaptation Finance Mechanism (ARCAFIM), led by financing institutions including Equity Bank and by Nordic countries, addresses the pressing need to strengthen support for East African small-scale food producers' adaptation to climate change. By integrating blended finance and incentivizing private sector participation, ARCAFIM allocates a total of USD 180 million for climate change adaptation loans, complemented by USD 20 million for technical assistance. Leveraging the expertise and resources of private financial institutions like Equity Bank, ARCAFIM aims to pioneer climate change adaptation financing in the region, enhancing agricultural sustainability and resilience to climate shocks. Through this innovative financing mechanism, ARCAFIM aspires to alleviate poverty and hunger in rural communities by supporting agricultural livelihoods and fostering economic growth amidst climate uncertainty (**Pathway 2**).[89]

Financing instruments for countries with high ability to access financing flows

Green, social, sustainability and sustainability-linked (GSSS) bonds are debt instruments that can be issued by governments, multilateral development banks, commercial banks and local corporates; they are linked with development goals, and can be especially relevant for targeting financing for countries that are affected by some of the major drivers of food insecurity and malnutrition such as climate extremes and/or economic slowdowns (Figure 33C). The global issuance of GSSS bonds has grown markedly since 2012.[90] Nevertheless, after reaching a peak in 2021, the amount of GSSS bonds issued saw a decrease in 2022, to then recover in 2023,[at] reaching a total amount of USD 981 billion.[91] Among GSSS bonds, **green bonds** are those where proceeds go to financing climate and environmental projects and initiatives, and they are the main instrument used for sustainable climate finance. Green bonds are also predominant among all other kinds of GSSS bonds, representing 74 percent of the total amount of GSSS bonds issued by the private sector in 2023, while for the public sector these bonds are also the most prevalent, but to a lesser extent; for instance, in the period from 2021 to 2023, green bonds represented on average 45 percent of the total GSSS bonds issued.[92] It should be noted that from 2012 to 2022, the issuance of GSSS bonds was largely dominated by HICs,[au] which accounted for 71 percent of the total issuance. However, when considering only green bonds, China has become the country that issues the majority of this kind of instrument.

In Latin America and the Caribbean, since at least the 2010s, several governments have enacted regulatory frameworks and policies to promote green finance tools, including green bonds, and as a result the issuing of green bonds has increased, in terms of both the number of countries and the value of the bonds.[93] For example, in Mexico, Trust Funds for Rural Development, an agricultural development finance institution under the Bank of Mexico, issued three green bonds to a total value of USD 400 million (as at 2023) to finance sustainable agriculture projects, water efficiency investments, and renewable energy and energy efficiency projects (**Pathway 2**).[94]

One important incentive for issuing green bonds is that they show high returns relative to conventional emerging market bond indices.[70] However, in some cases, the premium paid for these bonds might be larger than that for "regular" bonds for LICs and LMICs.[95] In addition, there is the risk of green bonds being

at There are different sources reporting the amount of GSSS bonds issued, and they all differ in their calculations. Therefore, please refer specifically to the source cited for each statement regarding GSSS bond amounts, and do not compare them with other sources.

au "Developed markets" in the original publication.

used for "greenwashing" of private companies,[70] which means that even if companies use these instruments, they do not necessarily adopt more sustainable practices over time.[96]

Social and sustainability bonds do not represent a large portion of the GSSS bonds issued by the private sector, but they are relevant for the public sector, accounting on average for, respectively, 29 percent and 26 percent of all GSSS bonds between 2021 and 2023.[92] On the other hand, **sustainability-linked bonds** have only been issued recently by the public sector and represent just 1 percent of the total issued in the triennium from 2021 to 2023,[92] but their role may become more important in the coming years. For example, in 2023, the Development Bank of Rwanda (BRD) issued, for the first time, a sustainability-linked bond.[av] The bond is backed by an escrow financed by the World Bank through concessional finance and allows the BRD to mobilize financing flows to finance projects oriented to one of the three main objectives of the bond: i) improving environmental, social and governance (ESG) practices; ii) increasing access to financing for women-led projects; and iii) financing the building of affordable housing (**Pathway 6**). If borrowers meet certain performance indicators related to at least one of the three objectives, they are rewarded with lower interest repayments.[97]

While for the private sector, the use of the proceeds of the GSSS bonds issued is mostly oriented towards renewable energy projects, energy efficiency and green buildings, for the public sector the priority is largely social expenditure, followed by biodiversity conservation. Interestingly, the share of proceeds related to agriculture is very minor, representing only 1 percent of total public sector expenditure (and 0 percent of private sector expenditure).[92]

Multilateral Financial Institutions have also started to use bonds to raise funds from capital markets. For example, in 2022, two private placements were settled under IFAD's Sustainable Development Finance Framework. These bonds are sold to investors with a strong ESG corporate profile who generally support transforming agriculture, rural economies and agrifood systems. The proceeds of the bonds are used to finance development projects through loans to borrowing countries. On such loans, borrowing countries pay a market-based rate that allows IFAD to pay a commensurate coupon to the investors. The first two private placements were bought by Folksam, a Swedish insurance and pension fund, for USD 100 million, and Dai-ichi Frontier Life, a provider of savings-type life and pension insurance, for USD 50 million.[98]

Results-based funding (RBF) consists of financial instruments linked to the achievement of certain results (Figure 33C). For example, **impact bonds** are outcome-based instruments that provide capital to an activity with specific and measurable outcomes. The repayment to the investor is linked to the achievement of these outcomes; in most cases, failure to reach the outcomes leads to a loss, while in some cases, the bond is designed to provide an additional payment when outcomes are reached.[99–101] On the other hand, **impact-linked finance** describes all private financial activities that are linked with rewards for achieving positive social outcomes. These instruments have been used in both the health and the agrifood systems sector. For example, through the Global Partnership for Results-Based Approach project in Ghana, an RBF grant was used to stimulate demand for urban household sanitation, attracting larger contractors to supply toilets to low-income communities as well as financial institutions to enter the market.[102] From an agrifood systems perspective, a project has been financed by the Impact-Linked Fund for Eastern and Southern Africa via an impact-linked loan to encourage the company to engage with more women farmers throughout the value chain, and as such, lower the interest rate of the loan (**Pathway 6**).[36] Another example is Aceli Africa, a market incentive facility that offers results-based financial incentives to domestic lenders in Kenya, Rwanda, Uganda and the United Republic of Tanzania. Without these incentives, local lenders could refrain from providing loans to agrifood SMEs. Supported by donors, this facility provides various incentives, including origination incentives for domestic lenders to cover the cost of extending loans of between USD 25 000 and USD 500 000 to agrifood SMEs in remote areas or of supporting the production

av More precisely, it is the first bond ever issued by the BRD.

of local food crops (**food availability**); impact bonuses for loans extended to agrifood SMEs meeting higher standards in environmental and social performance, gender inclusion, food security and nutrition (**Pathway 6**); partial loan guarantees for loans between USD 25 000 and USD 1.75 million; and technical assistance to agrifood SMEs and capacity-building support to domestic lenders.[58]

Incubators and accelerators provide funds to projects that are in an early stage of development with the objective of consolidating them in the long term (Figure 33C). For example, in Cameroon, the Youth Agropastoral Entrepreneurship Promotion Programme provides comprehensive support to young entrepreneurs, including 100 percent subsidized education, blended financing, and coaching for business start-ups. The blended financial mechanism incorporates young entrepreneurs' own capital, a start-up loan with no interest, and productive credit. A one-off subsidy from the project, in the form of a starter kit, facilitates the installation of young entrepreneurs and encourages the development of existing activities (**Pathway 6**). Impact assessment findings show that the project impact on food security is positive. About 59 percent of the beneficiaries have achieved minimum dietary diversity for women aged 15 to 49 years. The impact on gross annual income shows a 48 percent increase in total annual income. This represents an increase of approximately USD 1 500 in total gross household income per year. Youth enterprises supported by the project have an average profit margin of about USD 3 000 with an annual growth rate of 38 percent between 2016 and 2022.[103]

All countries must address the current failure of agrifood systems by investing domestic resources to address the major drivers of food insecurity and malnutrition. The creation of **impact investment funds** can support the mobilization of financing for this objective from a public–private perspective (Figure 33C). United Nations Trade and Development (UNCTAD) estimated that, by 2022, more than 7 000 sustainable funds existed, and they accounted for USD 2.5 trillion (a drop from USD 2.7 trillion in 2021). A large part (83 percent) of the global sustainable fund assets were managed by European countries, followed by the United States of America (12 percent) and China (2 percent).[104]

One other example, the Child Nutrition Fund (CNF) is a new financing instrument designed to transform the way the world addresses child wasting. The Match Window of the CNF offers national governments the opportunity to match domestic resources for essential services and supplies. Since its launch in 2021, the Match Window has supported over a dozen countries across Africa and Asia, including Cambodia, Ethiopia, Eswatini, Kenya, Mauritania, Nigeria, Pakistan, Papua New Guinea, Senegal, Sierra Leone, Timor-Leste, Uganda and Zambia. In 2023, the CNF's Match Window deployed over USD 9 million in matched funding primarily for the procurement of ready-to-use therapeutic foods for the treatment of child wasting. The single largest recipient of this matched funding in 2023 was Pakistan (USD 5.9 million), followed by Ethiopia and Uganda, both receiving around USD 1 million in matched funding. In Pakistan, the CNF also concluded the first match for multiple micronutrient supplements for women, matching over USD 300 000 in domestic resources from Punjab Province. In 2024, the CNF Match Window is expected to match over USD 15 million and enter the first of a series of multi-year matching partnerships with national governments to increase government investments in nutrition to foster greater sustainability of nutrition financing.[105]

However, sometimes these funds, as well as many of the financing instruments discussed in this section, are not available due to the lack of technical capacity of enterprises that could be potential recipients of the investments. For example, this is often the case with agrifood SMEs in LICs and MICs.[106] Yoking financing to activities to improve the recipients' access to financial services can make a difference in turning the increased financing flows into impactful investments for food security and nutrition. If the population most in need does not receive adequate financing, not only will meeting SDG Targets 2.1 and 2.2 not be possible, but neither will achieving other objectives such as SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities).

Increasing financial inclusion and equality within countries

Not only financing, but also financial inclusion is among the means of implementation to achieve all the SDGs.[107] Even if financing for food security and nutrition could be scaled up using the innovative instruments described above, within countries there are population groups that have historically faced important constraints in accessing financial services. This section provides examples for some of the population groups; however, this does not exclude the recognition of several other segments in situations of vulnerability and marginalization, for which adequate policies are also necessary.

Women play a key role in agrifood systems, representing 37 percent of rural agricultural employees at global level and 48 percent in LICs.[60] However, while 78 percent of men had access to a bank account of some kind in 2021, for women the figure was only 74 percent – a 4 percentage-point gap that, for LICs and MICs, increases to 6 percentage points (74 percent for men, 68 percent for women).[108] The gap can be even wider at the country level, considering access not only to bank accounts but also to other financial services. For example, in India, while the account access gap was successfully closed between 2017 and 2021, there remains a 5 percentage-point gap in access to borrowing and a wider 13 percentage-point gap regarding the use of banking accounts for saving purposes.[109] **Increasing women's access to financial services** would not only contribute to women's social and economic empowerment, but it would also improve the overall livelihoods of their households and communities, including food security and nutrition outcomes[110] (Box 14). From a macro perspective, women's inclusion would bring overall positive economic growth effects,[111] which could increase the country's resilience to economic slowdowns and downturns.

There are cases in which the financing tools described in the previous section include gender considerations (**Pathway 6**). For example, the Asian Development Bank issued 14 gender bonds (for a total of USD 3.6 billion) up to 2023 through its gender thematic bond programme, which mobilizes financing towards projects aimed at narrowing gender disparities and promoting the empowerment of women and girls.[112] In Morocco, a private bank (Banque Centrale Populaire) issued a bond of USD 20.4 million to finance women-led projects through microleasing, a sound alternative for increasing women's access to financial services[113] (see Box 14).

Indigenous Peoples face limited access to financial services not only in LICs and MICs but also in HICs like Australia and Canada. Indigenous Peoples often live in remote rural areas and possess no or little collateral, leading financial institutions to perceive that the challenges of providing services to these communities may outweigh the benefits.[115–117]

Despite the wide recognition that Indigenous Peoples are indispensable partners for reaching the targets of the Paris Agreement, the Global Biodiversity Framework and the 2030 Agenda for Sustainable Development, the corresponding funding strategies do not necessarily reflect their crucial role. It is estimated that most funds targeting Indigenous Peoples and local communities are channelled through indirect funding modalities. For example, only 7 percent of funds disbursed under the USD 1.7 billion COP26 pledge to advance tenure rights and forest guardianship of Indigenous Peoples and local communities went directly to their organizations.[118] Thus, the ongoing global discussion on improving direct financing to Indigenous Peoples for their self-driven development remains paramount (see Box 15).

Access to financing by agrifood value chain actors is very different depending on their characteristics. While large commercial agricultural producers have relatively easy access to loans and capital, smallholder farmers and agrifood SMEs face many challenges in accessing financing due to their lack of collateral, a financial track record or even a bank account.[81] The lack of access to financial services can also diminish the potential contribution of **smallholder farmers and agrifood SMEs** to achieving food security and improving nutrition, for instance, by limiting their capacities to offer safe and nutritious foods (see Box 16).[123]

BOX 14 CLOSING THE GENDER GAP IN ACCESSING FINANCING FLOWS AND SERVICES

The structural constraints that women face to access financial services require the adoption of an inclusive and gender-transformative approach* that takes their different backgrounds and needs into account, as well as the differences between women themselves, related to age, ethnicity, health and disability status, among other social factors.[109]

A main underlying cause of gender inequalities is women's common lack of the traditional collateral required to access credit, as they are less likely than men to own land, which makes them less attractive clients for formal financial institutions. For example, **group-based approaches** can enable asset-poor women to use social collateral instead of physical collateral for accessing credit. Commonly adopted by microfinance institutions, this approach allows women to use a group's joint liability as collateral for accessing credit. Nevertheless, one of the limitations of this approach is that it usually provides short-term credits that do not allow women beneficiaries to make major investments.[110, 114]

Some countries have promoted the use of **movable collateral** such as jewellery or livestock units, in opposition to the usual request for fixed assets. For example, the establishment of public movable collateral registries can reduce the risks of using movable goods as collateral. For agricultural producers, warehouse receipt finance is an approach where the stored production is used as collateral for accessing credit and can be sold later when prices are more convenient.[114]

Microleasing is another promising approach in which collateral is not required since the microfinancing institution retains full ownership of the asset until the payment is completed, giving women the opportunity to purchase capital goods and, therefore, access other sources of financing. A microleasing approach can be more convenient than microcredit for women; for instance, since microleasing is linked to a specific capital good, women can trust that it will not be expropriated or used by other household members for non-business-related expenditures.[114]

Mobile money has had a positive impact on women's financial inclusion, changing their financial behaviour and increasing their engagement in savings and budget planning, contributing to their economic empowerment.[60]

However, these measures should be implemented jointly with initiatives for tackling inequalities and gender norms that prevent women from participating in economic activities. This implies addressing the structural barriers to women's empowerment and gender equality, by giving equal access to productive resources, services, local institutions and decent employment, supporting their engagement in planning and decision-making, and strengthening technical skills and financial literacy. It also requires overcoming discriminatory social norms and rules and changing financial behaviour within households and communities. Otherwise, the increased levels of access to financial services will not be effective in the long term.[109]

NOTE: * Understood as an approach that addresses the root causes of gender discrimination; specifically, a gender-transformative financial approach means enhancing women's empowerment, improving negotiation dynamics and establishing adequate regulatory and sociocultural norms.[109]

Agrifood SMEs are critical for rural economies.[125] They are often value chain actors that create opportunities and benefits for smallholder farmers through sourcing, processing, packaging, transporting and selling food to consumers.[126] Despite the vital role of these SMEs in agrifood systems, they are often underserved, as investors are reluctant to finance local market producers in local currency as they wish to avoid risks associated with exchange rates, and prefer to serve more export-oriented SMEs. Local lenders need to fill this gap but are hesitant to participate in these markets due to the high risk. Small lenders, such as microfinance institutions, often provide too little financing, while commercial lenders may find it too risky to lend to agrifood SMEs.[127] Providing access to appropriate financing and complementary investments enables agrifood SMEs to offer economic opportunities in rural and urban areas alike. Through backward and forward linkages, the multiplier effects of these agrifood

BOX 15 THE INDIGENOUS PEOPLES ASSISTANCE FACILITY

The Indigenous Peoples Assistance Facility (IPAF) is an innovative funding instrument that Indigenous Peoples' communities can use to find solutions to the challenges they face. It finances small projects that foster the implementation of self-driven development projects based on the demand expressed by Indigenous Peoples themselves.[119] Several IPAF-funded projects have enabled Indigenous Peoples' communities to improve their food security and nutrition and strengthen their agrifood systems by promoting sustainable food production, traditional agricultural systems and techniques, and by reviving Indigenous Peoples' knowledge. Projects have addressed food security with a holistic perspective while also trying to protect biodiversity, natural resources, traditional cultures and Indigenous Peoples' rights. For example, through an IPAF project implemented in Argentina (2018–2021),[120] the Mapuche Cayún community was supported to improve food security at community level. In addition to generating a surplus to be sold to the market and reinforcing economic links with other Mapuche communities, the project helped promote the importance of diet diversification, traditional cuisine and medicinal herbs in the communities (**Pathway 6**).

Another project implemented in the Plurinational State of Bolivia[121] aimed to address the negative effects of El Niño and La Niña, which have caused considerable economic losses for Guaraní Indigenous farmers due to droughts and frosts in the municipality of Yacuiba. The project focused on improving agricultural practices through the revival of traditional knowledge and participatory learning practices such as Farmer Field Schools. It covered a wide range of activities such as training on traditional production techniques and organic farming, irrigation techniques, natural resources management, and nutrition, food security and traditional food and recipes (**Pathway 6**). As a result, 57 households were able to set up 55 agroecological and three communal gardens. In Colombia, an IPAF project[122] specifically focused on the preservation and promotion of potato varieties with great potential to both improve marketing as well as food security and nutrition of Pastos Indigenous communities in the territory of Gran Cumbal. The project conducted research and identified over 36 varieties of native potato and five select varieties with great production potential. Furthermore, it established seed banks and promoted traditional techniques for organic potato production ("shangra"), sowing, cultivation, harvesting and storage in experimental units covering a territory of 15 hectares (**Pathways 4 and 6**).

These examples show that a key characteristic of IPAF projects for food security and nutrition is their focus on promoting and reviving traditional foods as they provide a variety of nutrients, enhance dietary diversity, and increase the adaptability to climate change. In 2023, 18 new projects worth USD 1.2 million were approved, to be implemented by Indigenous Peoples' communities and their support organizations in 13 countries in Latin America and the Caribbean.

SMEs can support the achievement of SDG Targets 2.1 and 2.2, as well as the overall rural transformation objectives.

For instance, in Cambodia, the Accelerating Inclusive Markets for Smallholders project develops and promotes linkages among small-scale producers, off-takers and service providers.[128] It develops a value chain innovation fund, which will provide direct financial support to stimulate private investment in high-value agriculture. Also, the project organizes multistakeholder platform events and offers business literacy training (**Pathway 3**).

As at December 2023, the project had supported more than 78 000 households across more than 1 900 producer organizations. In addition, more than 3 000 multistakeholder platform events had been organized, and a credit line of more than USD 6 million disbursed to agricultural cooperatives, SMEs and agribusinesses.[129]
In Uzbekistan, the Dairy Value Chains Development Project was co-financed by the Government of Uzbekistan, domestic financial institutions and project participants. It promoted development of dairy value chains by increasing productivity, competitiveness, income, and market access to small-scale producers and

BOX 16 INNOVATIVE SOCIAL IMPACT INVESTMENT FUND IN UGANDA

The Yield Uganda Investment Fund was established in 2017 by the European Commission through the National Social Security Fund. It was set up as a Ugandan company partly to support financial sector development. Most similar funds are registered in countries like Mauritius, which brings clear advantages to the investors in terms of smooth transfer of funds, taxation and the resolution of potential disputes.

The fund invests in companies that offer social impact with financial returns. A business development facility improves the companies' operational processes and addresses environmental and social impact and governance. To date, the fund has made 13 investments in Uganda worth over EUR 12.9 million.

Experience has confirmed the findings of the initial market study done by the European Commission that many agrifood small and medium enterprises (SMEs) in Uganda are constrained by a lack of adequate capital to fuel their growth.[124] Financial institutions' terms are too expensive, require a lot of collateral or have repayment schedules not in line with the company's business plan. It is essential to the business ecosystem that small agribusinesses access this capital in order to grow, creating demand for smallholder farmers' produce, which will in turn provide more opportunities in their communities and drive sustainable rural transformation.

Having a Uganda-based fund manager is a major advantage in different ways. First, a local presence and informal networks in the sectors allows the fund to identify risks associated with the investments that would have been extremely difficult to discern otherwise. Their proximity to the SMEs allows them to build a closer partnership with the promoters who get to benefit from continuous capacity support from the fund manager.

Agricultural technical assistance plays an important role in mitigating risk and boosting confidence for financial institutions involved in smallholder financing. It ensures that other constraints hindering the growth of SMEs are addressed to create the right enabling environment. Technical assistance linked to investment vehicles is ideal, providing more flexibility for companies and supporting pipeline development effort for the funds. For the Yield Uganda Investment Fund, this cost-sharing facility is helping companies tackle environmental, social and governance gaps, build or extend their smallholder farmer networks, obtain important certifications, and improve their operational efficiencies.

commercial dairy farms. It offered capacity building, training and financial support in the form of credit lines to dairy processing enterprises for production and processing activities (**food availability and Pathway 3**). Findings from the project's impact assessment show that credit provided by the project increased recipients' total income by 36 percent. More specifically, credit led to an 84 percent increase in livestock income, a 55 percent increase in crop income and a 27 percent increase in agricultural wage income.[130] Among those who received the credit, milk sales increased by 41 percent, and the share of milk sales in total production was 13 percent higher. Food security was found to be 26 percent higher in households that received the credit compared to households that did not.

In addition, for both smallholder farmers and agrifood SMEs, supply chain innovations can be adopted to reduce the barriers to access financing flows in a timely manner. For instance, contractual arrangements between agrifood supply chain actors can enable suppliers to access transaction funds faster and under favourable terms. One example of this is long-term contracts signed between the dairy industry and producers in Northern America and Europe, which involve price agreements that stabilize producers' profits and allow them to access credits and other financial tools.[131] Warehouse receipts are another instrument that, even though not new, have not yet been fully adopted by smallholder farmers. These receipts allow farmers to store their production surplus and sell it later, when prices are higher, and use it as collateral for accessing credit. However, the cost involved could be high and/or the

crops targeted may not be the most adequate for implementing this instrument. Increasing price premium and/or lowering the cost of storage in warehouses should be considered for making this instrument attractive in LICs and MICs.[132] Invoice discounting is a mechanism for suppliers to instantly obtain the value of their invoice, thereby replenishing working capital for further operational arrangements. Smallholder farmers often sell through cooperatives and aggregators, who likewise fall short of working capital to pay the farmers immediately. To remedy this, in India, for example, Mastercard works with M1xchange, an entity that facilitates discounting and the sale of receivables to banks and non-banking financial companies, bringing on board a wide range of lenders for agrifood SMEs to better access credit and working capital (**food availability**). By leveraging digital platforms, farmers and cooperatives within this initiative have access to both buyer and lender, thereby increasing the business velocity both ways and being paid instantly.[133]

For several countries, remittances can be a significant component of financing flows for food security and nutrition, but a low share is invested in agrifood systems, while the lion's share supports food consumption (see **Chapter 4**). Most of the time these resources are received by low-income households in LICs and MICs, and evidence has shown that they could improve the food security and nutrition of the recipient households.[aw]

Bringing **remittances** to the formal financial system can increase its impact at the household and community levels. As shown in **Chapter 4**, cross-border remittances have grown every year except 2020, and nearly half of the flows sent between 2017 and 2022 were allocated to uses that likely contributed to food security and nutrition, such as food consumption, but much less was destined for investment in agrifood systems. For instance, the Platform for Remittances, Investments and Migrants' Entrepreneurship in Africa (PRIME Africa) supports the reduction of transaction costs of remittances and the inclusion of the recipients in the financial system.[136] In an effort to connect the largest economies in Africa – i.e. the East and the West – Access Holding, the parent holding company of one of the major banks on the continent, announced a partnership with key telecommunication operators, financial services providers and mobile money/digital payment operators to enable remittance across this East–West corridor (**Pathways 3 and 6**). Such an initiative will reach 60 million customers and 5 million businesses across more than 20 countries on the continent. In 2023, remittances to Nigeria accounted for 38 percent of the USD 58 billion remittance flows to the region, growing by 2 percent, while Ghana and Kenya posted estimated gains of 5.6 percent and 3.8 percent, respectively. In Tajikistan, an FAO pilot implemented a cash-matching grant scheme, which matched every US dollar of every remittance that beneficiaries invested in agribusinesses. Implemented jointly with technical assistance, the pilot allowed beneficiaries to scale up agribusiness investments and employment generation.[137] And yet, the remittance effect regarding improving food security and nutrition is mixed: Remittances contribute to improved consumption patterns, the average value of food products, and the accessibility of dietary energy supply, but their influence on nutritional quality and dietary diversity remains inconclusive.[138] Nevertheless, remittance inflows support access to essential food items, particularly during periods of escalating food prices.[139, 140] ■

aw For example, in the Bolivarian Republic of Venezuela[134] and in rural households in Mexico.[135]

5.3 HOW TO ACHIEVE BETTER ALIGNMENT WITH AND SYNERGIES IN DIFFERENT SOURCES OF FINANCING

The complexity of the financing landscape for food security and nutrition

Agrifood systems are currently not delivering the necessary outcomes to achieve food security and end all forms of malnutrition, and they are also creating several environmental, social and economic costs. **Chapter 4** of this report showed that not bridging the financing gap to meet SGD Targets 2.1 and 2.2 can cost trillions of USD, making it crucial to adopt investment practices that take climate, health, social and environmental risks into consideration.[141] However, this might not be possible if the financing architecture is not designed to become a critical means to facilitate the achievement of these development objectives.

The current financing architecture for food security and nutrition is highly fragmented: The lack of consensus about what should be financed and the different objectives among stakeholders have led to a proliferation of actors that often step outside their mandates instead of collaborating among them.[34] Bilateral donors often choose to engage in their own aid activities, rather than channelling this through multilateral organizations. This results in many small, uncoordinated aid activities, driven principally by bilateral donors. For instance, in 2018, 73 percent of agriculture official development assistance was bilateral, while multilateral aid accounted for 27 percent in the same year (a reduction of 3 percentage points compared to 2013), which, without adequate coordination among actors, can lead to competition and inefficiencies[35] (more details in **Chapter 3**). In the period from 2000 to 2020, and particularly since 2010, the emergence of multi-bi ODA (earmarked funds whose management is entrusted by bilateral donors to multilateral institutions) has been observed with a gradual reduction in bilateral ODA.[142]

While considering a complex, multisectoral objective such as achieving food security and improved nutrition, the lack of coordination can be even more important. Many sectoral investments can influence hunger, food insecurity and malnutrition, but often this is not recognized. For example, two key areas for meeting SDG Targets 2.1 and 2.2 – humanitarian and development actions – are often planned, funded and implemented separately.[34] In a financial landscape where several development objectives are competing for scarce financing flows, the current financing architecture is failing to embed food security and nutrition into broader development objectives.

At the country level, the high number of uncoordinated projects is causing high transaction costs and hindering the pursuit of common SDG objectives. The competition among many actors with similar mandates for funds provided by a small group of donors is detrimental, compared to a situation of fewer actors with differentiated mandates.[35] For instance, while in 2009 most of the countries engaged with between 61 and 100 different donors, in 2019 the majority engaged at least once with more than 100 donors. The number of bilateral donors increased from 25 in the period between 2000 and 2004 to 43 in the period from 2015 to 2019, and the number of agencies from these bilateral donors increased from 145 to 411 in the same period. Multilateral donors have also increased from 46 to 91 agencies, banks, funds and other institutions. In total, the number of every kind of donor increased from 191 in 2000 to 502 in 2019.[142]

Some studies have found that fragmentation of development financing can be associated with lower economic growth rates[143–145] and lower levels of accountability that can lead, potentially, to corruption in recipient countries.[146] On the other hand, fragmentation can also lead to efficiency gains by encouraging the specialization of agencies and funds, promoting competition among donors to enhance efficiency and encouraging innovation, while this competition can also increase the bargaining power of recipient countries (as there could be several donors interested in a single problem and/or country).[142]

Fragmentation can also imply shifting priorities and competition – instead of cooperation – among donors, data scattered across different sources and methodologies, lack of alignment with country priorities and plans, and a marked preference for financing projects instead of programmes, implying a high number of small bilateral projects in recipient countries, which can lead to high transaction costs and inefficiencies.[35]

Evidently, donors (which include governments, international financial institutions, multilateral development banks, development finance institutions and philanthropic foundations) play a crucial role in the current financing architecture. For instance, they are involved in most of the blended finance transactions and provide funds for intermediary organizations[ax] for investing in small-scale projects.[148]

Among them, philanthropic foundations are important stakeholders in the financing architecture for food security and nutrition. Compared to private investors, philanthropic foundations have more chances to focus on impacts than on financial returns and are more tolerant regarding the risks that are often part of development finance. Leveraging patient capital[ay] from philanthropic foundations can be a game-changer approach for supporting social enterprises, creating solutions to the problems of hunger, food insecurity and malnutrition, and for making the necessary infrastructure investments in LICs and LMICs to address some of the major drivers of food insecurity and malnutrition. Philanthropic foundations are uniquely placed to be catalytic, acting as early risk-takers and showing that investing in food security and nutrition may not be as risky as it seems. While the growing interest from philanthropic foundations in financing instruments as blended finance is encouraging, the way in which many foundations are organized can limit their role to simply delivering grants and development projects. For example, few foundations are organized to deliver equity, which is important for early-stage partnerships, and they are not prepared to receive money back.[148]

Nevertheless, one of the greatest challenges probably lies in addressing the current fragmentation of the financing architecture for food security and nutrition. Increased coordination between large, medium and small stakeholders should be encouraged, as sometimes large donors do not coordinate with or co-finance activities led by other minor actors, since there are no incentives to do so. In addition, there is a crucial need for donors to align their spending priorities with countries' priorities: Since the current architecture is extremely dominated by HICs and large development agencies, the priorities of recipient countries and communities are not always considered.[34]

An important challenge faced by many recipient countries of ODA, other official flows (OOF) and other development finance flows is their relatively minor role regarding how development finance is planned and implemented.[az] In fact, discussions about how to shape financing architecture have revealed differences between the vision of some HICs, which have traditionally led the development finance discussion, and that of some LICs and MICs. For instance, an analysis of the positions in the 2015 Conference on Financing for Development in Addis Ababa found that, while certain HICs have promoted a greater role for the private sector and a vision of national governments as "enablers" for mobilizing private financing flows, some LICs and MICs have argued in favour of enhancing the role of governments to make sovereign decisions about their development strategies.[ba, 152] The mismatches about how to build solutions could affect the necessary coordination and integration of actors towards a less fragmented financing

ax An intermediary organization, in the context of blended finance, is a facilitator that channels funds from various sources into specific projects oriented to de-risk further financing.[147]

ay Patient capital is a long-term investment approach in which providers aim to capture benefits in the long term rather than the short term.[149]

az These differences are not only noticed between countries but also within countries, as there are also important imbalances in the representation of certain population groups. For instance, women are clearly under-represented in the financing architecture. In 2021, women represented only 21 percent of the boards of financial services institutions worldwide.[150, 151] While **Section 5.2** made a call for increasing women's access to financial services, it is equally important to fill the gender gap in the financing architecture, increasing the participation of women in leadership positions.

ba In the source, HICs and large development agencies are called the "Global North", while other countries and smaller stakeholders are the "Global South".

architecture for food security and nutrition, making essential the achievement of agreements among all kinds of actors, regardless of their size.

Certainly, this increased coordination among actors, and the more equal integration of LICs and MICs into the financing architecture would require stronger and more solid national governments which, in any case, face several challenges. Political economy issues and unpredictable government decision-making can affect the capacity of alignment between the sources of financing flows and a country's priorities and create a perception of higher risk for private investors. Low-absorptive capacity is also a problem that could limit the potential increases in financing flows for food security and nutrition (see **Chapter 4**); furthermore, the weaknesses of governance mechanisms, institutions and the rule of law not only affect countries' ability to access financing, they can also lead to an extreme concentration of national markets that could undermine the position of key agrifood systems actors as smallholder farmers and SMEs.[34]

It is also important to ensure that at the national level the increased financing flows turn into effective policy solutions for ending hunger, food insecurity and malnutrition. The absorptive capacity and technical efficiency of expenditure (which can have impressive potential gains for some countries as seen in **Chapter 4**, Box 11) are important, but good governance and strong national institutions are also necessary. For instance, in countries highly dependent on ODA and OOF, data suggest that national elites may have been capturing sums of the money received and depositing these in offshore financial centres.[153]

The commercial private sector is without doubt the most important actor in terms of the level of financing flows directed to food security and nutrition. It is often private actors who develop new technologies and innovative financing tools, conceived and ready to be implemented in agrifood markets. Government and donor funding can help get projects started, but these will not be sustainable over time without private capital.[87] From a food security and nutrition perspective, multinational food and beverage corporations can bring investments and new technologies and business practices. On the one hand, this can inspire competition to influence food item pricing, though on the other, it can lead to the development of domestic highly processed food and beverage industries.[154]

As a matter of fact, recent decades have seen a rise in the availability, variety and consumption of highly processed food products across country income and development levels, especially in highly populated LICs and MICs, contributing greatly towards dietary transitions. Nevertheless, the growth in highly processed food and beverage sales is not driven by demand alone. Foreign direct investment, meant to develop economies, has also been associated with dietary transitions and increases in the prevalence of overweight and obesity worldwide. In contrast, there is no clear evidence that such investments benefit undernutrition.[155] So far, most private capital investment in nutrition has focused on stand-alone projects that not only fail to address the systemic and structural determinants of malnutrition, but also divert governments' and stakeholders' capacities and resources away from the enforcement of high-impact public policies.[156] Globalization of agrifood systems, largely driven by trade liberalization and deregulation of domestic markets, has enabled multinational food and beverage companies to more easily enter and drive consumption in emerging markets.

Growth in the highly processed food market has coincided with a rise in the subsidization and production of agricultural commodities representing key low-cost ingredients for such products including vegetable oils (palm, soy and rapeseed), sugars and cereal crops (wheat), a significant proportion of which goes towards the production of highly processed foods.[154] Even those companies whose first business is not the manufacturing of highly processed foods often have a vested interest in the supply of commodity ingredients used in these products. These practices also contribute to the displacement of smaller food producers, with negative impacts on the local economy, biodiversity and access to healthy diets.

Regulations often disincentivize the private sector to finance high-risk investments, such as those related to food security and nutrition, since private investors seek to protect the value of their assets in the long term. However, regulatory changes focused on stimulating financing flows towards investments with developmental benefits can make the investments more attractive,[148] and can reduce the risk of "greenwashing".[100] For example, even if non-mandatory, the EU Taxonomy provides guidance for identifying environmentally sustainable investments and is considered a first step towards encouraging financing towards activities that contribute to the achievement of the European Union's climate and environmental goals.[157]

In addition, it is important to close the gap between the risk that all financial stakeholders – especially private sector investors – perceive, and which is often very high, and the actual likelihood of that risk happening. This high risk perception also disincentivizes the financing of initiatives that could create further development opportunities.[148] Even stakeholders who accept higher levels of risk, such as philanthropic institutions, donor governments or DFIs, have their own criteria, timelines and reporting standards for delivering grants, which may impede the involvement of commercially oriented private actors.[83] It is crucial to consider environmental, social, and food security and nutrition factors as part of risk assessments to reduce the risk aversion of financial stakeholders towards food security and nutrition, and agrifood systems.[34]

With a focus on development and a private sector approach, social enterprises[bb] have progressively become important stakeholders for financing food security and nutrition, especially for supporting investments at the local level. Given their wide scope, social enterprises are important vehicles for achieving inclusive economic development; they can create income opportunities in areas with poor access to financing, such as distressed urban areas, or remote rural communities.[158] This can be relevant for an area of investment like food security and nutrition, which, as discussed, is rarely a priority for private investors. However, since social enterprises tend to be oriented towards social impact rather than pure profit, most of their resources come from concessional finance funded by donors. The long-term and risk-tolerant kind of capital needed for these enterprises is not easily found in private, profit-oriented investors.[159]

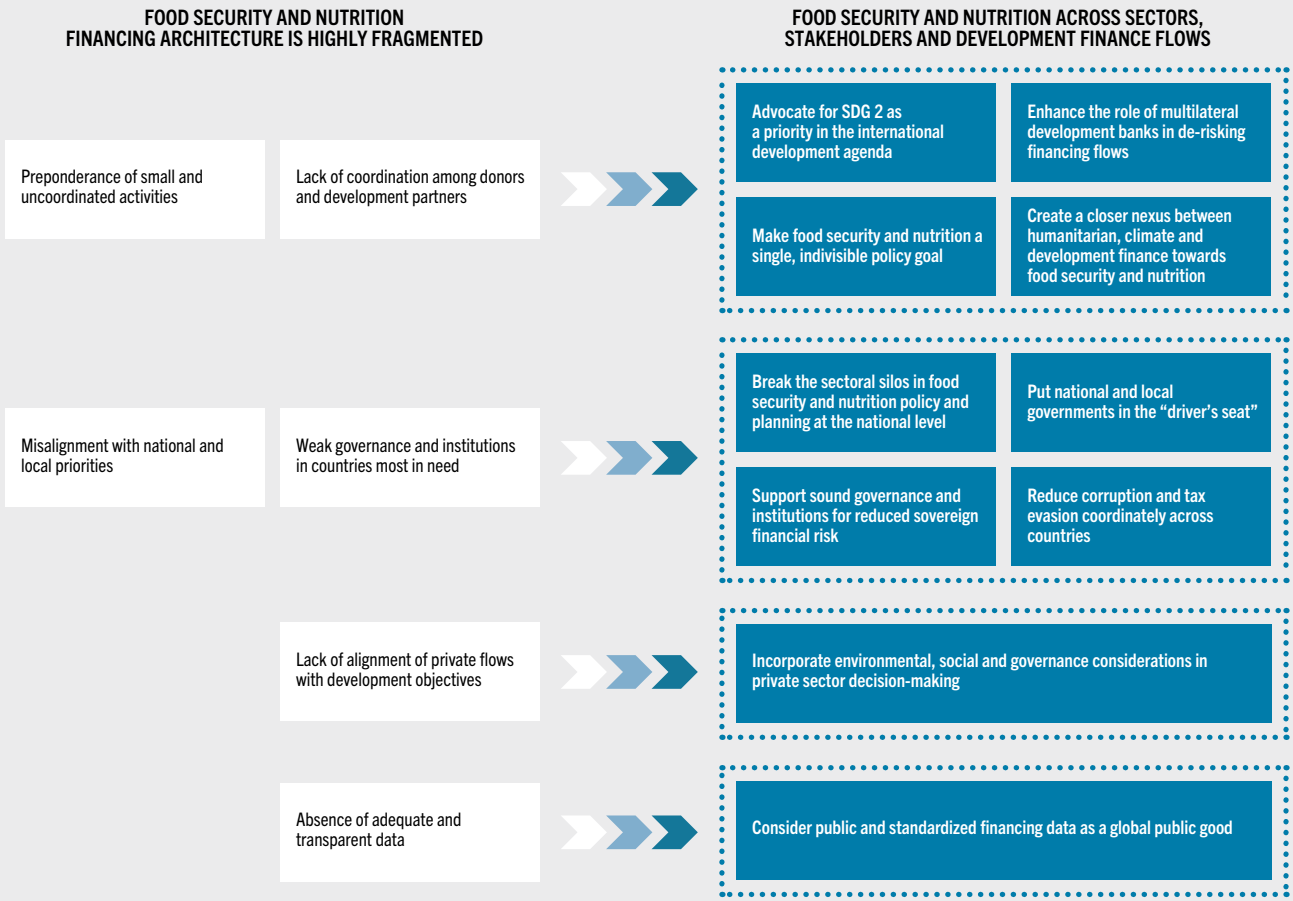
Finally, lack of data, transparency and accountability is another key characteristic of the current financial landscape, and it actually increases the perception of financial risk. Private sector financing is data driven and requires a reliable data infrastructure. Transparency around methodologies and assumptions is needed, as well as timeliness of data. For instance, using "traditional" metrics, food security and nutrition interventions are often considered risky investments, as they have a long return period and lower returns than other sectoral investments. This increases the perception of risk, making the investment unaffordable for recipients. Moreover, this challenge is not limited to the private sector, as the perception that dietary interventions require a long time before health benefits are seen in the population may not align with typically shorter political or budget cycles.[160, 161] Making financial data (including food security and nutrition, agricultural, environmental, health and any other related data) more reliable and widely available could reinforce the "investment case" for food security and nutrition interventions, as is already happening in areas such as regenerative agriculture.[34]

Towards financing architecture for ending hunger, food insecurity and malnutrition

Addressing the issues identified in the previous section will require the implementation of several reforms, summarized in Figure 34. For instance, even before making structural changes in the financing architecture for food security and nutrition, an essential first step for scaling up financing for food security and nutrition is to make the objective of achieving SDG Targets 2.1 and 2.2 a priority in the international policy agenda, which, as analysed in **Chapter 4**, does not seem to be the case, at least considering donors'

bb Private activities whose main purpose is not the maximization of profit but the achievement of development and social goals.[158]

FIGURE 34 RECOMMENDATIONS FOR ADDRESSING THE FRAGMENTATION OF THE CURRENT FOOD SECURITY AND NUTRITION FINANCING ARCHITECTURE FOR ENDING HUNGER, FOOD INSECURITY AND MALNUTRITION



SOURCE: Authors' (FAO) own elaboration.

priorities for ODA and OOF flows. For example, priorities set up by the G7 could have an effect on donors' priorities: When the G7 prioritizes a policy area, more financing flows tend to be directed towards it.[162] Therefore, the role of advocacy is essential: Financing flows can be available, and the most adequate instruments to mobilize these can be identified, but financial stakeholders such as country donors, philanthropic foundations or private sector actors should have a better understanding of food security and nutrition investments, what they mean from both a financial and a development perspective, and what the long-term cost implications of inaction are, discussed in **Chapter 4**. Food security and nutrition is often associated with agriculture only, which most financial stakeholders consider to be a traditional and too risky investment, offering small returns.[34] Adopting a food security and nutrition lens, considering its intersectoral nature (as shown in the definition of financing for food security and nutrition presented in **Chapter 3**) and highlighting the short- and long-term

returns of investing in areas such as nutrition[163] are essential conditions for a successful reform of the financing architecture for food security and nutrition.

For national governments, on the other hand, food security and nutrition should be embedded within broader development and investment plans, breaking the sectoral silos and providing firm signs of commitment to ending hunger and malnutrition, and sending the right signals to all financial stakeholders that investment in food security and nutrition is more than an undertaking in a sectoral, traditional area – it is a high-level objective with benefits that go beyond agrifood systems. Governments can also implement food security- and nutrition-sensitive financial taxonomies[bc] that could inform financial actors about investment activities that can support food security and nutrition and/or support the development of resilience to the major drivers.[100] For instance, in Ethiopia, the government issued the Seqota Declaration in 2015, oriented towards mobilizing resources to implement the national Food Security and Nutrition Strategy. Initially targeted at 40 woredas,[bd] it was recently expanded to 700 woredas, and it includes an annual financial commitment by the central government of EBR 3 billion (Ethiopian birr),[be] plus another EBR 3 billion from local governments. The expectations are to mobilize an additional EBR 6 billion from financial partners to invest a total of EBR 12 billion annually to achieve the declaration's objectives.[165]

Breaking the sectoral silos for the design and implementation of food security and nutrition policies also implies a shift in our conceptual understanding of food security and nutrition. The definition of FINANCE for food security and nutrition (presented in **Chapter 3**) is a call for a holistic understanding of what has been commonly considered two separate notions: food security on the one hand, nutrition security on the other. The term "food security and nutrition" has been used to emphasize the achievement of the four dimensions of food security and its tight link with the achievement of nutrition security, as well as the need to adopt complementary actions to achieve food security and nutrition.[166] Nevertheless, it may be time to recognize the overall objective of achieving "food and nutrition security" as a single indivisible policy goal encompassing also the realization of the right to adequate food. Certainly, the stagnating trends in the reduction of hunger and food insecurity, and the slow pace of progress towards the global nutrition targets, including the increasing prevalence of adult obesity in the world,[bf] are sound arguments to make this call, and can strongly support a better understanding of the importance of meeting SDG Targets 2.1 and 2.2 for all financial stakeholders.

The increased political commitment to meeting SDG Targets 2.1 and 2.2 should be followed, from the perspective of donors, by the creation of a closer nexus between humanitarian, climate and development finance. For instance, agencies dealing with humanitarian issues are in most cases totally different from those managing development activities, with different sources of financing and time horizons; the same distinction can be made between national and subnational governments. Long-term investments should foster sustainable development in food crisis contexts to enable humanitarian assistance to meet immediate needs without being overwhelmed by prolonged emergencies. This approach should ensure proper coordination between humanitarian and development finance, with investments oriented towards addressing the root causes of acute and chronic food insecurity. In countries with ongoing crises and frequent famine risks, where humanitarian aid dominates and development finance is limited, greater coherence is crucial to build resilience to the major drivers of food insecurity and malnutrition.[167]

In addition, climate financing actors have barely considered agrifood systems as a priority; between 2021 and 2022, less than 4 percent of

bc As indicated for the EU Taxonomy for environmentally sustainable investments in the previous section.

bd Ethiopian districts, equivalent to the third level of administrative divisions in the country.

be USD 1 = EBR 57.165.[164]

bf See **Chapter 2**.

climate financing went to agriculture, forestry and other land-use activities.[34] However, another study showed that, even if climate financing for agrifood systems is decreasing, the share focused on food security was slightly increasing until 2021.[168] Regarding nutrition, on the other hand, a recent report shows that climate and nutrition are often not well connected, but that there are many exceptions revealing, in turn, solid linkages between climate and nutrition, which can be streamlined for better coordination and improved results.[1] Both situations create opportunities for strengthening climate–food security–nutrition linkages and reinforcing agreements that are currently in place. For example, in 2017, at COP23, countries established the Koronivia Joint Work on Agriculture, recognizing the important role of agriculture in tackling climate change. In 2022, at COP27, countries agreed on a four-year window (2022–2026) for bringing together the discussions about the linkages between climate, agriculture and food security – the Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security – that makes an explicit call to move from technical discussions to implementation.[169, 170] During COP27, the Egyptian Presidency launched, in partnership with WHO, FAO, the Global Alliance for Improved Nutrition, the Scaling Up Nutrition Movement and the UN-Nutrition Secretariat, the Initiative on Climate Action and Nutrition, a multistakeholder, multisectoral global flagship that focuses on fostering collaboration to accelerate transformative action to address the critical climate–nutrition nexus.[171]

To consolidate the vision of embedding food security and nutrition across sectors and financial stakeholders, a new governance of finance to promote the alignment of financing flows towards collective agrifood systems priorities, such as meeting SDG Targets 2.1 and 2.2, will be imperative.[172] Building this new governance would require recognition of the role that all food security and nutrition financial ecosystem stakeholders have played in building the current fragmentation, and consideration of stronger incentives to avoid it. Nevertheless, it should be noted that for at least two decades the issue of fragmentation has been part of the agenda in high-level political fora.

For example, the Monterrey Consensus in 2002[bg] emphasized the need for donors, countries and international development agencies to increase their efforts to harmonize their procedures at country level, taking national needs and objectives into account. Even if theoretically the principles of coordination are well articulated, putting them into practice has been challenging, especially when considering complex areas of action such as food security and nutrition, and agrifood systems transformation.[173] Stronger multistakeholder leadership at the international level will be key for making food security and nutrition financing coordination work.

One essential step for effective coordination is placing national and local actors and their priorities in the "driver's seat". However, this is not always straightforward, considering, among other challenges, the imbalance of power and capabilities among actors, the lack of donor coordination at the global level that negatively affects coordination efforts at the national level, and the data gap that might make it difficult to build the case for shifting donors' priorities.[173] Nevertheless, there are ongoing efforts to address these issues. For example, the G20 has supported the creation of country-level coordination bodies for specific development goals (e.g. the Development Partners Coordination Group in Rwanda).[35] The experience of joint programme funding at the regional level (e.g. the Alliance for a Green Revolution in Africa) or at the global level (e.g. the Global Agriculture and Food Security Program and the Global Donor Platform for Rural Development) provides interesting examples of pooling resources from different sources towards country-level priorities.[173] Therefore, a requisite for successful coordination is the integration of food security and nutrition financing flows, even if coming from different stakeholders with divergent interests, into the objectives defined by the most legitimate bodies at the regional, national and subnational levels.[142]

bg The Monterrey Consensus was the outcome of the 2002 Monterrey Conference, the United Nations International Conference on Financing for Development in Monterrey, Mexico. It was adopted by heads of state and government on 22 March 2002. The Monterrey Consensus was updated at Doha, Qatar in 2008, and again at Addis Ababa, Ethiopia in 2015 and will be updated again in Madrid, Spain in 2025.

There are other sectors from which food security and nutrition financial stakeholders can incorporate lessons. One important example of coordination mechanisms is the One Health approach, an integrated, unifying approach to balance and optimize the health of people, animals and ecosystems. This approach recognizes that the health of humans, animals, plants and the wider environment are closely interlinked and offers a means to tackle associated threats to the human–animal–plant–environment interface through collaboration and coordination between all relevant sectors and stakeholders involved.[174] This approach makes it possible to harness and integrate expertise and resources from across the spectrum of health domains and other disciplines, and it is a proven approach to policymaking and cross-sector collaboration to prevent zoonotic and vector-borne diseases from emerging and re-emerging, ensuring food safety and maintaining sustainable food production; reducing antimicrobial-resistant infections; and addressing environmental issues to collectively improve human, animal and environmental health, among many other areas. In addition to saving lives and promoting well-being, One Health actions offer important economic benefits. FAO and the World Bank estimate that One Health efforts could bring at least USD 37 billion per year back to the global community, while investing in One Health requires less than 10 percent of this figure. As countries consider investing in health security and other targets (e.g. agricultural production and food security, and healthy ecosystems), One Health can be a particularly relevant concept for country budget allocation among the ministries responsible for security as well as human, animal and environmental health (e.g. in decisions by the finance minister, parliamentary body, or prime minister).[175]

Besides enhancing coordination, financial stakeholders should take steps towards improving their role in scaling up financing for food security and nutrition. As noted throughout this document, food security and nutrition is considered a risky investment for private commercial actors. As a consequence, development partners such as donors, including IFIs, MDBs and DFIs, should take the lead in de-risking activities, for instance, increasing the allocation of ODA oriented to mobilizing private investments, through blended finance or other financing instruments.[35, 81] Considering, on the one hand, that countries with limited ability to access financing rely mostly on concessional finance and, on the other hand, that these financing flows are insufficient to cover the financing gap for meeting SDG Targets 2.1 and 2.2, the shift of ODA flows for mobilizing private finance could be an effective solution for scaling up financing in these countries, which are often affected by one or multiple drivers of food insecurity and malnutrition. Official development assistance can be strategically implemented in UMICs to incentivize the gradual increase in domestic funding by governments, as well as the transition towards more commerce-oriented loans, with the objective of targeting grants and concessional financing to LICs and LMICs.[35]

Multilateral development banks face the challenge of increasing risk tolerance towards food security and nutrition investments and need to put in perspective their contribution to achieving overall development objectives. Recent research found that MDBs' credit rating agencies were overestimating financial risk, which made these institutions more conservative regarding expenditures in high-risk markets.[34] In fact, DFIs are governed by prudential rules and statutes, which prevent them from lending to high-risk projects. Development finance institutions and multilateral development banks receive their capital for shareholder governments and benefit from government guarantees. The backing from governments enables them to receive investment grade credit ratings and thus raise money from international capital markets and provide financing at competitive rates. They also take a portfolio approach to investment and therefore invest in a range of projects with varying risks and returns.[58]

There is a global call for an MDB reform agenda that considers increased resource mobilization not only towards MICs with moderate or high ability to access financing, but also towards LICs[176] that have limited access to financing, higher prevalence of undernourishment, food insecurity and malnutrition, and fewer chances to build resilience to the major drivers. Food and agriculture is considered particularly risky and

with lower financial returns; this has deterred DFIs and MDBs from investing in these sectors. And when they do invest, they tend to take senior debt positions rather than offer much needed first loss financing.[bh, 58]

Multilateral development banks can play a central role in mobilizing private financing towards countries with limited access to financing but, unfortunately, this has not always been the case. However, in 2020, MDBs mobilized a total of USD 168.9 billion, of which a mere USD 15.6 billion were directed towards LICs. In 2021, the total resource mobilization increased (by 44 percent), but the resources towards LICs amounted to only USD 5.2 billion in the same year.[177] Multilateral development banks can leverage their potential access to financing flows to then mobilize them at lower interest rates (or through concessional finance instruments) towards countries with limited ability to access financing. In addition, MDBs can deliver technical assistance to national public development banks, which in turn can make these financing flows available for agrifood stakeholders such as smallholder farmers or agrifood SMEs.[34] Recently, ten MDBs endorsed a document calling for better coordination among these institutions to achieve greater impact in addressing development challenges, including better coordination at the country level and improved actions to catalyse private sector financing.[178] The inclusion of food security and nutrition as one of the six global challenge problems in the new World Bank's evolution process[179] can work as a sign for other MDBs to include the eradication of hunger, food insecurity and malnutrition among their priorities for mobilization of financing flows.

Taking a new approach to reducing the sovereign debt levels in LICs and MICs is also critical. As discussed in **Section 5.1**, debt levels, including debt service, have a major role in determining countries' access to financing flows. While these countries can use concessional finance strategically to reduce their financial risk, it is impossible to fill the financing gap without tapping private sources of capital, which would require addressing issues such as high debt levels. Unfortunately, current arrangements for restructuring sovereign debt are complex and time-consuming, and often result in non-optimal outcomes for borrower countries. In addition, debtors are usually placed in a very vulnerable situation before their creditors.[180] There have been past and current initiatives to address this issue, such as the IMF's Heavily Indebted Poor Countries Initiative,[181] the former G20–World Bank–IMF Debt Service Suspension Initiative (DSSI)[182] and the G20 Common Framework for Debt Treatments beyond the DSSI, launched in 2020.[183] However, especially after the COVID-19 pandemic, the needs for countries to alleviate their debt are increasing, and policy responses have been inadequate.[bi] Higher-income countries, especially the members of major political fora such as the G7 or the G20, should take, jointly with MDBs, a stronger position on debt relief, making the current mechanisms work and supporting coordination with private creditors to facilitate negotiations with debtor countries.[7]

The IMF has itself begun to explore how environmental and social factors can be as critical as economic and financial factors for assessing sovereign debt sustainability. At present, the IMF's debt sustainability analyses look at how a country's prevailing debt and prospective borrowing will affect its ability to meet debt service commitment in the immediate and medium term. The indicators used are primarily financial and economic but, given that other factors such as climate, biodiversity, water, soil and even food security and nutrition can also affect debt sustainability, experts have begun to present the case for the IMF to improve the definition of debt sustainability and include these environmental and social factors therein. This might be a critical first step towards helping countries with limited ability to access financing and raise affordable financing flows.[185]

An open question is the inclusion of the private sector in improved food security and nutrition financing architecture. How can the profit-oriented interests of private actors be aligned with overall development objectives,

bh Creditors holding senior debt are among the first to be repaid, while those offering first loss would be the first to lose money if the project does not succeed.

bi For instance, the G20 Common Framework has not worked as expected.[7, 184]

particularly those to end hunger, food insecurity and malnutrition? For instance, some scholars have flagged that the increased financialization of agrifood systems could lead to negative outcomes such as land grabbing, food price volatility and corporate concentration.[186] As previously outlined in Box 10 (**Chapter 4**), concerns have also been raised vis-à-vis the negative impacts that private sector investments may have with regard to food security and nutrition outcomes. Private actors must incorporate health, environmental and social risks into their financial decision-making, to shift financing flows from potentially harmful investments to others that work towards the achievement of environmental, health and social outcomes. Currently, most financial stakeholders do not account for the hidden costs of agrifood systems in their business models, and they do not have standardized reporting measures for climate, biodiversity and health.[141] Evidently, there is a need to realign incentives with sustainability, and these incentives are heavily shaped by public support, which, as noted in **Chapter 4**, must be repurposed.

To this end, incentives for capital markets should align within environmental, social and governance investing practices, and food security and nutrition must be explicitly embedded in there.[34, 187] For instance, from 2012 to 2020, the value of ESG assets tripled to USD 40.5 trillion (i.e. almost half of all assets under management). Disclosure regulations and standards can be established, entreating private financial actors to disclose how their investment portfolios may affect food security and nutrition outcomes. Technical standards are already in place, such as the European Union Sustainable Finance Disclosures Regulation or Japan's Corporate Governance Code, each designed to disclose the alignment of investors with sustainability and/or climate standards.[100]

At the global level, in 2020, the Access to Nutrition Initiative released the Investor Expectations on Nutrition, Diets and Health, which to date have been signed by 87 institutional investors. The document commits these investors to engaging with food and beverage manufacturers to address most of the challenges considered in SDG Target 2.2 and the World Health Assembly targets (undernutrition, overweight and obesity, micronutrient deficiencies and diet-related non-communicable diseases) in particular, promoting a more active role for private companies in delivering healthy diets for all.[188, 189] Other financing instruments often adopted by private actors, such as venture capital in technological investments, are increasing; nevertheless, only 10 percent of venture capital allocation in 2021 was directed to agrifood technology. The food security and nutrition considerations of these portfolios remain low and extremely concentrated in HICs; however, there is growing interest in agricultural practices that conserve more soil and water and increase nutritional density in foods.[156] For example, the venture capital company Tikehau launched an EUR 1 billion regenerative agriculture fund, supported by several large food and insurance firms. The fund has tied 50 percent of "carried interest" to impact-linked finance (see **Section 5.2**) and expects to leverage a minimum of USD 7 in terms of profitability and social and environmental benefits from every USD 1 invested in regenerative agriculture.[156]

Public–private partnerships (PPPs) offer opportunities to mobilize and leverage greater resources, expertise and innovation to agricultural and rural development projects. Unlike blended finance, PPPs work along the whole investment cycle; for instance, by partnering with local banks and aggregators, IFIs can leverage their financial capabilities to reach more small-scale producers and rural communities in need. By increasing agricultural productivity, improving market access, and enhancing value chain productivity, private sector co-financing plays a crucial role in scaling up efforts to reduce hunger and poverty by unlocking new opportunities for smallholder farmers and facilitating sustainable development in rural areas.

For example, the partnership between IFAD and Hamkorbank aims to alleviate rural poverty and enhance food security in Uzbekistan by providing vital access to financing for low-income dairy and horticulture producers. With a USD 2.5 million loan, 1 500 small-scale producers will access microloans, enabling them to increase their incomes and improve their livelihoods. This collaboration addresses a critical challenge »

BOX 17 LEVERAGING TOOLS TO TRACK PROGRESS IN FINANCING FOR FOOD SECURITY AND NUTRITION AND AGRIFOOD SYSTEMS

Analytics and tools to inform targeted allocation of public financing and track progress in mobilizing financing flows for agrifood systems transformation for meeting SDG Targets 2.1 and 2.2 are critical; these include artificial intelligence (AI) and data systems (see **Section 4.1**). Financial Flows to Food Systems (3FS) is a financial tracking tool co-developed by IFAD and the World Bank in collaboration with the United Nations Food Systems Coordination Hub and the ecosystems of support.* The 3FS provides countries and stakeholders with a methodology to help decision-makers track financing flows to agrifood systems at the country and global level in a systemic manner. Drawing on the High Level Panel of Experts on Food Security and Nutrition definition of food systems and aligning with the Classification of the Functions of Government, the 3FS measures financing flows to agrifood systems in a systemic manner across five interconnected expenditure components: agricultural development and value chains, infrastructure for food systems, nutrition and health, social assistance including emergency assistance, and climate change and natural resources. The 3FS builds on the SDG financing strategy and tracks three financing flows to agrifood systems: domestic public spending, international development financing, and private sector financing.

The overall aim of the 3FS is to move the needle on transformative public and private financing flows to agrifood systems, providing governments, development partners, private investors, and stakeholders with much needed evidence on financing flows to agrifood systems, progress and challenges, because having access to quality and timely evidence is essential to inform decision-making. The 3FS methodology for tracking domestic spending and international development finance flows to agrifood systems is operational, whereas the methodology for private sector financing flows is under development.

In the field of humanitarian aid, the *Financing Flows and Food Crises Report*[167] offers an evidence-based snapshot of humanitarian and development finance trends in food crisis contexts. Understanding these trends is essential to inform decision-making and promote policy dialogues to enhance partner coordination. While humanitarian assistance is crucial for immediate relief, coordinated efforts are needed to address the root causes of food crises and reduce reliance on humanitarian aid.[167]

Mapping the agrifood finance landscape for nutrition is also critical. An example of this is the Scaling Up Nutrition methodology for identifying and analysing nutrition-sensitive investments in agriculture and food systems; a guidance note detailing this method was published by FAO in 2020.[199] The method was adapted and implemented in ten countries. Most recently it was used to inform fiscal repurposing in support of healthy diets in Ethiopia.

More generally, the fast-paced development and adoption of AI technologies, in particular generative AI and multimodal models, now allow for the detailed processing and analysis at scale of troves of reports, statements and policies on agrifood systems in order to more easily surface valuable insights from text-based data and other data forms to advanced analytics.[200] However, as indicated in this report, these innovative data tools can only be fully leveraged if data on food security and nutrition financing flows are made available, which currently is not the case. Therefore, while these tools are offering important opportunities to inform financial stakeholders and policymakers, the commitment of the international community to collect and standardize financial data as a global public good cannot be left aside.

NOTE: * IFAD and the World Bank consulted with a strategic advisory group comprising experts from the Inter-American Institute for Cooperation on Agriculture (IICA), the Global Alliance for Improved Nutrition (GAIN), FAO, the Organisation for Economic Co-operation and Development (OECD), the African Agricultural Transformation Initiative (AATI) in collaboration with McKinsey & Company, the Scaling Up Nutrition Movement, Alliance for a Green Revolution in Africa (AGRA), AKADEMIYA2063, the Good Food Finance Network (GFFN) and the 4SD Foundation.

» that Uzbekistan's rural population faces, where financial support for agriculture has historically been limited. By empowering small-scale farmers and supporting rural agribusinesses, Hamkorbank contributes to driving economic progress and sustainable agricultural development, ultimately helping to combat hunger and poverty in Uzbekistan's rural communities.[190]

However, recent research on nutrition-related PPPs in agrifood systems has highlighted that, if not properly managed, there are potentially negative effects, including the promotion of commercial interests that shift priorities away from evidence-based solutions addressing malnutrition. Public–private partnerships may also divert resources away from essential public health services or result in unequal access to nutrition interventions, particularly for marginalized communities that may not be profitable for private investors. While PPPs can offer opportunities for innovation, careful management and oversight are necessary to mitigate potential harm and ensure that public health objectives remain the primary focus in nutrition financing initiatives. Public–private partnerships most commonly fail due to a lack of strong governance and regulatory frameworks.[191]

In response, it is vital that governments and other key stakeholders including United Nations Agencies, academia and civil society adopt a clear framework to avoid conflicts of interest and ensure impartiality, accountability and transparency in policymaking and food and nutrition financing.[175] There are several examples of such frameworks that can be used and replicated. The UNICEF guidance on engagement with the food and beverage industry[192] summarizes ten parameters to guide actions across all UNICEF programme areas including principles on avoiding engagement with companies that interfere with public policies or produce highly processed foods.[193] The WHO report on safeguarding against possible conflicts of interest in nutrition programmes[194] aligns with its internal framework of engagement with non-state actors[195] and lays out six steps, each followed by an assessment to support national authorities in deciding whether engagement with the external actor should continue or be terminated. It includes guidance on risk management with respect to engaging with external actors and emphasizes the importance of monitoring and evaluation, accountability and transparency.[194]

Nevertheless, the public sector plays an essential role in filling the gaps not addressed by commercially oriented actors, primarily by investing in public goods and enhancing social values.[196] National and subnational governments (the latter in the case of federal countries) can further mobilize domestic tax revenues, increase priority sector expenditures on food security and nutrition and consider repurposing policy support (see **Chapter 4**). As analysed in **Section 5.1**, countries with limited ability to access financing do not have enough fiscal space to increase tax revenues, mostly due to structural and governance issues. At the same time, while these countries strengthen governance and institutions (essential for accessing more financing options), attention should turn to bringing down corruption in tax collection and management and reducing tax evasion. In parallel, countries that already have a higher ability to access financing must enact stronger controls on tax havens and money laundering, which often allow tax evasion from countries with limited access to financing.[34]

One interesting development is that, since the 1980s, corporate income tax (CIT) has decreased globally, starting a sort of "race" among countries to attract investments through lower taxes.[197, 198] High-income countries[bj] have on average lower CIT rates than LICs and MICs[197] and lower financial risk; therefore, most of the multinational corporations operating around the world establish their tax residency in HICs rather than in LICs and MICs. To address this issue, which leads to tax avoidance by major multinational corporations (and disproportionally affects LICs and MICs), the Organisation for Economic Co-operation and Development and the G20 established the Inclusive Framework on BEPS (base erosion and profit shifting), currently joined by 138 jurisdictions. The agreement comprises two pillars: The first is "revised allocation of taxing rights over a share of profits towards market jurisdictions",[198] and the second is a

bj "Developed economies" in the original publication.[197]

global minimum tax on multinational enterprise (MNE) profits exceeding EUR 750 million and aims to ensure that a minimum 15 percent of effective tax is paid in each country where an MNE operates.[198] While this agreement has not yet been implemented, an UNCTAD study shows that implementing the global tax considered in the second pillar could significantly increase the tax revenue of all countries, with a trade-off of a 2 percent lower foreign direct investment towards the sectors taxed.[197]

Finally, improving the transparency of international financing architecture is essential for enhancing coordination and efficiency among the different actors in the system. Data development for a better accounting system is needed globally to understand how much financing is available to support internationally agreed upon goals such as SDG 2. Furthermore, harmonizing data collection standards at the national and global levels and making data available would contribute to enhancing the transparency and targeting of financing (see Box 17).[35] Also, at the national level, countries should work towards stronger public financing management systems, which can increase the ability to track and coordinate financing flows across sectors and development partners.

Financial stakeholders should advocate for developing central hubs of public knowledge, designed as public global goods critical to reducing the perceived risk of investments for achieving food security and nutrition.[35, 100] To achieve this, collaboration among finance and development stakeholders such as research bodies, extension services, civil society organizations and non-governmental organizations will be imperative. This collaboration can be channelled through multistakeholder mechanisms to establish shared methodologies and insights on innovative financing mechanisms oriented to fill the funding gap. The effective dissemination of knowledge should be facilitated by strategically coordinated, publicly funded knowledge hubs, ensuring broad access and utilization.[81] In addition, the harmonization of the accounting systems, ensuring the availability of data and measuring the level of alignment of financing activities with the SDGs are among the priority activities to be delivered. Currently, donor countries have taken more steps in this direction than have multilateral actors.[142] Filling the information deficit will require bold steps from the international community; otherwise, the likelihood of achieving development goals cannot be realistically estimated and projected. ■

UGANDA
Indigenous youths of the Pokot people leaving the market carrying bags with food: supporting inclusive economic activities empowers populations and contributes to reducing hunger.
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CHAPTER 6
THE WAY FORWARD

The state of food security and nutrition in the world described in this report presents a concerning picture but also provides ample cause for hope. While global levels of hunger and food insecurity have essentially not changed for two years, there has been encouraging progress in many subregions of the world. With respect to nutrition, the rising trends in adult obesity and anaemia among women aged 15 to 49 years are worrying, yet in many countries, fewer children are affected by stunting and wasting, increasing their chances of achieving their full potential for growth and development. The global prevalence of child stunting has declined by one-third in the last two decades, showing that positive change is possible and is happening at scale across countries and regions. This is the potential we need to harness: the potential for positive change and the full realization of the right to adequate food and a standard of living that guarantees the dignity, health and well-being of all people, especially future generations.

This report once again reminds us that real transformative change is the only way to get the world back on track, moving in the right direction towards meeting the Sustainable Development Goal (SDG) Targets 2.1 and 2.2 of ending hunger, food insecurity and malnutrition in all its forms by 2030.

In many low- and middle-income countries in particular, conflicts, climate variability and extremes, and economic slowdowns and downturns continue to occur more frequently and often together. Hunger is higher and has increased the most in countries affected by the major drivers, and hunger increases are

higher in poor countries affected by more than one major driver. Because agrifood systems in these countries are not resilient to these external forces, hunger, food insecurity and malnutrition are still on the rise and disproportionately affect children. Moreover, underlying structural factors such as lack of access to and unaffordability of nutritious foods, unhealthy food environments, and high and persistent inequality further worsen the negative effects of the external drivers on food security and nutrition.

Business as usual is not an option in the face of the major drivers of food insecurity and malnutrition, and their growing occurrence and intensity. Past editions of this report have clearly laid out what must be done. Different policies, interventions and investments as well as legislation changes are proven to work in diverse contexts and in different combinations; however, there seems to be a binding financing constraint to implement them at scale and with better targeting. Paradoxically, pinpointing the financing gap to support efforts towards meeting SDG Targets 2.1 and 2.2 is a daunting task since there is no coherent picture of the financing flows available for, and being spent on, food security and nutrition.

A serious problem is the lack of a common definition or standard for measuring financing for food security and nutrition. It is hard – if not impossible – to manage what cannot be adequately measured. In the case of financing for food security and nutrition, it is not possible to adequately assess the existing levels and gaps, let alone monitor progress or setbacks in financing efforts to meet SDG Targets 2.1 and 2.2. This predicament poses a multitude of problems, including identifying underfinanced areas, ensuring accountability of institutions, and tracking the effectiveness and impact of the interventions financed, among others. Hence, the urgent need to move towards a common definition of, and measurement guidelines for, financing for food security and nutrition has been timely noted and addressed in this edition of the report.

This report has taken an important step forward by advancing a definition of financing for food security and nutrition together with detailed guidance to implement it. While this step is very important, the report has also starkly shown that the current structure and availability of financial data impede the application of the newly proposed definition to the public and private financing flows globally available for food security and nutrition. In other words, due to serious data constraints, it is not possible to arrive at the global measurement of the financing for food security and nutrition that is currently available and of the financing gap that must be bridged to support efforts towards meeting SDG Targets 2.1 and 2.2.

At best, it is possible to know that not even one-quarter of all international development funding flows go to food security and nutrition, and this share is not growing. Flows broadly appear to target well those countries where hunger, food insecurity and malnutrition are higher, and they mostly support food consumption and health. However, relatively fewer flows go to addressing the major drivers of food insecurity and malnutrition, namely conflict, climate variability and extremes, and economic slowdowns and downturns, and their underlying structural factors, lack of access to and unaffordability of nutritious foods, unhealthy food environments, and high and persistent inequality.

Assessing public domestic financing for food security and nutrition is problematic as there is no global financial database with sufficient data for the analysis. Public spending on agriculture is available globally, but this accounts for only a fraction, and sometimes a very small one, of all the public spending on food security and nutrition. There are not readily available data for all the countries in the world to estimate the public spending that is supporting food security and nutrition. An analysis of ten low- and middle-income countries shows that public spending on food security and nutrition was growing before the COVID-19 pandemic, with support to food consumption taking the greatest share, but this trend could not be sustained in some countries. Governments in some middle-income countries also seem to be spending relatively larger shares of their budget on addressing the major

drivers of food insecurity and malnutrition compared to low-income countries.

Private financing, both domestic and foreign, is thought to represent the largest financing flow to agrifood systems and sectors that impact food security and nutrition, yet it is impossible to properly verify and account for this flow due to missing information. Philanthropic flows to food security and nutrition are not large; cross-border remittances are much larger, but they support food security and nutrition mostly through food consumption rather than investments in agrifood systems. Among international commercial private financing flows, foreign direct investment is the flow type with the most comprehensive data source. However, there cannot be a full accounting of private financing, since, as this report has shown, comprehensive and relevant numbers on market finance (i.e. issuance of stocks and corporate bonds), international bank loans and domestic private equity are extremely difficult to obtain. Furthermore, where there is access to these sources of private financing, their contribution to food security and nutrition cannot be taken for granted, as many of the investments being financed – particularly those by large international food and beverage companies – may not always help reduce hunger, food insecurity and malnutrition. The main source of funding for companies in sectors relevant to food security and nutrition, at least for farmers and small and medium enterprises, appears to be self-funding, on which no data exist.

Against such a backdrop, this report lays bare the dismal state of the availability, accessibility and adequacy of financing flows data that would allow a proper assessment of financing for food security and nutrition. Addressing this gap must be a top priority, and this report sends a strong and urgent call for global and national actions to address this problem as part of the SDG global agenda for action. This call falls squarely within the purview of SDG 17 – Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development. Finance and financial inclusion are among the key means of implementation in SDG 17, therefore this report's call to address the financing data gap must be prioritized as a key action to be taken immediately.

Of course, beyond the data gap there is an important financing gap to bridge. While this report has demonstrated that it is not possible to fully apply the newly proposed definition of financing for food security and nutrition to all relevant financing flows available due to data constraints, existing model-based scenarios suggest that different policies and interventions to reach SDG Targets 2.1 and 2.2 bear a cost in the trillions of USD. No matter the estimate, more financing for food security and nutrition is needed, particularly in countries with the greatest needs. Moreover, there needs to be a serious rethinking of how existing financing is being allocated because in several instances the current financing is not cost effective, and this is resulting in lost opportunities to reduce hunger, food insecurity and all forms of malnutrition much faster. There are also inequalities in the access to financing for food security and nutrition both between countries and within countries. Such inequalities are further exacerbated within countries by a lack of inclusive and gender-sensitive financing.

Countries that have the greatest need for financing are those that struggle the most to actually access financing. Around 63 percent of the countries with high and/or increasing hunger, food insecurity and malnutrition struggle to access financing for food security and nutrition and have limited or moderate ability to access financing. Most of these countries (82 percent) are affected by one or more of the major drivers of food insecurity and malnutrition. This is quite at odds with the fact that very few of the international official development flows going to these countries are directed towards addressing these drivers. Scaling up financing towards countries with the highest levels of hunger, food insecurity and malnutrition and those most affected by the major drivers is essential.

Countries facing limited ability to access financing also have high levels of sovereign debt and must spend important amounts of public revenues on servicing debt. Multilateral

development banks (MDBs), development finance institutions (DFIs), international financial institutions (IFIs) and all international lenders in general need to support these countries so that, through debt swaps and debt relief measures, their governments can reallocate resources towards food security and nutrition. In countries with more moderate ability to access financing, utilization of concessional finance and commerce-oriented instruments following a blended finance approach will still be essential for de-risking investments and providing the right incentives for private actors to participate in these markets. However, while moving towards lower levels of risk, it is expected that public and private actors can progressively increase their engagement, making financing more widely available.

Official and public sources of financing alone will not be sufficient to fill the financing gap to end hunger, food insecurity and malnutrition. Scaling up private financing, including through private–public partnerships, will also be essential to supplement the efforts for meeting SDG Targets 2.1 and 2.2. Economic development is essential for the private sector, but it is difficult to achieve and sustain where large segments of the population are unproductive and unhealthy due to hunger, food insecurity and malnutrition.

The current financing architecture for food security and nutrition makes the scale-up and effective implementation of financing for food security and nutrition unfeasible. It is highly fragmented, exhibits a lack of consensus about the priorities, and is characterized by an over-proliferation of actors delivering mostly small, short-term projects. Donors, MDBs, DFIs, IFIs and philanthropic foundations have increased in number, but this has created further coordination challenges, both among actors and with recipient countries, whose political and financial priorities are not always considered. Therefore, more can be achieved in scaling up financing for food security and nutrition if there is better alignment and synergy among the different sources of financing.

Ending hunger, food insecurity and all forms of malnutrition is also unnecessarily in competition with many other development objectives. Considering the complex and multisectoral nature of food security and nutrition, the financial landscape must shift from a siloed approach towards a more holistic perspective, in which financial stakeholders can streamline food security and nutrition objectives into broader financing flows and investments. A starting point is breaking the sectoral silos within food security and nutrition, from complementary but separate "food security" and "nutrition" objectives towards a single "food and nutrition security" policy goal. Embracing this new narrative can be catalytic in recognizing the interconnected dependency of both – one without the other prevents the achievement of either. A new narrative for financing for food security and nutrition across sectors and financial stakeholders can help lead to a new finance governance that promotes the complementarity of the different financing flows towards food security and nutrition. For example, a closer nexus between humanitarian, climate and development finance must be promoted, as these are essential for meeting SDG Targets 2.1 and 2.2. This requires improving the transparency of the international financing for food security and nutrition to enhance coordination and efficiency among the different stakeholders.

This report has also warned that the challenges relate not only to mobilizing more resources, but also to using existing financing more effectively. Executing more effectively available national budgets for food security and nutrition; repurposing existing public support to enable more resilient, sustainable and equitable agrifood systems; and optimizing national budgets allocated to the food and agriculture sector will allow countries to achieve better food security and nutrition at no extra cost. However, this will only help reduce, but not fully fill the financing gap for food security and nutrition.

Estimating the financing gap for food security and nutrition is an unavoidable step going forward. Not bridging it by 2030 means millions of people will still be undernourished,

millions will have been pushed into crisis or worse levels of acute food insecurity, and insufficient progress will have been made to meet all global nutrition targets. The resulting social, economic and environmental costs will be unmeasurable. There is no time to lose, as the cost of inaction greatly exceeds the cost of action this report calls for.

It is hoped that this report's calls to action will inform the sustainable development and financing discussions at the Summit of the Future in September 2024 and all the upcoming SDG global discussions, including the political processes of the Fourth International Conference on Financing for Development in 2025. A world without hunger, food insecurity and malnutrition is a world worth saving, and a world worth financing and investing in. ■

UNITED STATES OF AMERICA
Farmer holding green lettuce with roots: diversifying production improves food security.
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ANNEXES

The supplementary material to *The State of Food Security and Nutrition in the World 2024* is available at:
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ANNEX 1A
STATISTICAL TABLES TO CHAPTER 2

TABLE A1.1 PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS AND GLOBAL NUTRITION TARGETS: PREVALENCE OF UNDERNOURISHMENT, MODERATE OR SEVERE FOOD INSECURITY, SELECTED FORMS OF MALNUTRITION, EXCLUSIVE BREASTFEEDING AND LOW BIRTHWEIGHT

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
WORLD	12.0	9.1	7.6	10.9	21.7	29.0	6.8	26.3	22.3	5.5	5.6	12.1	15.8	28.5	29.9	37.1	48.0	15.0	14.7
Least developed countries	26.5	22.1	19.2	22.1	50.2	57.3	7.0	38.7	32.3	3.1	3.2	4.9	8.1	39.1	39.4	45.5	53.9	16.1	15.3
Landlocked developing countries	24.8	19.6	15.7	18.9	44.3	51.9	4.1	35.8	28.3	4.2	3.7	9.7	13.4	32.0	32.9	45.3	52.5	15.2	14.7
Small Island Developing States	17.2	16.3	25.1	22.7	52.8	52.6	4.1	21.3	21.1	6.8	8.0	18.0	22.6	28.2	29.2	37.0	42.1	14.0	14.4
Low-income countries	29.3	28.7	21.3	25.7	55.3	64.5	6.7	39.7	33.7	3.8	3.3	6.5	9.6	38.2	38.5	43.0	53.4	15.4	14.9
Lower-middle-income countries	18.0	13.5	12.0	17.6	29.8	43.1	9.6	35.7	28.0	3.9	4.1	8.2	12.1	43.2	43.2	39.9	51.5	20.7	19.1
Upper-middle-income countries	8.0	2.5	2.6	3.3	11.5	12.9	2.1	13.2	11.3	8.2	9.0	11.0	15.8	18.4	19.4	30.5	39.3	7.9	8.3
High-income countries	<2.5	<2.5	1.5	1.8	8.0	8.0	0.4	4.0	4.0	7.4	7.6	22.4	25.9	13.2	14.4	n.a.	n.a.	8.0	8.1
Low-income food-deficit countries	27.2	25.4	20.1	24.5	51.8	61.4	6.0	36.8	30.5	4.0	3.7	8.0	11.7	37.8	37.7	41.1	52.1	14.6	14.0

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
AFRICA	**19.9**	**19.9**	**17.2**	**21.6**	**46.3**	**57.7**	**5.8**	**34.4**	**30.0**	**5.0**	**4.9**	**12.8**	**16.2**	**39.2**	**38.9**	**35.4**	**46.7**	**14.5**	**13.9**
Northern Africa	**7.7**	**7.5**	**9.8**	**11.7**	**28.6**	**33.4**	**6.3**	**23.5**	**21.7**	**11.8**	**12.3**	**25.9**	**31.7**	**31.9**	**31.1**	**40.8**	**35.6**	**14.0**	**14.1**
Algeria	6.2	<2.5	13.0	5.6	22.9	18.9	2.7	12.1	8.6	13.5	11.9	18.8	23.8	32.9	33.3	25.4	28.6	6.9	7.2
Egypt	5.9	8.5	8.4	10.4	27.8	29.8	n.a.	24.6	20.4	15.7	18.8	37.4	44.3	31.0	28.3	52.8	40.2	n.a.	n.a.
Libya	4.8	11.4	11.2	19.9	29.1	37.9	n.a.	30.0	52.2	26.4	28.7	32.0	36.7	28.6	29.9	n.a.	n.a.	n.a.	n.a.
Morocco	4.8	6.9	n.r.	n.r.	n.r.	n.r.	2.3[g]	15.8	12.8	9.5	4.9	16.7	21.8	29.8	29.9	27.8	35.0	16.1	14.8
Sudan	–	11.4	n.r.	n.r.	n.r.	n.r.	n.a.	36.0	36.0	2.4	2.7	11.5	17.0	36.8	36.5	41.0	n.a.	n.a.	n.a.
Tunisia	4.0	3.2	9.1	11.3	18.2	26.7	2.1	8.8	8.6	12.7	19.0	22.0	26.8	30.4	32.1	8.5	13.5	8.1	8.2
Northern Africa (excluding Sudan)	**5.6**	**6.6**	**9.1**	**10.1**	**26.1**	**28.8**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**28.0**	**34.1**	**31.0**	**30.0**	**40.7**	**35.6**	**13.9**	**13.9**
Sub-Saharan Africa	**23.0**	**22.7**	**19.0**	**23.8**	**50.4**	**63.2**	**5.7**	**36.2**	**31.3**	**3.8**	**3.7**	**8.5**	**11.4**	**41.2**	**40.7**	**34.4**	**48.0**	**14.5**	**13.9**
Eastern Africa	**32.4**	**29.0**	**22.0**	**25.5**	**58.5**	**65.4**	**5.0**	**38.6**	**30.6**	**3.9**	**3.6**	**4.9**	**8.1**	**31.4**	**31.9**	**48.6**	**60.3**	**14.7**	**14.0**
Burundi	n.a.	n.a.	n.a.	20.9[b]	n.a.	70.8[b]	4.9[g]	56.5	56.5	2.2	3.6	3.0	5.0	31.1	38.5	69.3	85.0	15.1	14.8
Comoros	16.6	16.9	n.a.	27.4	n.a.	79.7	n.a.	31.9	18.8	11.5	7.7	10.7	16.3	32.8	33.8	11.4	n.a.	24.1	23.0
Djibouti	30.1	12.9	n.a.	16.5	n.a.	49.2	10.6[g]	29.6	18.7	1.3	3.2	7.1	11.3	31.0	32.3	12.4	n.a.	n.a.	n.a.
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	51.6	50.2	1.9	3.0	2.7	4.8	36.2	37.0	68.7	n.a.	15.4	15.2
Ethiopia	37.0	22.2	14.5	19.7	56.2	59.0	6.8	42.1	34.4	2.5	2.7	1.5	2.8	22.4	23.9	52.0	58.8	n.a.	n.a.
Kenya	28.2	34.5	15.0[b, c]	28.0[c]	50.7[b, c]	72.8[c]	4.5	28.6	18.4	4.6	3.8	8.1	12.4	28.4	28.7	31.9	59.7	10.8	10.0
Madagascar	33.5	39.7	n.a.	14.9	n.a.	68.6	7.2	47.3	38.6	1.8	1.5	2.3	4.3	37.5	37.8	41.9	54.4	19.5	18.7
Malawi	21.3	19.9	47.7[b, c]	53.5[b, c]	78.1[b, c]	81.7[b, c]	2.6	43.6	34.0	4.9	3.9	4.5	7.7	30.6	31.4	70.8	64.1	15.8	15.6
Mauritius	5.2	5.9	5.2	10.2	13.0	31.2	n.a.	9.0[e]	8.6[e]	7.8[e]	6.8[e]	16.5	19.2	19.2	23.5	n.a.	n.a.	19.1	18.7
Mozambique	33.7	24.8	n.r.	n.r.	n.r.	n.r.	3.8	42.6	36.4	5.5	5.5	6.1	10.3	48.8	47.9	40.0	55.5	18.1	17.8

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Rwanda	36.9	31.4	n.r.	n.r.	n.r.	n.r.	1.1	41.2	29.8	6.3	4.7	2.4	4.9	18.3	17.2	83.8	80.9	9.3	9.4
Seychelles	2.6	<2.5	3.2[b]	3.2[c]	14.3[b]	14.3[c]	n.a.	7.9	7.2	9.9	9.1	25.1	29.4	23.5	25.1	n.a.	n.a.	12.3	12.5
Somalia	70.0	51.3	n.a.	43.5	n.a.	79.7	n.a.	27.6	18.0	3.0	2.7	9.6	14.6	44.0	43.1	5.3	33.7	n.a.	n.a.
South Sudan	–	19.6	n.a.	63.2[b]	n.a.	87.3[b]	n.a.	30.8	27.9	6.3	4.7	5.3	8.6	34.7	35.6	44.5	n.a.	n.a.	n.a.
Uganda	18.6	36.9	21.5[c]	23.0[c]	66.3[c]	71.2[c]	3.6	33.3	23.4	3.9	3.5	4.2	7.9	31.3	32.8	62.2	65.5	n.a.	n.a.
United Republic of Tanzania	28.4	23.8	20.6[c]	25.4[c]	48.9[c]	58.2[c]	3.1	38.1	30.6	4.5	4.6	7.5	12.6	40.3	38.9	48.7	64.3	10.5	9.7
Zambia	49.1	35.4	n.r.	n.r.	n.r.	n.r.	4.2	40.8	31.4	6.0	5.4	6.8	11.1	30.5	31.5	59.9	69.9	12.0	11.2
Zimbabwe	29.6	38.1	35.5	26.0	64.7	70.7	2.9	31.1	21.6	4.6	2.7	10.1	14.2	30.0	28.9	31.3	41.9	12.2	11.8
Middle Africa	**33.0**	**28.9**	**n.a.**	**37.6**	**n.a.**	**76.7**	**5.6**	**37.9**	**37.4**	**4.5**	**4.6**	**6.6**	**9.3**	**46.1**	**43.2**	**28.5**	**44.7**	**12.8**	**12.2**
Angola	52.2	23.2	n.a.	31.9[c]	n.a.	79.2[c]	n.a.	31.8	43.6	3.0	3.9	8.5	11.5	45.9	44.5	n.a.	n.a.	15.7	15.5
Cameroon	15.7	5.7	22.3	25.4	49.9	59.6	4.3	32.1	26.9	7.1	10.5	11.8	14.9	41.2	40.6	19.9	39.4	12.9	12.5
Central African Republic	38.7	23.5	n.a.	61.8	n.a.	81.3	5.4	40.6	39.8	3.5	2.6	5.9	9.3	47.9	46.8	33.0	36.2	15.9	16.4
Chad	34.6	35.1	32.4[c]	36.4	67.9[c]	76.6	7.8	38.9	32.3	2.5	3.2	4.5	6.7	49.2	45.4	3.2	7.4	n.a.	n.a.
Congo	29.1	26.8	n.a.	38.3[b]	n.a.	79.9[b]	n.a.	23.1	16.5	5.1	4.5	7.4	8.5	53.1	48.8	20.2	n.a.	11.6	11.9
Democratic Republic of the Congo	31.7	37.0	n.a.	41.7	n.a.	80.2	6.4	42.7	40.3	4.6	3.7	4.4	6.6	46.4	42.4	36.4	53.6	11.0	10.2
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25.0	16.1	8.5	8.2	13.9	17.7	47.4	44.5	7.4	n.a.	n.a.	n.a.
Gabon	14.6	20.1	n.r.	n.r.	n.r.	n.r.	3.4	17.2	13.4	6.2	5.4	15.5	21.0	55.3	52.4	5.1	19.4	14.9	14.6
Sao Tome and Principe	10.3	16.4	n.a.	14.1	n.a.	54.6	4.1	18.8	10.0	2.5	4.7	11.8	16.5	45.7	44.2	50.3	63.1	10.6	11.1

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Southern Africa	**4.8**	**9.4**	**9.1**	**10.9**	**21.5**	**24.1**	**3.5**	**23.4**	**22.8**	**12.3**	**11.4**	**27.3**	**29.7**	**28.5**	**30.3**	**n.a.**	**32.8**	**16.4**	**16.4**
Botswana	22.9	24.3	18.4[c]	26.4[b, c]	46.5[c]	54.8[b, c]	n.a.	24.6	21.6	10.4	10.1	14.7	18.3	31.3	32.5	20.3	30.0	17.3	16.8
Eswatini	9.5	12.4	n.a.	17.2[b]	n.a.	55.9[b]	n.a.	28.0	21.2	10.1	7.9	23.2	30.1	30.0	30.7	43.8	n.a.	10.6	10.2
Lesotho	n.a.	n.a.	n.a.	32.8[c]	n.a.	56.7[c]	2.1	37.5	31.8	7.0	6.9	15.9	21.0	28.3	27.9	52.9	59.0	14.8	14.4
Namibia	20.0	22.2	28.8[c]	31.9[c]	53.2[c]	56.8[c]	n.a.	24.0	16.8	4.2	5.3	14.0	17.0	24.7	25.2	22.1	n.a.	15.9	15.6
South Africa	3.4	8.1	n.a.	8.4[b, c]	n.a.	19.4[b, c]	3.6[g]	22.5	22.8	13.1	12.1	28.6	30.8	28.6	30.5	n.a.	31.6	16.6	16.6
Western Africa	**12.2**	**15.0**	**11.2**	**17.8**	**39.7**	**60.7**	**6.7**	**34.5**	**30.0**	**2.3**	**2.4**	**8.1**	**11.6**	**52.9**	**51.8**	**22.1**	**38.3**	**14.9**	**14.3**
Benin	11.4	10.3	10.4[c]	15.8[b, c]	55.0[c]	63.3[b, c]	8.3	33.9	30.4	1.6	2.2	8.1	11.2	55.5	55.2	32.5	41.4	17.5	16.4
Burkina Faso	17.3	15.4	n.a.	7.2[b]	n.a.	40.7[b]	10.3	33.3	21.8	1.8	2.0	3.7	6.7	53.3	52.5	38.2	51.3	19.1	18.5
Cabo Verde	11.1	12.6	n.a.	6.0[b]	n.a.	34.3[b]	n.a.	12.6[e]	9.4[e]	n.a.	n.a.	11.3	15.8	26.9	24.3	59.6	41.8	n.a.	n.a.
Côte d'Ivoire	19.3	9.6	6.2[c]	8.9[b, c]	34.1[c]	39.4[b, c]	8.1	29.6	20.2	2.6	2.6	8.2	11.6	52.2	50.9	11.8	34.0	19.1	18.3
Gambia	17.6	20.5	n.a.	25.5	n.a.	59.0	5.1	22.3	13.6	1.9	1.8	9.4	14.9	56.4	49.5	33.2	53.6	13.7	13.2
Ghana	11.1	6.2	5.1[b, c]	8.2[b, c]	38.3[b, c]	42.4[b, c]	5.8	22.0	12.7	2.3	1.9	10.2	12.9	44.2	35.4	45.7	53.1	14.9	14.4
Guinea	16.3	10.3	n.r.	n.r.	n.r.	n.r.	6.4	33.7	27.9	4.4	5.6	5.9	9.5	50.9	48.0	20.4	33.4	n.a.	n.a.
Guinea-Bissau	16.4	32.2	n.a.	9.0[b]	n.a.	62.5[b]	5.1	29.3	27.7	2.8	3.3	7.9	11.5	49.9	48.1	38.3	59.3	21.8	19.5
Liberia	33.4	38.4	38.6	37.3	79.7	81.0	3.4	35.0	26.6	3.3	5.3	10.3	17.0	43.6	42.6	27.8	55.2	19.7	19.9
Mali	13.1	9.6	n.a.	2.7[b]	n.a.	20.0[b]	10.6	30.7	23.8	1.6	2.0	7.6	11.4	58.2	59.0	20.2	49.8	n.a.	n.a.
Mauritania	9.1	9.3	4.6[c]	11.6[c]	26.3[c]	61.2[c]	13.6[g]	26.0	22.1	1.9	2.0	16.2	22.7	45.1	43.3	26.7	40.9	n.a.	n.a.
Niger	19.0	13.3	n.a.	7.5[b]	n.a.	50.3[b]	10.9	46.6	47.4	1.1	2.7	3.9	6.0	49.1	49.5	23.3	24.5	n.a.	n.a.
Nigeria	7.0	18.0	11.0[b, c]	22.6[b, c]	34.7[b, c]	73.9[b, c]	6.5	37.7	34.2	2.5	2.2	8.7	12.4	54.9	55.1	14.7	34.4	n.a.	n.a.
Senegal	18.0	4.6	7.5[c]	4.0[b, c]	39.0[c]	29.4[b, c]	8.1	18.5	17.0	1.5	3.4	7.6	10.2	55.9	52.7	39.0	40.8	19.1	17.2
Sierra Leone	46.2	28.4	26.7[b, c]	32.3	75.8[b, c]	88.6	6.3	34.9	26.0	3.3	5.2	5.8	7.1	47.9	48.4	31.2	50.9	11.4	10.3
Togo	27.0	12.8	16.1[c]	10.9[b, c]	60.4[c]	57.0[b, c]	5.7	27.3	22.3	1.6	2.2	7.1	11.6	47.4	45.7	62.1	64.3	15.1	14.3

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Sub-Saharan Africa (including Sudan)	**22.1**	**22.2**	**18.8**	**23.7**	**50.1**	**62.8**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**8.6**	**11.7**	**41.0**	**40.5**	**34.7**	**48.0**	**14.5**	**13.9**
ASIA*	**13.6**	**8.2**	**6.7**	**9.9**	**17.8**	**24.9**	**9.3**	**28.2**	**22.3**	**4.8**	**5.1**	**6.5**	**10.4**	**31.1**	**32.8**	**39.0**	**50.9**	**17.2**	**17.2**
Central Asia	**13.8**	**3.1**	**1.7**	**4.3**	**9.2**	**18.0**	**2.1**	**14.7**	**7.7**	**8.2**	**5.0**	**18.8**	**25.1**	**28.8**	**28.1**	**29.2**	**32.7**	**6.3**	**6.0**
Kazakhstan	7.3	<2.5	n.a.	0.6[b]	n.a.	2.2[b]	n.a.	11.0	4.9	12.1	7.7	16.1	18.4	27.3	28.7	31.8	n.a.	5.7	5.3
Kyrgyzstan	8.1	6.1	n.a.	1.1[c]	n.a.	7.0[c]	1.0[g]	16.0	10.3	7.9	6.4	20.1	26.6	34.1	35.8	56.0	45.6	6.4	6.0
Tajikistan	38.1	8.7	4.9	6.7	19.1	28.0	5.6	25.7	13.1	5.4	3.0	17.1	23.8	31.0	35.2	32.6	35.8	9.3	8.7
Turkmenistan	4.2	4.1	n.a.	n.a.	n.a.	n.a.	4.1	12.5	6.7	5.4	3.6	17.2	21.4	25.3	26.6	10.9	56.5	4.9	4.3
Uzbekistan	14.2	<2.5	n.r.	n.r.	n.r.	n.r.	2.4	13.2	6.9	7.7	4.2	21.0	30.0	28.7	24.8	23.8	25.2	5.8	5.8
Eastern Asia*	**7.0**	**<2.5**	**1.0**	**1.0**	**6.0**	**6.2**	**1.5**	**7.7**	**4.9**	**6.6**	**8.3**	**4.5**	**8.1**	**15.4**	**15.9**	**28.4**	**36.3**	**5.5**	**5.5**
China	7.1	<2.5	n.r.	n.r.	n.r.	n.r.	1.9	7.6	4.6	7.0	8.9	4.5	8.3	14.8	15.5	27.6	35.1	5.1	5.0
China, mainland	7.2	<2.5	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Taiwan Province of China	4.4	3.7	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China, Hong Kong SAR	<2.5	<2.5	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China, Macao SAR	16.0	10.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Democratic People's Republic of Korea	34.5	n.a.	n.a.	n.a.	n.a.	n.a.	2.5	25.7	16.8	1.6	2.8	6.7	10.8	31.7	33.9	68.9	71.4	n.a.	n.a.
Japan	<2.5	3.4	<0.5	1.2	2.6	5.5	n.a.	6.5	5.0	1.7	2.1	3.9	5.5	19.7	19.0	n.a.	n.a.	11.1	11.3
Mongolia	28.7	<2.5	n.a.	<0.5[c]	n.a.	5.3[c]	0.9	12.2	6.1	9.8	10.7	17.6	24.1	14.3	14.5	65.7	58.0	5.7	4.9
Republic of Korea	<2.5	<2.5	<0.5[b]	0.9	4.8[b]	5.7	0.2[g]	1.9	1.7	6.8	5.4	4.1	7.3	13.7	13.5	n.a.	n.a.	6.3	7.5

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1,2,3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1,2,3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Eastern Asia (excluding China and Japan)	**13.5**	**17.6**	**0.6**	**0.8**	**5.0**	**5.3**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**5.2**	**8.8**	**19.6**	**20.4**	**n.a.**	**69.1**	**7.6**	**8.4**
South-eastern Asia	**16.8**	**6.0**	**2.0**	**2.7**	**14.8**	**17.0**	**7.8**	**30.4**	**26.4**	**6.4**	**7.4**	**6.0**	**10.0**	**25.0**	**27.2**	**33.4**	**46.0**	**12.8**	**12.5**
Brunei Darussalam	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	17.0	10.9	8.6	9.1	23.3	31.7	14.8	16.7	n.a.	n.a.	13.2	13.6
Cambodia	18.0	4.6	16.9	13.9	48.9	50.5	9.6	33.8	22.3	2.2	3.8	2.2	4.4	46.1	47.1	72.8	50.3	12.7	11.4
Indonesia	18.4	7.2	0.7[b]	<0.5[b]	6.0[b]	4.9[b]	10.2	34.6	31.0	9.2	10.6	5.9	11.2	27.0	31.2	40.9	50.7	10.5	9.9
Lao People's Democratic Republic	22.4	5.4	n.a.	6.2	n.a.	36.3	9.0	40.4	27.7	2.2	4.0	4.7	8.0	36.3	39.5	39.7	44.4	17.2	16.7
Malaysia	3.2	<2.5	7.8	5.8	17.4	16.7	11.0	17.6	21.9	6.2	5.7	16.0	22.1	30.1	32.0	n.a.	40.3	13.0	13.8
Myanmar	29.0	5.3	n.a.	6.9	n.a.	32.0	7.4[g]	31.1	24.1	1.8	0.8	5.2	7.4	39.4	42.1	23.6	51.2	12.7	12.5
Philippines	14.6	5.9	n.a.	5.9[c]	n.a.	44.1[c]	5.4	31.9	28.8	3.5	4.6	5.7	8.7	16.9	12.3	33.0	40.9	21.2	21.1
Singapore	n.a.	n.a.	1.0	2.5	2.8	7.7	n.a.	3.4	3.0	3.0	3.8	8.1	13.9	11.5	13.0	n.a.	n.a.	10.6	11.0
Thailand	12.1	5.6	n.a.	1.4[b, c]	n.a.	7.2[b, c]	7.2	14.0	11.8	9.1	8.6	10.0	15.4	22.1	24.0	12.3	28.6	10.5	10.3
Timor-Leste	30.7	15.9	n.a.	8.9	n.a.	53.7	8.3	52.5	45.1	2.4	1.3	1.1	2.4	26.8	29.9	50.8	65.0	16.8	18.2
Viet Nam	15.3	5.2	n.a.	2.1[c]	n.a.	10.8[c]	4.7	25.4	19.3	4.3	8.1	0.8	2.0	17.0	20.6	17.0	45.4	7.6	6.3
Southern Asia	**19.6**	**14.2**	**13.1**	**19.4**	**27.6**	**41.3**	**14.3**	**40.3**	**30.5**	**2.7**	**2.8**	**5.6**	**9.7**	**48.3**	**48.2**	**47.2**	**59.6**	**26.1**	**24.4**
Afghanistan	34.2	30.4	14.8	30.6	45.1	80.9	3.6	44.3	33.1	5.0	3.7	10.3	19.2	37.5	42.6	n.a.	63.3	n.a.	n.a.
Bangladesh	13.7	11.9	13.3	11.4	32.2	30.5	11.0	39.2	26.4	1.8	2.1	2.5	5.3	35.7	36.7	64.1	54.8	24.3	23.0
Bhutan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	30.2	22.7	6.9	6.5	7.1	12.2	39.8	38.6	48.7	n.a.	11.7	11.4
India	21.4	13.7	n.r.	n.r.	n.r.	n.r.	18.7	41.6	31.7	2.2	2.8	4.1	7.3	53.2	53.0	46.4	63.7	29.5	27.4[f]
Iran (Islamic Republic of)	5.4	6.5	9.5	6.4	48.0	39.9	4.3	5.9	4.7	4.8	3.8	19.9	24.3	22.8	24.1	53.1	47.4	n.a.	n.a.

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Maldives	n.a.	n.a.	2.2	2.2	13.4	13.4	9.1	16.4	13.9	6.0	3.3	11.2	17.3	45.6	52.2	45.3	63.0	13.8	13.7
Nepal	17.0	5.7	10.4	13.5	29.5	37.0	7.0	40.3	26.7	1.2	1.7	3.4	7.0	35.9	35.7	69.6	56.4	20.9	19.7
Pakistan	17.0	20.7	0.9[c]	15.1[c]	14.1[c]	44.9[c]	7.1	43.8	34.0	4.6	2.7	12.7	23.0	42.7	41.3	37.0	47.8	n.a.	n.a.
Sri Lanka	14.1	4.1	0.7[c]	1.2[c]	5.9[c]	11.4[c]	15.1	16.7	15.9	1.2	1.3	5.7	10.6	33.5	34.6	75.8	80.9	18.5	18.0
Southern Asia (excluding India)	**15.0**	**15.3**	**7.3**	**13.2**	**27.1**	**40.8**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**9.9**	**16.1**	**36.0**	**36.7**	**49.0**	**52.3**	**19.5**	**19.0**
Western Asia	**8.5**	**12.0**	**9.7**	**13.5**	**30.7**	**38.9**	**3.5**	**19.1**	**14.0**	**9.1**	**7.2**	**29.3**	**33.6**	**31.7**	**32.5**	**31.9**	**31.4**	**12.2**	**12.2**
Armenia	12.4	<2.5	n.a.	<0.5	n.a.	7.8	4.4	13.9	7.2	15.0	11.5	20.3	24.5	17.6	17.3	34.1	44.5	8.3	8.3
Azerbaijan	4.7	<2.5	<0.5	0.7	5.9	12.2	n.a.	17.4	13.3	12.2	10.1	21.4	26.5	34.7	35.1	10.8	n.a.	11.0	11.0
Bahrain	n.a.	n.a.	n.r.	n.r.	n.r.	n.r.	n.a.	6.8[e]	5.0[e]	n.a.	n.a.	31.7	36.1	36.3	35.4	n.a.	n.a.	11.6	12.4
Cyprus	8.4	<2.5	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	21.6	22.9	12.0	13.6	n.a.	n.a.	n.a.	n.a.
Georgia	4.0	4.0	7.0	7.5	31.8	32.4	0.6	8.8	4.8	13.9	5.0	27.2	34.7	26.9	27.5	54.8	20.4	6.9	7.4
Iraq	16.5	16.1	n.r.	n.r.	n.r.	n.r.	3.0	19.6	9.9	9.5	6.4	34.4	40.5	29.8	28.6	19.4	25.8	10.8	10.9
Israel	<2.5	<2.5	1.3[b]	3.4[c]	11.0[b]	12.2[c]	n.a.	n.a.	n.a.	n.a.	n.a.	21.9	22.5	11.5	12.9	n.a.	n.a.	9.4	9.0
Jordan	5.2	17.9	n.r.	n.r.	n.r.	n.r.	2.3	7.7	6.6	5.9	9.5	36.3	38.5	30.5	37.7	22.7	17.8	17.0	18.9
Kuwait	<2.5	<2.5	4.9	3.5	12.6	8.7	3.0	4.8	6.9	9.0	11.7	40.7	41.4	21.1	23.7	n.a.	n.a.	12.4	14.4
Lebanon	10.6	9.6	n.a.	11.7	n.a.	40.1	1.4	11.7	7.4	8.5	8.3	26.2	29.8	25.4	28.3	n.a.	22.1	12.2	12.6
Oman	10.2	5.7	n.a.	n.a.	n.a.	n.a.	9.3	11.1	12.7	2.9	6.5	24.9	31.1	29.0	29.1	n.a.	23.2	13.3	13.2
Palestine	n.a.	n.a.	n.a.	4.5[b, h]	n.a.	27.4[b, h]	1.3	10.3	7.5	7.6	8.3	34.2	37.6	30.5	31.0	28.7	38.9	9.8	10.4
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.2[e]	4.4[e]	12.2[e]	11.7[e]	36.1	43.1	27.1	28.1	29.3	n.a.	9.9	10.0
Saudi Arabia	4.5	3.0	n.r.	n.r.	n.r.	n.r.	4.5[g]	11.8	12.4	9.3	10.1	35.0	40.6	25.8	27.5	n.a.	n.a.	n.a.	n.a.
Syrian Arab Republic	6.2	34.0	n.r.	n.r.	n.r.	n.r.	n.a.	26.4	25.4	16.6	11.7	29.2	33.9	31.7	32.8	42.6	28.5	n.a.	n.a.
Türkiye	3.8	<2.5	n.r.	n.r.	n.r.	n.r.	1.7	9.1	5.5	10.2	8.1	29.6	33.3	n.a.	n.a.	41.6	40.7	14.0	12.9

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
United Arab Emirates	7.8	2.7	n.a.	1.4[b, c]	n.a.	10.0[b, c]	n.a.	n.a.	n.a.	n.a.	n.a.	31.9	32.1	24.0	24.3	n.a.	n.a.	13.9	13.9
Yemen	25.5	39.5	n.a.	n.a.	45.7	72.5	n.a.	46.9	35.1	2.4	1.7	9.2	13.7	61.5	61.5	n.a.	n.a.	n.a.	n.a.
Central Asia and Southern Asia	**19.3**	**13.8**	**12.7**	**18.9**	**26.9**	**40.5**	**13.7**	**39.3**	**29.4**	**2.9**	**2.9**	**6.1**	**10.2**	**47.5**	**47.5**	**46.5**	**58.7**	**25.4**	**23.5**
Eastern Asia and South-eastern Asia*	**9.6**	**2.7**	**1.3**	**1.5**	**8.5**	**9.4**	**4.2**	**16.0**	**13.9**	**6.5**	**8.0**	**4.9**	**8.6**	**18.1**	**19.4**	**30.3**	**41.1**	**8.1**	**8.7**
Western Asia and Northern Africa	**8.1**	**9.9**	**9.7**	**12.6**	**29.8**	**36.3**	**4.9**	**21.2**	**17.9**	**10.4**	**9.8**	**27.8**	**32.7**	**31.8**	**31.8**	**37.2**	**33.7**	**13.1**	**13.1**
LATIN AMERICA AND THE CARIBBEAN	**8.9**	**6.6**	**7.0**	**10.6**	**25.1**	**31.3**	**1.4**	**12.7**	**11.5**	**7.4**	**8.6**	**22.4**	**29.9**	**18.2**	**17.2**	**34.3**	**43.1**	**9.5**	**9.6**
Caribbean	**18.1**	**16.5**	**n.a.**	**27.5**	**n.a.**	**59.6**	**2.9**	**13.0**	**11.3**	**6.5**	**6.6**	**19.5**	**24.5**	**28.7**	**29.2**	**29.5**	**31.4**	**11.4**	**11.7**
Antigua and Barbuda	n.a.	n.a.	n.a.	7.1	n.a.	33.0	n.a.	n.a.	n.a.	n.a.	n.a.	26.8	33.3	16.7	17.2	n.a.	n.a.	15.1	15.4
Bahamas	n.a.	n.a.	n.a.	3.4	n.a.	17.2	n.a.	n.a.	n.a.	n.a.	n.a.	39.8	47.3	13.3	14.5	n.a.	n.a.	15.3	15.4
Barbados	5.7	3.5	n.a.	7.4	n.a.	31.1	n.a.	7.5	6.0	11.8	12.5	30.9	38.0	16.9	17.0	19.7	n.a.	n.a.	n.a.
Cuba	<2.5	<2.5	n.a.	n.a.	n.a.	n.a.	2.0	7.0	7.0	9.7	10.2	16.3	21.8	20.2	19.3	48.6	40.6	7.2	7.1
Dominica	2.7	13.4	n.a.	5.8	n.a.	34.4	n.a.	n.a.	n.a.	n.a.	n.a.	24.5	31.3	20.1	20.8	n.a.	n.a.	n.a.	n.a.
Dominican Republic	19.3	4.6	24.3[b]	19.0[b, c]	54.2[b]	46.1[b, c]	2.2	7.9	5.6	7.5	7.6	22.3	29.3	28.0	26.4	8.0	15.8	12.1	13.4
Grenada	n.a.	n.a.	n.a.	5.8[b]	n.a.	19.9[b]	n.a.	n.a.	n.a.	n.a.	n.a.	23.9	30.3	18.9	19.2	n.a.	n.a.	n.a.	n.a.
Haiti	50.8	50.4	n.a.	42.4	n.a.	82.8	3.7	23.8	19.5	3.4	3.7	8.3	10.7	47.6	47.7	39.3	39.9	n.a.	n.a.
Jamaica	7.5	7.3	25.3	26.6	48.3	55.1	3.2	6.1	6.5	6.9	5.7	26.4	33.8	19.5	19.9	23.8	n.a.	14.3	13.7
Puerto Rico	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	34.6	41.1	18.4	18.8	n.a.	n.a.	n.a.	n.a.

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Saint Kitts and Nevis	n.a.	n.a.	n.a.	5.6	n.a.	29.8	n.a.	n.a.	n.a.	n.a.	n.a.	38.7	45.6	16.0	15.4	n.a.	n.a.	n.a.	n.a.
Saint Lucia	n.a.	n.a.	4.5[b]	4.5	22.2[b]	22.2	n.a.	2.3	2.5	6.0	6.0	26.1	33.5	14.1	14.3	3.5	n.a.	15.9	16.3
Saint Vincent and the Grenadines	8.2	4.8	n.a.	10.3	n.a.	33.3	n.a.	n.a.	n.a.	n.a.	n.a.	26.6	33.2	17.3	17.0	n.a.	n.a.	n.a.	n.a.
Trinidad and Tobago	10.8	12.6	n.a.	10.2	n.a.	43.3	n.a.	8.6	8.8	10.5	13.9	24.7	28.1	17.8	17.7	21.5	n.a.	15.9	16.3
Central America	**7.6**	**5.8**	**6.4**	**7.8**	**28.9**	**29.3**	**1.0**	**18.2**	**16.9**	**6.6**	**6.7**	**27.9**	**34.4**	**15.2**	**14.6**	**21.6**	**38.7**	**10.9**	**10.9**
Belize	5.2	4.6	n.a.	5.9[b]	n.a.	45.5[b]	n.a.	17.5	12.0	8.7	5.9	35.2	42.3	21.2	20.5	14.7	n.a.	11.3	11.6
Costa Rica	3.4	<2.5	1.8[c]	2.8[c]	12.2[c]	16.2[c]	1.8	6.4	9.5	7.6	7.6	24.9	31.4	12.3	13.7	32.5	25.3	8.5	8.7
El Salvador	8.6	6.8	13.8	15.8	42.2	46.9	n.a.	15.5	10.0	6.2	6.8	25.3	30.9	9.9	10.6	31.4	45.3	10.4	10.2
Guatemala	19.3	12.6	16.1	21.1	42.7	59.8	0.8	47.1	43.5	5.1	4.8	20.0	26.8	11.0	7.4	49.6	58.5	14.4	14.5
Honduras	21.5	20.4	14.2[c]	26.9	41.6[c]	56.0	1.9	22.0	17.5	5.0	4.7	22.7	29.5	16.6	18.0	30.7	30.2	12.5	13.1
Mexico	4.1	3.1	3.4[b]	3.0[b]	24.9[b]	20.7[b]	1.0	13.3	12.6	6.8	6.9	29.3	36.0	15.9	15.3	14.4	35.9	10.2	10.2
Nicaragua	21.8	19.6	n.r.	n.r.	n.r.	n.r.	n.a.	17.3	14.9	7.3	8.7	27.5	33.6	13.3	15.7	31.7	n.a.	10.7	10.1
Panama	20.6	5.6	n.r.	n.r.	n.r.	n.r.	1.1	19.9	13.8	10.5	11.4	26.7	36.1	22.1	21.2	n.a.	n.a.	10.7	10.3
South America	**8.4**	**5.9**	**4.7**	**10.0**	**19.7**	**29.2**	**1.4**	**10.1**	**9.0**	**7.9**	**9.7**	**20.7**	**28.6**	**18.4**	**17.3**	**42.2**	**47.1**	**8.6**	**8.8**
Argentina	3.6	3.2	5.8	13.1	19.2	36.1	1.7	7.1	9.5	11.0	12.6	26.3	35.4	12.7	11.9	32.0	n.a.	7.2	7.4
Bolivia (Plurinational State of)	27.5	23.0	n.r.	n.r.	n.r.	n.r.	2.0	19.9	11.1	8.9	9.0	20.5	28.7	28.6	24.4	64.3	55.7	8.3	7.9
Brazil	6.2	3.9	0.7[b, c]	6.6[b, c]	13.3[b, c]	18.4[b, c]	3.4	6.3	7.2	7.9	10.3	19.1	28.1	18.3	16.1	38.6	45.8	8.3	8.7
Chile	3.0	<2.5	2.9[c]	3.7[b, c]	10.8[c]	17.6[b, c]	n.a.	1.9	1.6	9.8	8.8	29.6	38.9	7.9	8.7	n.a.	n.a.	6.1	6.8
Colombia	11.1	4.2	4.9[c]	5.3[b, c]	20.0[c]	30.7[b, c]	1.6	12.7	11.2	5.0	6.2	18.2	23.6	22.1	21.2	42.9	36.7	10.5	11.0

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Ecuador	21.5	13.9	6.0[b, c]	12.7[c]	20.7[b, c]	36.9[c]	3.7	24.4	22.7	7.5	11.9	20.1	27.4	17.3	17.2	n.a.	n.a.	10.9	10.6
Guyana	6.6	<2.5	n.a.	4.7[b]	n.a.	25.5[b]	6.5	14.5	7.6	6.2	5.7	21.4	28.5	34.4	31.7	31.3	28.5	17.0	17.2
Paraguay	7.0	4.5	1.2[c]	6.6[b, c]	8.3[c]	26.2[b, c]	1.0	9.4	3.4	10.4	14.6	24.8	33.0	22.2	23.0	24.4	29.6	10.0	10.0
Peru	17.7	7.0	13.5[d]	20.3[d]	37.2[d]	51.7[d]	0.5	18.6	10.1	8.1	9.4	18.5	27.3	20.6	20.6	67.4	66.9	8.3	7.5
Suriname	9.2	10.1	n.a.	7.2	n.a.	35.8	5.5	8.3	7.6	3.7	3.8	22.8	29.0	20.3	21.0	2.8	8.9	15.7	16.5
Uruguay	2.7	<2.5	n.a.	2.9[b, c]	n.a.	15.7[b, c]	1.4	9.1	6.1	9.3	11.5	25.0	33.3	13.2	15.0	n.a.	57.7	8.0	7.8
Venezuela (Bolivarian Republic of)	7.8	17.6	n.r.	n.r.	n.r.	n.r.	n.a.	12.1	10.5	6.2	6.9	22.7	22.7	20.9	24.2	n.a.	n.a.	9.0	9.3
OCEANIA	**6.7**	**7.3**	**8.6**	**9.9**	**22.2**	**25.0**	**n.a.**	**20.0**	**22.0**	**11.0**	**16.8**	**25.4**	**29.5**	**14.4**	**16.0**	**n.a.**	**n.a.**	**11.3**	**11.8**
Australia and New Zealand	**<2.5**	**<2.5**	**2.8**	**4.1**	**10.6**	**13.5**	**n.a.**	**3.4**	**3.4**	**12.4**	**19.3**	**26.3**	**30.8**	**7.6**	**8.8**	**n.a.**	**n.a.**	**6.4**	**6.4**
Australia	<2.5	<2.5	2.8	4.2	10.8	12.9	n.a.	3.2	3.4	13.7	21.8	25.7	30.2	7.4	8.5	n.a.	n.a.	6.4	6.6
New Zealand	<2.5	<2.5	2.8	3.8	10.0	16.4	n.a.	n.a.	n.a.	n.a.	n.a.	29.3	33.6	8.8	10.4	n.a.	n.a.	6.0	5.9
Oceania excluding Australia and New Zealand	**20.9**	**22.8**	**22.2**	**23.2**	**49.4**	**51.3**	**8.3[a]**	**40.9**	**44.0**	**9.3**	**13.9**	**21.6**	**24.8**	**32.9**	**33.9**	**56.6**	**58.3**	**17.4**	**17.9**
Melanesia	**23.2**	**24.7**	**n.a.**	**24.7**	**n.a.**	**54.0**	**n.a.**	**43.3**	**46.4**	**9.6**	**14.4**	**18.3**	**21.9**	**33.3**	**34.2**	**56.8**	**58.6**	**17.6**	**18.0**
Fiji	3.5	7.8	n.a.	8.5	n.a.	29.2	4.6	8.5	7.1	6.3	7.4	28.0	33.8	31.5	32.0	n.a.	42.9	7.4	7.4
New Caledonia	10.2	5.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Papua New Guinea	27.8	27.7	n.a.	27.0	n.a.	57.3	n.a.	48.0	51.2	10.5	16.0	16.8	20.5	33.4	34.4	56.1	59.7	19.0	19.4
Solomon Islands	12.0	19.4	n.a.	n.a.	n.a.	n.a.	n.a.	31.8	29.8	3.5	5.5	19.1	22.6	38.4	37.7	73.7	n.a.	13.2	13.2
Vanuatu	6.8	7.9	n.a.	2.4	n.a.	23.3	n.a.	27.0	31.4	4.8	5.1	18.5	21.3	24.1	28.5	39.5	n.a.	12.7	13.1

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1,2,3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1,2,3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Micronesia	**6.2**	**3.7**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**16.3**	**13.5**	**4.4**	**4.4**	**43.2**	**47.1**	**27.9**	**29.1**	**55.3**	**59.8**	**12.4**	**12.3**
Kiribati	6.2	3.7	n.a.	8.0	n.a.	41.0	3.5	16.2	14.2	2.1	2.0	43.2	46.3	31.8	32.6	66.4	63.6	9.3	9.0
Marshall Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.5	37.0	30.5	4.1	4.4	42.0	45.9	29.7	30.6	27.3	43.1	n.a.	n.a.
Micronesia (Federated States of)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	42.4	47.1	22.7	25.0	n.a.	n.a.	n.a.	n.a.
Nauru	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	21.0	14.8	4.0	4.5	67.4	69.9	29.5	29.6	67.2	n.a.	n.a.	n.a.
Palau	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	39.2	41.1	27.3	28.5	n.a.	n.a.	13.7	13.5
Polynesia	**3.5**	**5.4**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**7.3**	**6.5**	**8.2**	**8.2**	**52.1**	**57.5**	**25.6**	**27.4**	**51.1**	**48.0**	**16.3**	**16.8**
American Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	72.3	75.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cook Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	62.5	68.9	25.8	27.1	n.a.	n.a.	10.1	10.3
French Polynesia	3.9	5.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	43.0	48.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Niue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	61.2	66.6	25.9	27.3	n.a.	n.a.	n.a.	n.a.
Samoa	2.8	5.4	n.a.	3.4	n.a.	23.6	3.1	5.0	7.4	6.0	7.9	55.7	62.4	24.5	26.8	51.3	51.7	n.a.	n.a.
Tokelau (Associate Member)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	65.0	69.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tonga	n.a.	n.a.	n.a.	2.6[b]	n.a.	14.8[b]	1.1	7.2	1.8	15.0	10.9	62.8	71.7	27.2	28.5	52.2	39.6	n.a.	n.a.
Tuvalu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.8	7.8	5.2	5.2	4.2	58.9	64.2	26.0	27.5	34.7	43.8	n.a.	n.a.
NORTHERN AMERICA AND EUROPE	**<2.5**	**<2.5**	**1.3**	**1.5**	**8.8**	**8.2**	**n.a.**	**4.2**	**3.8**	**9.0**	**7.6**	**24.8**	**27.9**	**13.1**	**14.6**	**n.a.**	**n.a.**	**7.4**	**7.4**
Northern America**	**<2.5**	**<2.5**	**1.0**	**0.9**	**9.9**	**9.0**	**0.2**	**2.6**	**3.6**	**8.6**	**8.2**	**35.7**	**40.3**	**9.9**	**11.7**	**25.5**	**25.8**	**8.0**	**8.1**
Bermuda	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	26.4	33.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Canada	<2.5	<2.5	n.a.	1.5[c]	n.a.	8.5[c]	n.a.	n.a.	n.a.	11.4	11.1	24.7	26.2	8.8	10.4	n.a.	n.a.	6.2	6.6

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Greenland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23.3	27.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United States of America	<2.5	<2.5	1.1[b]	0.8[b]	10.5[b]	9.1[b]	0.1	2.5	3.6	8.4	7.9	36.9	42.0	10.0	11.8	25.5	25.8	8.2	8.3
Europe	**<2.5**	**<2.5**	**1.4**	**1.8**	**8.2**	**7.8**	**n.a.**	**5.1**	**4.0**	**9.2**	**7.3**	**19.7**	**21.4**	**14.5**	**16.0**	**n.a.**	**n.a.**	**7.1**	**7.0**
Eastern Europe	**<2.5**	**<2.5**	**1.5**	**1.8**	**11.2**	**10.6**	**n.a.**	**7.2**	**5.3**	**12.1**	**7.4**	**22.1**	**25.5**	**19.2**	**20.5**	**n.a.**	**n.a.**	**7.1**	**7.0**
Belarus	<2.5	<2.5	n.r.	n.r.	n.r.	n.r.	n.a.	3.9	3.6	8.0	5.3	21.0	21.4	19.1	20.6	19.0	21.7	5.0	5.1
Bulgaria	5.0	<2.5	1.9	2.5	14.9	14.8	n.a.	7.1	5.6	7.0	3.8	17.6	20.6	22.5	23.6	n.a.	n.a.	11.0	11.4
Czechia	<2.5	<2.5	0.7	2.2	5.8	10.0	n.a.	2.5	2.5	5.3	6.1	21.8	26.0	20.0	21.1	n.a.	n.a.	7.3	7.6
Hungary	<2.5	<2.5	1.4	3.6	11.3	15.0	n.a.	n.a.	n.a.	n.a.	n.a.	25.2	31.7	19.6	19.7	n.a.	n.a.	8.4	8.3
Poland	<2.5	<2.5	1.8	0.9	8.9	5.4	n.a.	2.1	2.3	5.6	6.0	22.2	27.5	n.a.	n.a.	n.a.	n.a.	5.8	5.6
Republic of Moldova	32.3	<2.5	1.6	5.3	19.3	24.7	n.a.	6.8	3.9	5.4	2.9	22.9	23.0	26.0	26.1	36.4	n.a.	6.5	6.5
Romania	<2.5	<2.5	5.6	7.1	19.3	19.1	n.a.	9.3	7.7	7.9	4.5	21.9	34.0	22.1	22.7	n.a.	n.a.	9.5	8.8
Russian Federation	<2.5	<2.5	0.7	<0.5[b]	8.2	4.6[b]	n.a.	n.a.	n.a.	12.2	7.4	22.3	24.2	20.0	21.1	n.a.	n.a.	7.3	7.3
Slovakia	5.6	3.6	1.1	2.0	6.2	9.0	n.a.	n.a.	n.a.	n.a.	n.a.	20.8	26.8	22.3	23.5	n.a.	n.a.	7.5	7.8
Ukraine	<2.5	5.8	2.0	5.3	19.8	31.0	n.a.	18.2	12.3	23.6	13.6	21.8	23.6	14.4	17.7	19.7	n.a.	6.0	5.7
Northern Europe	**<2.5**	**<2.5**	**1.8**	**2.3**	**6.7**	**6.3**	**n.a.**	**3.7**	**3.0**	**8.7**	**9.7**	**22.3**	**24.2**	**10.6**	**12.0**	**n.a.**	**n.a.**	**6.3**	**6.0**
Denmark	<2.5	<2.5	1.0	1.9	5.9	7.1	n.a.	n.a.	n.a.	n.a.	n.a.	12.5	13.3	11.5	12.2	n.a.	n.a.	5.1	4.8
Estonia	<2.5	<2.5	0.9	1.0	9.5	9.3	n.a.	1.3	1.2	4.8	5.1	20.9	22.2	20.7	21.7	n.a.	n.a.	4.5	4.2
Finland	<2.5	<2.5	2.4	3.0	9.3	12.6	n.a.	n.a.	n.a.	n.a.	n.a.	19.3	21.5	9.7	10.9	n.a.	n.a.	4.1	4.1
Iceland	<2.5	<2.5	1.7	1.9	6.4	7.0	n.a.	n.a.	n.a.	n.a.	n.a.	18.7	21.2	9.4	10.3	n.a.	n.a.	3.8	4.0
Ireland	<2.5	<2.5	3.4	1.6	8.9	4.2	n.a.	n.a.	n.a.	n.a.	n.a.	25.0	28.3	10.9	12.1	n.a.	n.a.	5.5	5.6
Latvia	<2.5	<2.5	0.6	1.5	9.9	10.2	1.6[g]	2.4	1.8	10.3	6.4	21.7	24.3	20.9	21.6	n.a.	n.a.	4.5	4.2

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1,2,3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1,2,3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Lithuania	<2.5	<2.5	2.5	1.3	15.3	6.1	4.8[g]	5.4	4.5	8.0	4.7	23.0	25.4	18.8	19.9	n.a.	n.a.	4.7	4.4
Norway	<2.5	<2.5	1.1	1.4	4.8	6.8	n.a.	n.a.	n.a.	n.a.	n.a.	16.5	19.1	10.7	12.0	n.a.	n.a.	4.7	4.4
Sweden	<2.5	<2.5	0.8	1.8	4.5	6.0	n.a.	n.a.	n.a.	n.a.	n.a.	14.6	15.3	11.7	13.6	n.a.	n.a.	4.2	4.1
United Kingdom of Great Britain and Northern Ireland	<2.5	<2.5	1.9	2.5	6.3	5.7	0.3[g]	n.a.	n.a.	9.7	11.3	24.8	26.8	9.4	11.1	n.a.	n.a.	7.1	6.8
Southern Europe	**<2.5**	**<2.5**	**1.4**	**1.5**	**7.4**	**6.5**	**n.a.**	**4.6**	**3.9**	**8.7**	**8.3**	**18.2**	**18.9**	**13.5**	**15.1**	**n.a.**	**n.a.**	**8.0**	**8.2**
Albania	8.9	4.5	10.0	8.2	38.8	32.2	1.6	16.4	8.3	22.4	13.4	17.5	23.4	21.6	24.8	37.1	36.5	6.0	6.0
Andorra	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	16.7	18.1	10.6	12.1	n.a.	n.a.	9.1	9.4
Bosnia and Herzegovina	<2.5	<2.5	1.5	2.8	9.6	13.3	n.a.	9.2	8.0	18.7	9.4	17.3	21.2	23.8	24.4	18.2	n.a.	5.2	5.2
Croatia	<2.5	<2.5	0.6	1.4	6.5	7.9	n.a.	n.a.	n.a.	n.a.	n.a.	23.0	30.6	20.4	21.0	n.a.	n.a.	5.0	5.0
Greece	<2.5	<2.5	2.6	1.5[b]	15.8	6.4[b]	n.a.	2.0	2.2	15.8	14.6	24.6	28.0	12.8	15.1	n.a.	n.a.	10.9	11.4
Italy	<2.5	<2.5	n.a.	<0.5[b]	n.a.	2.0[b]	n.a.	n.a.	n.a.	n.a.	n.a.	16.1	17.3	11.8	13.6	n.a.	n.a.	7.1	7.2
Malta	<2.5	<2.5	1.5	2.0	5.8	8.2	n.a.	n.a.	n.a.	n.a.	n.a.	30.3	32.3	12.3	13.7	n.a.	n.a.	7.0	7.2
Montenegro	5.6	<2.5	2.1	2.5	12.6	12.3	2.2	8.4	8.2	15.8	8.0	14.8	18.0	16.1	17.2	19.3	19.5	6.4	6.2
North Macedonia	5.0	<2.5	3.6	4.8	15.1	20.2	3.4	5.8	3.7	13.6	9.9	22.2	27.5	17.2	19.3	23.0	27.5	8.2	8.3
Portugal	<2.5	<2.5	4.1	3.3	14.7	12.3	1.1[g]	3.8	3.1	8.2	8.9	18.7	21.8	12.0	13.2	n.a.	n.a.	8.4	8.9
Serbia	2.6	<2.5	1.7	3.0	11.4	13.0	2.6	5.9	4.6	15.6	9.9	18.2	22.5	21.8	22.8	13.4	23.6	6.0	6.2
Slovenia	<2.5	<2.5	0.9	0.9	12.3	7.9	n.a.	n.a.	n.a.	n.a.	n.a.	16.3	19.4	20.2	21.8	n.a.	n.a.	6.2	6.3
Spain	<2.5	<2.5	1.1	1.5	7.1	6.9	n.a.	n.a.	n.a.	n.a.	n.a.	18.9	15.7	12.0	13.4	n.a.	n.a.	9.5	9.6

TABLE A1.1 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	PREVALENCE OF UNDERNOURISHMENT IN THE TOTAL POPULATION[1]		PREVALENCE OF SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE TOTAL POPULATION[1, 2, 3]		PREVALENCE OF WASTING IN CHILDREN (<5 YEARS)	PREVALENCE OF STUNTING IN CHILDREN (<5 YEARS)		PREVALENCE OF OVERWEIGHT IN CHILDREN (<5 YEARS)		PREVALENCE OF OBESITY IN THE ADULT POPULATION (≥18 YEARS)		PREVALENCE OF ANAEMIA IN WOMEN (15–49 YEARS)		PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS (0–5 MONTHS)		PREVALENCE OF LOW BIRTHWEIGHT	
	2004–06 (%)	2021–23[4] (%)	2014–16 (%)	2021–23 (%)	2014–16 (%)	2021–23 (%)	2022[5] (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2022 (%)	2012 (%)	2019 (%)	2012[6] (%)	2022[7] (%)	2012 (%)	2020 (%)
Western Europe	**<2.5**	**<2.5**	**1.3**	**1.8**	**5.2**	**5.6**	**n.a.**	**2.8**	**2.6**	**5.0**	**5.1**	**16.3**	**15.8**	**9.6**	**11.6**	**n.a.**	**n.a.**	**7.0**	**6.8**
Austria	<2.5	<2.5	1.1	1.8	5.5	4.9	n.a.	n.a.	n.a.	n.a.	n.a.	14.2	15.4	11.5	13.0	n.a.	n.a.	6.7	6.3
Belgium	<2.5	<2.5	n.a.	2.0	n.a.	7.3	n.a.	2.8	2.4	3.6	4.0	17.8	20.0	11.3	13.6	n.a.	n.a.	7.0	6.8
France	<2.5	<2.5	1.6	2.3	6.8	7.9	n.a.	n.a.	n.a.	n.a.	n.a.	11.7	9.7	8.8	10.6	n.a.	n.a.	7.5	7.4
Germany	<2.5	<2.5	1.0	1.5	4.1	4.0	0.4[g]	1.5	2.1	3.4	3.1	20.5	20.4	9.6	11.7	n.a.	n.a.	6.9	6.7
Luxembourg	<2.5	<2.5	1.8	0.6	4.7	2.6	n.a.	n.a.	n.a.	n.a.	n.a.	18.2	18.4	9.0	10.2	n.a.	n.a.	7.5	7.7
Netherlands (Kingdom of the)	<2.5	<2.5	1.5	1.9	5.7	5.5	n.a.	1.5	1.6	4.1	5.1	13.8	14.5	10.9	12.8	n.a.	n.a.	6.1	5.7
Switzerland	<2.5	<2.5	1.5	1.1	4.8	2.5	n.a.	n.a.	n.a.	n.a.	n.a.	11.8	12.1	9.6	11.3	n.a.	n.a.	6.4	6.4

NOTES:
n.a. = data not available; n.r. = not reported; – = not applicable.
<2.5 = prevalence of undernourishment less than 2.5 percent; <0.5 = prevalence of severe food insecurity less than 0.5 percent.
1. Regional estimates are included when more than 50 percent of population is covered. To reduce the margin of error, estimates are presented as three-year averages.
2. FAO estimates of the number of people living in households where at least one adult has been found to be food insecure.
3. Country-level results are presented only for those countries for which estimates are based on official national data (see note b) 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.
4. The estimates referring to the middle of the projected ranges for the years 2020 to 2022 were used to calculate the three-year averages.
5. For regional estimates, values correspond to the model predicted estimates for 2022. For countries, the latest data available from 2016 to 2023 are used.
6. Regional estimates are included when more than 50 percent of population is covered. For countries, the latest data available from 2005 to 2012 are used.
7. Regional estimates are included when more than 50 percent of population is covered. For countries, the latest data available from 2016 to 2022 are used.
* Wasting under five years of age; regional aggregates exclude Japan.
** The Northern America wasting estimates are derived applying mixed-effect models with subregions as fixed effects; data were available only for the United States of America, preventing the estimation of standard errors (and confidence intervals). Further details on the methodology are described in De Onis, M., Blössner, M., Borghi, E., Frongillo, E.A. & Morris, R. 2004. Estimates of global prevalence of childhood underweight in 1990 and 2015. *Journal of the American Medical Association*, 291(21): 2600–2606. https://doi.org/10.1001/jama.291.21.2600. Model selection is based on best fit.
a. Consecutive low population coverage; interpret with caution.
b. Based on official national data.
c. For years when official national data are not available, the estimates are integrated with FAO data. See **Annex 1B** for further details.
d. Results based on data collected by FAO through the Gallup® World Poll (see **Annex 1B** for methodology) are provisional and will be revised soon, as the National Institute of Statistics and Informatics (INEI) has made great progress in adapting and incorporating the Food Insecurity Experience Scale module in the National Household Survey (Encuesta Nacional de Hogares – ENAHO).
e. Most recent input data are from before 2000; interpret with caution.
f. The UNICEF–WHO low birthweight estimates are derived through standard methodology applied to all countries to ensure comparability and are not the official statistics of the Government of India. India's most recent national official low birthweight prevalence is 18.2 percent from the 2019–2021 National Family Health Survey–5 (NFHS-5), which is used as the basis of the UNICEF–WHO global estimation model to support cross-country comparability.
g. This estimate has been adjusted because the original estimate did not cover the full age range or the data source was only representative of rural areas.
h. The estimate for Palestine reflects the situation before the conflict erupted at the end of 2023.
SOURCES: Data for undernourishment and food insecurity are from FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0; data for stunting, wasting and overweight are based on UNICEF, WHO & World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF, Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, http://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition; data for adult obesity are based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024]. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-=-30-(age-standardized-estimate)-(-). Licence: CC-BY-4.0; data for anaemia are based on WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children; data for exclusive breastfeeding are based on UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding; data for low birthweight are from UNICEF & WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight; UNICEF & WHO. 2023. Joint low birthweight estimates. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-low-birthweight-estimates

TABLE A1.2 PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS AND GLOBAL NUTRITION TARGETS: NUMBER OF PEOPLE WHO ARE AFFECTED BY UNDERNOURISHMENT, MODERATE OR SEVERE FOOD INSECURITY AND SELECTED FORMS OF MALNUTRITION; NUMBER OF INFANTS EXCLUSIVELY BREASTFED AND NUMBER OF BABIES BORN WITH LOW BIRTHWEIGHT

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
WORLD	**788.3**	**722.0**	**568.0**	**868.6**	**1 611.1**	**2 311.7**	**45.0**	**177.9**	**148.1**	**37.0**	**37.0**	**591.4**	**880.7**	**519.5**	**570.8**	**25.7**	**31.3**	**21.6**	**19.8**
Least developed countries	**198.6**	**248.2**	**182.4**	**248.1**	**477.3**	**644.3**	**11.1**	**52.5**	**51.7**	**4.2**	**5.1**	**22.7**	**50.0**	**83.5**	**101.3**	**6.5**	**9.0**	**4.9**	**5.2**
Landlocked developing countries	**93.9**	**110.5**	**75.1**	**106.5**	**211.9**	**292.4**	**3.3**	**24.7**	**22.8**	**2.9**	**3.0**	**22.7**	**41.4**	**34.3**	**42.4**	**3.3**	**4.4**	**2.3**	**2.5**
Small Island Developing States	**10.3**	**11.7**	**16.9**	**16.3**	**35.6**	**37.9**	**0.2**	**1.3**	**1.3**	**0.4**	**0.5**	**7.7**	**11.2**	**4.6**	**4.9**	**0.2**	**0.2**	**0.2**	**0.2**
Low-income countries	**129.7**	**201.9**	**124.1**	**180.7**	**322.1**	**453.9**	**7.3**	**36.1**	**36.9**	**3.4**	**3.6**	**17.4**	**35.0**	**47.1**	**58.4**	**4.2**	**6.2**	**3.2**	**3.5**
Lower-middle-income countries	**445.3**	**432.1**	**350.0**	**564.0**	**867.4**	**1 376.4**	**30.5**	**112.7**	**89.3**	**12.3**	**13.2**	**140.3**	**250.0**	**302.7**	**336.1**	**13.0**	**16.6**	**14.0**	**12.6**
Upper-middle-income countries	**199.6**	**71.5**	**69.6**	**94.4**	**311.0**	**363.1**	**3.5**	**25.9**	**19.1**	**16.1**	**15.3**	**213.3**	**337.3**	**131.7**	**135.6**	**6.2**	**6.0**	**3.3**	**2.7**
High-income countries	**n.r.**	**n.r.**	**18.0**	**21.7**	**94.9**	**98.4**	**0.2**	**2.7**	**2.5**	**5.0**	**4.8**	**210.0**	**258.4**	**36.3**	**39.0**	**n.a.**	**n.a.**	**1.1**	**1.0**
Low-income food-deficit countries	**180.4**	**260.8**	**172.6**	**251.5**	**444.3**	**630.1**	**9.2**	**47.6**	**46.9**	**5.2**	**5.6**	**32.7**	**63.8**	**71.1**	**86.3**	**5.6**	**8.4**	**4.2**	**4.6**
AFRICA	**184.6**	**284.0**	**207.0**	**308.7**	**556.1**	**823.9**	**12.2**	**61.3**	**63.1**	**8.8**	**10.2**	**74.1**	**123.9**	**103.1**	**122.7**	**6.8**	**10.3**	**5.8**	**6.2**
Northern Africa	**14.6**	**19.4**	**22.4**	**30.4**	**65.4**	**86.9**	**1.8**	**6.2**	**6.3**	**3.1**	**3.6**	**34.3**	**51.2**	**17.6**	**18.9**	**1.1**	**1.0**	**0.8**	**0.8**
Algeria	2.0	n.r.	5.2	2.5	9.0	8.5	0.1	0.5	0.4	0.6	0.6	4.7	6.9	3.4	3.6	0.1	0.1	0.1	0.1
Egypt	4.6	9.4	8.2	11.5	27.1	33.1	n.a.	2.8	2.5	1.8	2.3	20.8	30.4	6.9	7.0	0.6	0.5	n.a.	n.a.
Libya	0.3	0.8	0.7	1.4	1.8	2.6	n.a.	0.2	0.3	0.2	0.2	1.2	1.7	0.5	0.6	n.a.	n.a.	n.a.	n.a.

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Morocco	1.5	2.6	n.r.	n.r.	n.r.	n.r.	0.1[g]	0.5	0.4	0.3	0.2	3.7	5.6	2.7	2.9	0.1	0.1	0.1	0.1
Sudan	–	5.3	n.r.	n.r.	n.r.	n.r.	n.a.	2.1	2.6	0.1	0.2	2.1	4.2	3.1	3.8	0.3	n.a.	n.a.	n.a.
Tunisia	0.4	0.4	1.1	1.4	2.1	3.3	<0.1	0.1	0.1	0.1	0.2	1.8	2.4	0.9	1.0	<0.1	<0.1	<0.1	<0.1
Northern Africa (excluding Sudan)	**8.9**	**14.1**	**17.3**	**21.5**	**49.6**	**61.4**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**32.0**	**46.6**	**14.5**	**15.1**	**0.9**	**0.8**	**0.6**	**0.6**
Sub-Saharan Africa	**170.0**	**264.6**	**184.5**	**278.3**	**490.7**	**737.0**	**10.3**	**55.1**	**56.8**	**5.7**	**6.6**	**38.2**	**68.8**	**85.4**	**103.8**	**5.6**	**9.2**	**5.0**	**5.4**
Eastern Africa	**96.5**	**137.3**	**86.4**	**120.8**	**230.1**	**309.5**	**3.5**	**23.6**	**21.8**	**2.4**	**2.6**	**8.7**	**19.8**	**26.5**	**33.8**	**3.1**	**4.5**	**2.0**	**2.1**
Burundi	n.a.	n.a.	n.a.	2.7[b]	n.a.	9.1[b]	0.1[g]	1.1	1.2	<0.1	0.1	0.1	0.3	0.7	1.0	0.1	0.2	0.1	0.1
Comoros	0.1	0.1	n.a.	0.2	n.a.	0.7	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	n.a.	<0.1	<0.1
Djibouti	0.3	0.1	n.a.	0.2	n.a.	0.6	<0.1[g]	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	n.a.	n.a.	n.a.
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.3	0.2	<0.1	<0.1	<0.1	0.1	0.3	0.3	<0.1	n.a.	<0.1	<0.1
Ethiopia	28.7	27.3	14.9	24.3	57.6	72.8	1.2	6.4	6.3	0.4	0.5	0.7	1.9	4.8	6.6	0.8	1.1	n.a.	n.a.
Kenya	10.1	18.7	7.0[b, c]	15.1[c]	23.8[b, c]	39.4[c]	0.3	2.0	1.3	0.3	0.3	1.8	3.7	3.1	3.9	0.2	0.4	0.2	0.1
Madagascar	6.3	11.8	n.a.	4.4	n.a.	20.3	0.3	1.7	1.6	0.1	0.1	0.3	0.7	2.0	2.5	0.2	0.2	0.2	0.2
Malawi	2.7	4.1	8.1[b, c]	10.9[b, c]	13.2[b, c]	16.7[b, c]	0.1	1.2	1.0	0.1	0.1	0.3	0.8	1.1	1.4	0.2	0.2	0.1	0.1
Mauritius	0.1	0.1	<0.1	0.1	0.2	0.4	n.a.	<0.1[e]	<0.1[e]	<0.1[e]	<0.1[e]	0.2	0.2	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Mozambique	6.8	8.2	n.r.	n.r.	n.r.	n.r.	0.2	1.9	2.0	0.2	0.3	0.7	1.7	2.9	3.5	0.2	0.3	0.2	0.2
Rwanda	3.3	4.3	n.r.	n.r.	n.r.	n.r.	<0.1	0.7	0.6	0.1	0.1	0.1	0.4	0.5	0.5	0.1	0.2	<0.1	<0.1
Seychelles	<0.1	n.r.	<0.1[b]	<0.1[c]	<0.1[b]	<0.1[c]	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Somalia	7.3	9.0	n.a.	7.7	n.a.	14.0	n.a.	0.7	0.6	0.1	0.1	0.5	1.2	1.2	1.5	<0.1	0.1	n.a.	n.a.
South Sudan	–	2.1	n.a.	6.9[b]	n.a.	9.5[b]	n.a.	0.5	0.4	0.1	0.1	0.3	0.5	0.8	0.9	0.1	n.a.	n.a.	n.a.
Uganda	5.2	17.4	8.1[c]	10.9[c]	24.9[c]	33.6[c]	0.3	2.1	1.8	0.2	0.3	0.6	1.8	2.5	3.4	0.4	0.5	n.a.	n.a.

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
United Republic of Tanzania	11.2	15.6	10.8[c]	16.6[c]	25.7[c]	38.1[c]	0.3	3.2	3.3	0.4	0.5	1.7	4.1	4.4	5.3	0.4	0.7	0.2	0.2
Zambia	5.7	7.1	n.r.	n.r.	n.r.	n.r.	0.1	1.1	1.0	0.2	0.2	0.5	1.1	1.0	1.4	0.2	0.2	0.1	0.1
Zimbabwe	3.6	6.2	5.0	4.3	9.2	11.5	0.1	0.7	0.5	0.1	0.1	0.7	1.2	1.0	1.1	0.1	0.1	0.1	0.1
Middle Africa	**37.5**	**56.6**	**n.a.**	**73.8**	**n.a.**	**150.4**	**1.9**	**10.0**	**12.9**	**1.2**	**1.6**	**4.6**	**8.8**	**14.6**	**17.2**	**0.8**	**1.6**	**0.8**	**0.9**
Angola	10.2	8.3	n.a.	11.3[c]	n.a.	28.2[c]	n.a.	1.5	2.7	0.1	0.2	1.0	2.0	2.6	3.3	n.a.	n.a.	0.2	0.2
Cameroon	2.7	1.6	5.1	7.1	11.5	16.6	0.2	1.2	1.2	0.3	0.5	1.2	2.1	2.1	2.5	0.1	0.2	0.1	0.1
Central African Republic	1.6	1.3	n.a.	3.5	n.a.	4.5	0.1	0.4	0.4	<0.1	<0.1	0.1	0.2	0.5	0.5	<0.1	<0.1	<0.1	<0.1
Chad	3.5	6.2	4.6[c]	6.5	9.6[c]	13.6	0.3	1.0	1.1	0.1	0.1	0.3	0.5	1.4	1.6	<0.1	<0.1	n.a.	n.a.
Congo	1.1	1.6	n.a.	2.3[b]	n.a.	4.8[b]	n.a.	0.2	0.1	<0.1	<0.1	0.2	0.3	0.6	0.6	<0.1	n.a.	<0.1	<0.1
Democratic Republic of the Congo	18.0	36.6	n.a.	41.3	n.a.	79.4	1.0	5.7	7.3	0.6	0.7	1.5	3.1	7.1	8.2	0.5	1.0	0.4	0.4
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	0.1	<0.1	n.a.	n.a.	n.a.
Gabon	0.2	0.5	n.r.	n.r.	n.r.	n.r.	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	0.3	<0.1	<0.1	<0.1	<0.1
Sao Tome and Principe	<0.1	<0.1	n.a.	<0.1	n.a.	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Southern Africa	**2.7**	**6.4**	**5.8**	**7.5**	**13.7**	**16.5**	**0.2**	**1.5**	**1.6**	**0.8**	**0.8**	**10.7**	**13.4**	**4.7**	**5.5**	**n.a.**	**0.2**	**0.2**	**0.2**
Botswana	0.4	0.6	0.4[c]	0.7[b, c]	1.1[c]	1.4[b, c]	n.a.	0.1	0.1	<0.1	<0.1	0.2	0.3	0.2	0.2	<0.1	<0.1	<0.1	<0.1
Eswatini	0.1	0.1	n.a.	0.2[b]	n.a.	0.7[b]	n.a.	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	0.1	<0.1	n.a.	<0.1	<0.1
Lesotho	n.a.	n.a.	n.a.	0.8[c]	n.a.	1.3[c]	<0.1	0.1	0.1	<0.1	<0.1	0.2	0.3	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Namibia	0.4	0.6	0.7[c]	0.8[c]	1.2[c]	1.5[c]	n.a.	0.1	0.1	<0.1	<0.1	0.2	0.3	0.1	0.2	<0.1	n.a.	<0.1	<0.1
South Africa	1.7	4.9	n.a.	5.0[b, c]	n.a.	11.6[b, c]	0.2[g]	1.3	1.3	0.7	0.7	10.0	12.3	4.2	4.8	n.a.	0.2	0.2	0.2

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Western Africa	**33.3**	**64.2**	**40.2**	**76.2**	**142.3**	**260.6**	**4.6**	**19.9**	**20.5**	**1.3**	**1.7**	**13.4**	**25.2**	**39.6**	**47.3**	**1.4**	**2.8**	**2.0**	**2.1**
Benin	0.9	1.4	1.1[c]	2.1[b, c]	6.0[c]	8.4[b, c]	0.2	0.6	0.7	<0.1	<0.1	0.4	0.8	1.3	1.5	0.1	0.1	0.1	0.1
Burkina Faso	2.4	3.5	n.a.	1.6[b]	n.a.	9.2[b]	0.4	1.0	0.8	0.1	0.1	0.3	0.8	2.0	2.5	0.1	0.2	0.1	0.1
Cabo Verde	0.1	0.1	n.a.	<0.1[b]	n.a.	0.2[b]	n.a.	<0.1[e]	<0.1[e]	n.a.	n.a.	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.
Côte d'Ivoire	3.7	2.7	1.5[c]	2.5[b, c]	8.0[c]	11.1[b, c]	0.3	1.1	0.9	0.1	0.1	0.9	1.7	2.6	3.2	<0.1	0.2	0.2	0.2
Gambia	0.3	0.6	n.a.	0.7	n.a.	1.6	<0.1	0.1	0.1	<0.1	<0.1	0.1	0.2	0.3	0.3	<0.1	<0.1	<0.1	<0.1
Ghana	2.5	2.1	1.5[b, c]	2.8[b, c]	11.1[b, c]	14.2[b, c]	0.3	0.9	0.6	0.1	0.1	1.5	2.5	2.9	2.7	0.2	0.2	0.1	0.1
Guinea	1.5	1.4	n.r.	n.r.	n.r.	n.r.	0.1	0.6	0.6	0.1	0.1	0.3	0.7	1.3	1.5	<0.1	0.1	n.a.	n.a.
Guinea-Bissau	0.2	0.7	n.a.	0.2[b]	n.a.	1.3[b]	<0.1	0.1	0.1	<0.1	<0.1	0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1
Liberia	1.1	2.0	1.8	2.0	3.7	4.3	<0.1	0.2	0.2	<0.1	<0.1	0.2	0.5	0.4	0.5	<0.1	<0.1	<0.1	<0.1
Mali	1.7	2.2	n.a.	0.6[b]	n.a.	4.5[b]	0.4	1.0	1.0	0.1	0.1	0.6	1.2	2.0	2.6	0.1	0.2	n.a.	n.a.
Mauritania	0.3	0.4	0.2[c]	0.6[c]	1.0[c]	2.9[c]	0.1[g]	0.2	0.2	<0.1	<0.1	0.3	0.6	0.4	0.5	<0.1	<0.1	n.a.	n.a.
Niger	2.6	3.5	n.a.	2.0[b]	n.a.	13.2[b]	0.6	1.7	2.4	<0.1	0.1	0.3	0.7	1.8	2.4	0.1	0.1	n.a.	n.a.
Nigeria	9.9	39.4	20.3[b, c]	49.4[b, c]	63.8[b, c]	161.4[b, c]	2.2	11.4	12.1	0.8	0.8	7.3	13.6	20.9	25.5	0.5	1.3	n.a.	n.a.
Senegal	2.0	0.8	1.1[c]	0.7[b, c]	5.6[c]	5.1[b, c]	0.2	0.4	0.4	<0.1	0.1	0.5	0.9	1.8	2.1	0.1	0.1	0.1	0.1
Sierra Leone	2.6	2.4	2.0[b, c]	2.8	5.5[b, c]	7.6	0.1	0.4	0.3	<0.1	0.1	0.2	0.3	0.8	0.9	<0.1	0.1	<0.1	<0.1
Togo	1.5	1.1	1.2[c]	1.0[b, c]	4.5[c]	5.0[b, c]	0.1	0.3	0.3	<0.1	<0.1	0.3	0.5	0.8	0.9	0.1	0.1	<0.1	<0.1
Sub-Saharan Africa (including Sudan)	**170.0**	**270.0**	**189.7**	**287.2**	**506.5**	**762.4**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**40.3**	**73.1**	**88.6**	**107.6**	**5.9**	**9.5**	**5.2**	**5.6**
ASIA*	**542.4**	**385.2**	**299.5**	**468.5**	**793.1**	**1 177.6**	**31.6**	**106.8**	**76.6**	**18.2**	**17.7**	**192.9**	**353.9**	**350.2**	**379.1**	**15.0**	**16.7**	**13.7**	**11.8**
Central Asia	**8.2**	**2.4**	**1.2**	**3.3**	**6.4**	**13.9**	**0.2**	**1.1**	**0.7**	**0.6**	**0.4**	**8.0**	**12.4**	**5.2**	**5.3**	**0.2**	**0.3**	**0.1**	**0.1**
Kazakhstan	1.1	n.r.	n.a.	0.1[b]	n.a.	0.4[b]	n.a.	0.2	0.1	0.2	0.2	1.9	2.4	1.3	1.3	0.1	n.a.	<0.1	<0.1
Kyrgyzstan	0.4	0.4	n.a.	<0.1[c]	n.a.	0.5[c]	<0.1[g]	0.1	0.1	0.1	0.1	0.7	1.1	0.5	0.6	<0.1	<0.1	<0.1	<0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Tajikistan	2.6	0.9	0.4	0.7	1.6	2.8	0.1	0.3	0.2	0.1	<0.1	0.8	1.4	0.6	0.8	<0.1	<0.1	<0.1	<0.1
Turkmenistan	0.2	0.3	n.a.	n.a.	n.a.	n.a.	<0.1	0.1	<0.1	<0.1	<0.1	0.6	0.9	0.4	0.4	<0.1	<0.1	<0.1	<0.1
Uzbekistan	3.8	n.r.	n.r.	n.r.	n.r.	n.r.	0.1	0.4	0.3	0.2	0.2	4.0	6.8	2.4	2.2	0.1	0.1	<0.1	<0.1
Eastern Asia*	**106.9**	**n.r.**	**16.5**	**16.7**	**98.5**	**103.6**	**1.1**	**7.7**	**3.7**	**6.6**	**6.4**	**55.1**	**106.4**	**65.4**	**62.8**	**2.9**	**2.2**	**1.2**	**0.8**
China	94.6	n.r.	n.r.	n.r.	n.r.	n.r.	1.7	6.7	3.1	6.2	6.0	48.0	94.3	56.1	54.0	2.5	1.9	1.0	0.6
China, mainland	93.5	n.r.	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Taiwan Province of China	1.0	0.9	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China, Hong Kong SAR	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China, Macao SAR	0.1	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Democratic People's Republic of Korea	8.3	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	0.4	0.3	<0.1	<0.1	1.2	2.2	2.1	2.2	0.1	0.1	n.a.	n.a.
Japan	n.r.	4.2	n.r.	1.5	3.3	6.8	n.a.	0.3	0.2	0.1	0.1	4.2	5.9	5.3	4.8	n.a.	n.a.	0.1	0.1
Mongolia	0.7	n.r.	n.a.	n.r.	n.a.	0.2[c]	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.5	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Republic of Korea	n.r.	n.r.	n.r.	0.5	2.4[b]	3.0	<0.1[g]	<0.1	<0.1	0.2	0.1	1.6	3.3	1.8	1.6	n.a.	n.a.	<0.1	<0.1
Eastern Asia (excluding China and Japan)	**10.1**	**14.3**	**0.6**	**0.9**	**5.5**	**6.0**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**3.1**	**5.9**	**4.0**	**4.0**	**n.a.**	**0.2**	**0.1**	**0.1**
South-eastern Asia	**94.5**	**40.8**	**12.7**	**18.6**	**94.3**	**115.8**	**4.3**	**17.2**	**14.4**	**3.6**	**4.1**	**25.0**	**48.0**	**41.7**	**47.4**	**1.9**	**2.5**	**1.5**	**1.4**
Brunei Darussalam	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Cambodia	2.4	0.8	2.6	2.3	7.5	8.5	0.2	0.6	0.4	<0.1	0.1	0.2	0.5	1.9	2.1	0.1	0.1	<0.1	<0.1
Indonesia	42.2	19.9	1.8[b]	n.r.	15.5[b]	13.6[b]	2.4	8.3	6.9	2.2	2.4	10.0	21.6	18.3	22.3	1.0	1.1	0.5	0.4
Lao People's Democratic Republic	1.3	0.4	n.a.	0.5	n.a.	2.7	0.1	0.3	0.2	<0.1	<0.1	0.2	0.4	0.6	0.8	<0.1	<0.1	<0.1	<0.1
Malaysia	0.8	n.r.	2.4	2.0	5.4	5.7	0.3	0.4	0.6	0.2	0.1	3.2	5.4	2.4	2.8	n.a.	0.1	0.1	0.1
Myanmar	13.8	2.9	n.a.	3.7	n.a.	17.4	0.3[g]	1.4	1.1	0.1	<0.1	1.8	2.8	5.7	6.3	0.1	0.2	0.1	0.1
Philippines	12.6	6.9	n.a.	6.8[c]	n.a.	51.0[c]	0.6	3.7	3.5	0.4	0.6	3.4	6.5	4.2	3.5	0.4	0.5	0.5	0.5
Singapore	n.a.	n.a.	<0.1	0.1	0.2	0.5	n.a.	<0.1	<0.1	<0.1	<0.1	0.4	0.7	0.2	0.2	n.a.	n.a.	<0.1	<0.1
Thailand	7.9	4.0	n.a.	1.0[b, c]	n.a.	5.2[b, c]	0.2	0.6	0.4	0.4	0.3	5.3	8.9	4.1	4.2	<0.1	0.1	0.1	0.1
Timor-Leste	0.3	0.2	n.a.	0.1	n.a.	0.7	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Viet Nam	12.7	5.1	n.a.	2.0[c]	n.a.	10.6[c]	0.3	1.8	1.4	0.3	0.6	0.5	1.5	4.3	5.3	0.1	0.3	0.1	0.1
Southern Asia	**315.0**	**284.8**	**243.5**	**390.3**	**512.6**	**829.9**	**25.1**	**75.3**	**53.7**	**5.0**	**4.9**	**63.4**	**130.8**	**218.4**	**241.0**	**8.9**	**10.5**	**10.2**	**8.8**
Afghanistan	8.4	12.5	5.0	12.6	15.2	33.3	0.2	2.3	2.2	0.3	0.2	1.4	3.9	2.5	3.8	n.a.	0.4	n.a.	n.a.
Bangladesh	19.2	20.3	20.9	19.5	50.9	52.3	1.6	6.0	3.9	0.3	0.3	2.4	6.2	14.9	16.8	1.0	0.8	0.7	0.7
Bhutan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	n.a.	<0.1	<0.1
India	246.5	194.6	n.r.	n.r.	n.r.	n.r.	21.9	52.5	36.1	2.8	3.2	33.6	71.4	171.5	187.3	5.9	7.2	7.7	6.3[f]
Iran (Islamic Republic of)	3.8	5.8	7.8	5.7	39.2	35.3	0.3	0.4	0.3	0.3	0.2	11.2	15.6	5.1	5.5	0.4	0.3	n.a.	n.a.
Maldives	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Nepal	4.5	1.7	2.9	4.1	8.2	11.3	0.2	1.2	0.8	<0.1	<0.1	0.5	1.4	2.6	3.2	0.2	0.2	0.1	0.1
Pakistan	29.7	48.8	1.9[c]	35.6[c]	29.6[c]	105.8[c]	2.1	12.5	10.1	1.3	0.8	14.1	31.0	19.8	22.4	1.1	1.5	n.a.	n.a.
Sri Lanka	2.8	0.9	0.1[c]	0.3[c]	1.2[c]	2.5[c]	0.3	0.3	0.2	<0.1	<0.1	0.8	1.7	1.8	1.8	0.1	0.1	0.1	0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Southern Asia (excluding India)	**68.5**	**90.2**	**38.7**	**77.9**	**144.7**	**240.9**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**30.3**	**59.9**	**46.8**	**53.7**	**3.1**	**3.3**	**2.6**	**2.5**
Western Asia	**17.9**	**35.2**	**25.6**	**39.6**	**81.4**	**114.4**	**1.0**	**5.3**	**3.9**	**2.5**	**2.0**	**46.5**	**65.3**	**19.6**	**22.5**	**0.9**	**0.9**	**0.7**	**0.7**
Armenia	0.4	n.r.	n.a.	n.r.	n.a.	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Azerbaijan	0.4	n.r.	n.r.	<0.1	0.6	1.3	n.a.	0.2	0.1	0.1	0.1	1.4	2.0	0.9	0.9	<0.1	n.a.	<0.1	<0.1
Bahrain	n.a.	n.a.	n.r.	n.r.	n.r.	n.r.	n.a.	<0.1[e]	<0.1[e]	n.a.	n.a.	0.3	0.4	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Cyprus	0.1	n.r.	n.r.	n.r.	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.	0.2	0.2	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Georgia	0.2	0.1	0.3	0.3	1.2	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	1.0	0.3	0.2	<0.1	<0.1	<0.1	<0.1
Iraq	4.7	7.2	n.r.	n.r.	n.r.	n.r.	0.2	1.0	0.6	0.5	0.4	6.1	10.1	2.3	2.8	0.1	0.2	0.1	0.1
Israel	n.r.	n.r.	0.1[b]	0.3[c]	0.9[b]	1.1[c]	n.a.	n.a.	n.a.	n.a.	n.a.	1.1	1.4	0.2	0.3	n.a.	n.a.	<0.1	<0.1
Jordan	0.3	2.0	n.r.	n.r.	n.r.	n.r.	<0.1	0.1	0.1	0.1	0.1	1.5	2.7	0.6	1.0	<0.1	<0.1	<0.1	<0.1
Kuwait	n.r.	n.r.	0.2	0.1	0.5	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	1.3	0.2	0.2	n.a.	n.a.	<0.1	<0.1
Lebanon	0.5	0.5	n.a.	0.6	n.a.	2.2	<0.1	0.1	<0.1	<0.1	<0.1	0.9	1.1	0.4	0.5	n.a.	<0.1	<0.1	<0.1
Oman	0.3	0.3	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	0.1	<0.1	<0.1	0.6	1.0	0.2	0.3	n.a.	<0.1	<0.1	<0.1
Palestine	n.a.	n.a.	n.a.	0.2[b, h]	n.a.	1.4[b, h]	<0.1	0.1	0.1	<0.1	0.1	0.7	1.1	0.3	0.4	<0.1	<0.1	<0.1	<0.1
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1[e]	<0.1[e]	<0.1[e]	<0.1[e]	0.6	1.0	0.1	0.1	<0.1	n.a.	<0.1	<0.1
Saudi Arabia	1.1	1.1	n.r.	n.r.	n.r.	n.r.	0.1[g]	0.4	0.4	0.3	0.3	7.1	10.3	1.9	2.3	n.a.	n.a.	n.a.	n.a.
Syrian Arab Republic	1.2	7.6	n.r.	n.r.	n.r.	n.r.	n.a.	0.8	0.5	0.5	0.2	3.8	4.6	1.7	1.5	0.1	0.1	n.a.	n.a.
Türkiye	2.6	n.r.	n.r.	n.r.	n.r.	n.r.	0.1	0.6	0.4	0.7	0.5	15.3	20.6	n.a.	n.a.	0.3	0.3	0.2	0.2
United Arab Emirates	0.3	0.3	n.a.	0.1[b, c]	n.a.	0.9[b, c]	n.a.	n.a.	n.a.	n.a.	n.a.	2.2	2.5	0.4	0.5	n.a.	n.a.	<0.1	<0.1
Yemen	5.4	13.3	n.a.	n.a.	13.0	24.4	n.a.	2.0	1.7	0.1	0.1	1.2	2.5	3.7	4.6	n.a.	n.a.	n.a.	n.a.

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Central Asia and Southern Asia	**323.2**	**287.2**	**244.7**	**393.6**	**518.9**	**843.8**	**25.3**	**76.4**	**54.3**	**5.6**	**5.3**	**71.3**	**143.2**	**223.5**	**246.3**	**9.2**	**10.8**	**10.3**	**8.9**
Eastern Asia and South-eastern Asia*	**201.4**	**62.8**	**29.2**	**35.3**	**192.8**	**219.5**	**5.4**	**25.0**	**18.3**	**10.2**	**10.4**	**80.3**	**154.6**	**107.1**	**110.2**	**4.8**	**4.8**	**2.7**	**2.2**
Western Asia and Northern Africa	**32.4**	**54.6**	**48.0**	**70.0**	**146.7**	**201.2**	**2.8**	**11.5**	**10.2**	**5.6**	**5.6**	**80.7**	**116.5**	**37.2**	**41.4**	**2.1**	**1.9**	**1.5**	**1.5**
LATIN AMERICA AND THE CARIBBEAN	**49.7**	**43.4**	**43.8**	**70.1**	**156.1**	**206.6**	**0.7**	**6.8**	**5.7**	**3.9**	**4.2**	**91.4**	**141.4**	**29.6**	**29.6**	**1.8**	**2.0**	**1.0**	**0.9**
Caribbean	**7.2**	**7.3**	**n.a.**	**12.2**	**n.a.**	**26.4**	**0.1**	**0.5**	**0.4**	**0.2**	**0.2**	**5.5**	**7.6**	**3.0**	**3.1**	**0.1**	**0.1**	**0.1**	**0.1**
Antigua and Barbuda	n.a.	n.a.	n.a.	<0.1	n.a.	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Bahamas	n.a.	n.a.	n.a.	<0.1	n.a.	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Barbados	<0.1	<0.1	n.a.	<0.1	n.a.	<0.1	n.a.	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.
Cuba	n.r.	n.r.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	0.1	0.1	1.5	2.0	0.6	0.5	<0.1	<0.1	<0.1	<0.1
Dominica	<0.1	<0.1	n.a.	<0.1	n.a.	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Dominican Republic	1.8	0.5	2.5[b]	2.1[b, c]	5.6[b]	5.2[b, c]	<0.1	0.1	0.1	0.1	0.1	1.4	2.2	0.7	0.7	<0.1	<0.1	<0.1	<0.1
Grenada	n.a.	n.a.	n.a.	<0.1[b]	n.a.	<0.1[b]	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Haiti	4.6	5.8	n.a.	4.9	n.a.	9.6	<0.1	0.3	0.2	<0.1	<0.1	0.5	0.8	1.3	1.4	0.1	0.1	n.a.	n.a.
Jamaica	0.2	0.2	0.7	0.8	1.3	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.7	0.1	0.2	<0.1	n.a.	<0.1	<0.1
Puerto Rico	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.0	1.1	0.2	0.1	n.a.	n.a.	n.a.	n.a.
Saint Kitts and Nevis	n.a.	n.a.	n.a.	<0.1	n.a.	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Saint Lucia	n.a.	n.a.	<0.1[b]	<0.1	<0.1[b]	<0.1	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	<0.1	<0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Saint Vincent and the Grenadines	<0.1	<0.1	n.a.	<0.1	n.a.	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Trinidad and Tobago	0.1	0.2	n.a.	0.2	n.a.	0.7	n.a.	<0.1	<0.1	<0.1	<0.1	0.3	0.3	0.1	0.1	<0.1	n.a.	<0.1	<0.1
Central America	**11.1**	**10.5**	**10.6**	**14.1**	**48.3**	**52.6**	**0.1**	**2.9**	**2.5**	**1.1**	**1.0**	**28.5**	**42.5**	**6.7**	**7.0**	**0.4**	**0.5**	**0.4**	**0.3**
Belize	<0.1	<0.1	n.a.	<0.1[b]	n.a.	0.2[b]	n.a.	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	n.a.	<0.1	<0.1
Costa Rica	0.1	n.r.	<0.1[c]	0.1[c]	0.6[c]	0.8[c]	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	1.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1
El Salvador	0.5	0.4	0.9	1.0	2.6	3.0	n.a.	0.1	0.1	<0.1	<0.1	1.0	1.4	0.2	0.2	<0.1	<0.1	<0.1	<0.1
Guatemala	2.5	2.3	2.6	3.8	6.8	10.7	<0.1	0.9	0.8	0.1	0.1	1.7	2.9	0.4	0.3	0.1	0.1	0.1	0.1
Honduras	1.6	2.1	1.3[c]	2.8	3.9[c]	5.8	<0.1	0.2	0.2	0.1	0.1	1.1	2.0	0.4	0.5	<0.1	<0.1	<0.1	<0.1
Mexico	4.4	3.9	4.1[b]	3.8[b]	30.0[b]	26.4[b]	0.1	1.5	1.2	0.8	0.7	22.2	32.3	5.1	5.3	0.2	0.3	0.2	0.2
Nicaragua	1.2	1.4	n.r.	n.r.	n.r.	n.r.	n.a.	0.1	0.1	<0.1	0.1	1.0	1.5	0.2	0.3	<0.1	n.a.	<0.1	<0.1
Panama	0.7	0.2	n.r.	n.r.	n.r.	n.r.	<0.1	0.1	0.1	<0.1	<0.1	0.7	1.1	0.2	0.2	n.a.	n.a.	<0.1	<0.1
South America	**31.4**	**25.6**	**19.6**	**43.8**	**81.5**	**127.6**	**0.4**	**3.4**	**2.8**	**2.6**	**3.0**	**57.4**	**91.2**	**19.9**	**19.5**	**1.4**	**1.4**	**0.6**	**0.5**
Argentina	1.4	1.4	2.5	5.9	8.3	16.4	0.1	0.3	0.3	0.4	0.4	7.7	11.6	1.3	1.3	0.1	n.a.	0.1	<0.1
Bolivia (Plurinational State of)	2.6	2.8	n.r.	n.r.	n.r.	n.r.	<0.1	0.3	0.1	0.1	0.1	1.3	2.2	0.7	0.7	0.1	0.1	<0.1	<0.1
Brazil	11.7	8.4	1.5[b, c]	14.3[b, c]	27.2[b, c]	39.7[b, c]	0.5	1.0	1.0	1.2	1.4	27.2	45.7	10.1	9.2	0.6	0.6	0.2	0.2
Chile	0.5	n.r.	0.5[c]	0.7[b, c]	1.9[c]	3.4[b, c]	n.a.	<0.1	<0.1	0.1	0.1	3.8	5.9	0.4	0.4	n.a.	n.a.	<0.1	<0.1
Colombia	4.7	2.2	2.3[c]	2.8[b, c]	9.4[c]	16.3[b, c]	0.1	0.5	0.4	0.2	0.2	5.7	9.1	2.8	2.9	0.2	0.1	0.1	0.1
Ecuador	3.0	2.5	1.0[b, c]	2.3[c]	3.4[b, c]	6.6[c]	0.1	0.4	0.3	0.1	0.2	2.0	3.4	0.7	0.8	n.a.	n.a.	<0.1	<0.1
Guyana	0.1	n.r.	n.a.	<0.1[b]	n.a.	0.2[b]	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1, 2, 3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Paraguay	0.4	0.3	<0.1[c]	0.4[b, c]	0.5[c]	1.8[b, c]	<0.1	0.1	<0.1	0.1	0.1	0.9	1.5	0.4	0.4	<0.1	<0.1	<0.1	<0.1
Peru	5.0	2.4	4.1[d]	6.9[d]	11.4[d]	17.6[d]	<0.1	0.6	0.3	0.2	0.3	3.6	6.4	1.6	1.8	0.2	0.2	0.1	<0.1
Suriname	<0.1	0.1	n.a.	<0.1	n.a.	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uruguay	0.1	n.r.	n.a.	<0.1[b, c]	n.a.	0.5[b, c]	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.9	0.1	0.1	n.a.	<0.1	<0.1	<0.1
Venezuela (Bolivarian Republic of)	2.1	5.0	n.r.	n.r.	n.r.	n.r.	n.a.	0.4	0.2	0.2	0.2	4.4	4.3	1.6	1.8	n.a.	n.a.	0.1	<0.1
OCEANIA	**2.3**	**3.3**	**3.5**	**4.5**	**9.0**	**11.2**	**n.a.**	**0.7**	**0.8**	**0.4**	**0.6**	**6.9**	**9.6**	**1.3**	**1.6**	**n.a.**	**n.a.**	**0.1**	**0.1**
Australia and New Zealand	**n.r.**	**n.r.**	**0.8**	**1.3**	**3.0**	**4.2**	**n.a.**	**0.1**	**0.1**	**0.2**	**0.4**	**5.5**	**7.6**	**0.5**	**0.6**	**n.a.**	**n.a.**	**<0.1**	**<0.1**
Australia	n.r.	n.r.	0.7	1.1	2.6	3.4	n.a.	<0.1	0.1	0.2	0.3	4.5	6.2	0.4	0.5	n.a.	n.a.	<0.1	<0.1
New Zealand	n.r.	n.r.	0.1	0.2	0.5	0.8	n.a.	n.a.	n.a.	n.a.	n.a.	1.0	1.4	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Oceania excluding Australia and New Zealand	**2.0**	**3.1**	**2.7**	**3.2**	**5.9**	**7.0**	**0.1[a]**	**0.6**	**0.7**	**0.1**	**0.2**	**1.3**	**2.0**	**0.8**	**1.0**	**0.1**	**0.1**	**0.1**	**0.1**
Melanesia	**1.9**	**3.1**	**n.a.**	**3.1**	**n.a.**	**6.7**	**n.a.**	**0.6**	**0.7**	**0.1**	**0.2**	**1.0**	**1.6**	**0.8**	**0.9**	**0.1**	**0.1**	**0.1**	**0.1**
Fiji	<0.1	0.1	n.a.	<0.1	n.a.	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	n.a.	<0.1	<0.1	<0.1
New Caledonia	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Papua New Guinea	1.8	2.8	n.a.	2.7	n.a.	5.8	n.a.	0.5	0.6	0.1	0.2	0.8	1.2	0.6	0.8	0.1	0.1	<0.1	<0.1
Solomon Islands	0.1	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	n.a.	<0.1	<0.1
Vanuatu	<0.1	<0.1	n.a.	<0.1	n.a.	<0.1	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	<0.1	<0.1
Micronesia	**<0.1**	**<0.1**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.1**	**0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Kiribati	<0.1	<0.1	n.a.	<0.1	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Marshall Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Micronesia (Federated States of)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Nauru	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.
Palau	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Polynesia	**<0.1**	**<0.1**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.2**	**0.3**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
American Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cook Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
French Polynesia	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Niue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.
Samoa	<0.1	<0.1	n.a.	<0.1	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.
Tokelau (Associate Member)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tonga	n.a.	n.a.	n.a.	<0.1[b]	n.a.	<0.1[b]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.
Tuvalu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.
NORTHERN AMERICA AND EUROPE	**n.r.**	**n.r.**	**14.3**	**16.8**	**96.8**	**92.4**	**n.a.**	**2.6**	**2.1**	**5.6**	**4.3**	**215.1**	**250.5**	**33.7**	**36.2**	**n.a.**	**n.a.**	**0.9**	**0.8**
Northern America**	**n.r.**	**n.r.**	**3.7**	**3.3**	**35.8**	**34.0**	**<0.1**	**0.6**	**0.7**	**1.9**	**1.7**	**96.1**	**119.2**	**8.1**	**9.8**	**0.6**	**0.5**	**0.3**	**0.3**
Bermuda	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Canada	n.r.	n.r.	n.a.	0.6[c]	n.a.	3.3[c]	n.a.	n.a.	n.a.	0.2	0.2	6.8	8.2	0.7	0.9	n.a.	n.a.	<0.1	<0.1
Greenland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United States of America	n.r.	n.r.	3.5[b]	2.7[b]	34.0[b]	30.7[b]	<0.1	0.5	0.7	1.7	1.5	89.2	110.9	7.4	8.9	0.5	0.5	0.3	0.3

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Europe	**n.r.**	**n.r.**	**10.6**	**13.5**	**61.0**	**58.3**	**n.a.**	**2.1**	**1.4**	**3.7**	**2.6**	**118.0**	**129.0**	**25.5**	**26.5**	**n.a.**	**n.a.**	**0.6**	**0.5**
Eastern Europe	**n.r.**	**n.r.**	**4.3**	**5.3**	**32.8**	**30.8**	**n.a.**	**1.2**	**0.8**	**2.0**	**1.1**	**52.9**	**59.2**	**14.1**	**14.0**	**n.a.**	**n.a.**	**0.3**	**0.2**
Belarus	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.a.	<0.1	<0.1	<0.1	<0.1	1.7	1.6	0.5	0.4	<0.1	<0.1	<0.1	<0.1
Bulgaria	0.4	n.r.	0.1	0.2	1.1	1.0	n.a.	<0.1	<0.1	<0.1	<0.1	1.1	1.2	0.4	0.4	n.a.	n.a.	<0.1	<0.1
Czechia	n.r.	n.r.	<0.1	0.2	0.6	1.0	n.a.	<0.1	<0.1	<0.1	<0.1	1.9	2.2	0.5	0.5	n.a.	n.a.	<0.1	<0.1
Hungary	n.r.	n.r.	0.1	0.4	1.1	1.5	n.a.	n.a.	n.a.	n.a.	n.a.	2.1	2.6	0.5	0.4	n.a.	n.a.	<0.1	<0.1
Poland	n.r.	n.r.	0.7	0.3	3.4	2.2	n.a.	<0.1	<0.1	0.1	0.1	7.0	9.0	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1
Republic of Moldova	1.3	n.r.	<0.1	0.2	0.6	0.8	n.a.	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.3	0.3	<0.1	n.a.	<0.1	<0.1
Romania	n.r.	n.r.	1.1	1.4	3.8	3.8	n.a.	0.1	0.1	0.1	<0.1	3.6	5.4	1.1	1.0	n.a.	n.a.	<0.1	<0.1
Russian Federation	n.r.	n.r.	1.0	n.r.	11.9	6.7[b]	n.a.	n.a.	n.a.	1.0	0.6	26.0	27.7	7.3	7.2	n.a.	n.a.	0.1	0.1
Slovakia	0.3	0.2	<0.1	0.1	0.3	0.5	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	1.2	0.3	0.3	n.a.	n.a.	<0.1	<0.1
Ukraine	n.r.	2.3	0.9	2.1	8.9	12.4	n.a.	0.5	0.2	0.6	0.2	8.1	7.7	1.6	1.8	0.1	n.a.	<0.1	<0.1
Northern Europe	**n.r.**	**n.r.**	**1.8**	**2.4**	**6.9**	**6.7**	**n.a.**	**0.2**	**0.2**	**0.5**	**0.5**	**17.7**	**20.4**	**2.5**	**2.8**	**n.a.**	**n.a.**	**0.1**	**0.1**
Denmark	n.r.	n.r.	<0.1	0.1	0.3	0.4	n.a.	n.a.	n.a.	n.a.	n.a.	0.6	0.6	0.1	0.2	n.a.	n.a.	<0.1	<0.1
Estonia	n.r.	n.r.	<0.1	<0.1	0.1	0.1	n.a.	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Finland	n.r.	n.r.	0.1	0.2	0.5	0.7	n.a.	n.a.	n.a.	n.a.	n.a.	0.8	1.0	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Iceland	n.r.	n.r.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Ireland	n.r.	n.r.	0.2	<0.1	0.4	0.2	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	1.1	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Latvia	n.r.	n.r.	<0.1	<0.1	0.2	0.2	<0.1[g]	<0.1	<0.1	<0.1	<0.1	0.4	0.4	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Lithuania	n.r.	n.r.	<0.1	<0.1	0.5	0.2	<0.1[g]	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.1	0.1	n.a.	n.a.	<0.1	<0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Norway	n.r.	n.r.	<0.1	<0.1	0.2	0.4	n.a.	n.a.	n.a.	n.a.	n.a.	0.6	0.8	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Sweden	n.r.	n.r.	<0.1	0.2	0.4	0.6	n.a.	n.a.	n.a.	n.a.	n.a.	1.1	1.3	0.3	0.3	n.a.	n.a.	<0.1	<0.1
United Kingdom of Great Britain and Northern Ireland	n.r.	n.r.	1.2	1.7	4.1	3.8	<0.1[g]	n.a.	n.a.	0.4	0.4	12.4	14.3	1.4	1.7	n.a.	n.a.	0.1	<0.1
Southern Europe	**n.r.**	**n.r.**	**2.1**	**2.2**	**11.4**	**9.9**	**n.a.**	**0.4**	**0.2**	**0.7**	**0.5**	**22.8**	**23.6**	**4.8**	**5.0**	**n.a.**	**n.a.**	**0.1**	**0.1**
Albania	0.3	0.1	0.3	0.2	1.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.5	0.2	0.2	<0.1	<0.1	<0.1	<0.1
Andorra	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Bosnia and Herzegovina	n.r.	n.r.	<0.1	<0.1	0.3	0.4	n.a.	<0.1	<0.1	<0.1	<0.1	0.5	0.6	0.2	0.2	<0.1	n.a.	<0.1	<0.1
Croatia	n.r.	n.r.	<0.1	<0.1	0.3	0.3	n.a.	n.a.	n.a.	n.a.	n.a.	0.8	1.0	0.2	0.2	n.a.	n.a.	<0.1	<0.1
Greece	n.r.	n.r.	0.3	0.2[b]	1.7	0.7[b]	n.a.	<0.1	<0.1	0.1	0.1	2.2	2.4	0.3	0.3	n.a.	n.a.	<0.1	<0.1
Italy	n.r.	n.r.	n.a.	n.r.	n.a.	1.2[b]	n.a.	n.a.	n.a.	n.a.	n.a.	8.0	8.6	1.6	1.7	n.a.	n.a.	<0.1	<0.1
Malta	n.r.	n.r.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Montenegro	<0.1	n.r.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
North Macedonia	0.1	n.r.	<0.1	0.1	0.3	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.5	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Portugal	n.r.	n.r.	0.4	0.3	1.5	1.3	<0.1[g]	<0.1	<0.1	<0.1	<0.1	1.6	1.9	0.3	0.3	n.a.	n.a.	<0.1	<0.1
Serbia	0.3	n.r.	0.2	0.3	1.1	1.2	<0.1	<0.1	<0.1	0.1	<0.1	1.1	1.3	0.5	0.5	<0.1	<0.1	<0.1	<0.1
Slovenia	n.r.	n.r.	<0.1	<0.1	0.3	0.2	n.a.	n.a.	n.a.	n.a.	n.a.	0.3	0.3	0.1	0.1	n.a.	n.a.	<0.1	<0.1
Spain	n.r.	n.r.	0.5	0.7	3.3	3.3	n.a.	n.a.	n.a.	n.a.	n.a.	7.2	6.2	1.4	1.4	n.a.	n.a.	<0.1	<0.1

TABLE A1.2 (Continued)

REGIONS/ SUBREGIONS/ COUNTRIES/ TERRITORIES	NUMBER OF UNDERNOURISHED PEOPLE[1]		NUMBER OF SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE[1,2,3]		NUMBER OF CHILDREN (<5 YEARS) AFFECTED BY WASTING	NUMBER OF CHILDREN (<5 YEARS) WHO ARE STUNTED		NUMBER OF CHILDREN (<5 YEARS) WHO ARE OVERWEIGHT		NUMBER OF ADULTS (≥18 YEARS) WHO ARE OBESE		NUMBER OF WOMEN (15–49 YEARS) AFFECTED BY ANAEMIA		NUMBER OF INFANTS (0–5 MONTHS) EXCLUSIVELY BREASTFED		NUMBER OF BABIES WITH LOW BIRTHWEIGHT	
	2004–06 (millions)	2021–23[4] (millions)	2014–16 (millions)	2021–23 (millions)	2014–16 (millions)	2021–23 (millions)	2022[5] (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2022 (millions)	2012 (millions)	2019 (millions)	2012[6] (millions)	2022[7] (millions)	2012 (millions)	2020 (millions)
Western Europe	**n.r.**	**n.r.**	**2.4**	**3.6**	**10.0**	**10.9**	**n.a.**	**0.3**	**0.2**	**0.5**	**0.5**	**25.0**	**25.2**	**4.1**	**4.8**	**n.a.**	**n.a.**	**0.1**	**0.1**
Austria	n.r.	n.r.	<0.1	0.2	0.5	0.4	n.a.	n.a.	n.a.	n.a.	n.a.	1.0	1.1	0.2	0.3	n.a.	n.a.	<0.1	<0.1
Belgium	n.r.	n.r.	n.a.	0.2	n.a.	0.9	n.a.	<0.1	<0.1	<0.1	<0.1	1.6	1.9	0.3	0.3	n.a.	n.a.	<0.1	<0.1
France	n.r.	n.r.	1.0	1.5	4.3	5.1	n.a.	n.a.	n.a.	n.a.	n.a.	5.8	5.0	1.2	1.5	n.a.	n.a.	0.1	0.1
Germany	n.r.	n.r.	0.8	1.3	3.3	3.4	<0.1[g]	0.1	0.1	0.1	0.1	13.9	14.2	1.7	2.0	n.a.	n.a.	<0.1	0.1
Luxembourg	n.r.	n.r.	<0.1	<0.1	<0.1	<0.1	n.a.	n.a.	n.a.	n.a.	n.a.	0.1	0.1	<0.1	<0.1	n.a.	n.a.	<0.1	<0.1
Netherlands (Kingdom of the)	n.r.	n.r.	0.3	0.3	1.0	1.0	n.a.	<0.1	<0.1	<0.1	<0.1	1.8	2.1	0.4	0.5	n.a.	n.a.	<0.1	<0.1
Switzerland	n.r.	n.r.	0.1	<0.1	0.4	0.2	n.a.	n.a.	n.a.	n.a.	n.a.	0.8	0.9	0.2	0.2	n.a.	n.a.	<0.1	<0.1

NOTES:

n.a. = data not available; n.r. = data not reported. In the case of the number of undernourished, this is because the prevalence is less than 2.5 percent; – = not applicable. <0.1 = less than 100 000 people.

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

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

3. Country-level results are presented only for those countries for which estimates are based on official national data (see note b) 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.

4. The estimates referring to the middle of the projected ranges for the years 2020 to 2022 were used to calculate the three-year averages.

5. For regional estimates, values correspond to the model predicted estimates for 2022. For countries, the latest data available from 2016 to 2023 are used.

6. Regional estimates are included when more than 50 percent of population is covered. For countries, the latest data available from 2005 to 2012 are used.

7. Regional estimates are included when more than 50 percent of population is covered. For countries, the latest data available from 2016 to 2022 are used.

* Wasting under five years of age; regional aggregates exclude Japan.

** The Northern America wasting estimates are derived applying mixed-effect models with subregions as fixed effects; data were available only for the United States of America, preventing the estimation of standard errors (and confidence intervals). Further details on the methodology are described in De Onis, M., Blössner, M., Borghi, E., Frongillo, E.A. & Morris, R. 2004. Estimates of global prevalence of childhood underweight in 1990 and 2015. *Journal of the American Medical Association*, 291(21): 2600–2606. https://doi.org/10.1001/jama.291.21.2600. Model selection is based on best fit.

a. Consecutive low population coverage; interpret with caution.

b. Based on official national data.

c. For years when official national data are not available, the estimates are integrated with FAO data. See **Annex 1B** for further details.

d. Results based on data collected by FAO through the Gallup© World Poll (see **Annex 1B** for methodology) are provisional and will be revised soon, as the National Institute of Statistics and Informatics (INEI) has made great progress in adapting and incorporating the Food Insecurity Experience Scale module in the National Household Survey (Encuesta Nacional de Hogares – ENAHO).

e. Most recent input data are from before 2000, interpret with caution.

f. The UNICEF–WHO low birthweight estimates are derived through standard methodology applied to all countries to ensure comparability and are not the official statistics of the Government of India. India's most recent national official low birthweight prevalence is 18.2 percent from the 2019–2021 National Family Health Survey–5 (NFHS-5), which is used as the basis of the UNICEF–WHO global estimation model to support cross-country comparability.

g. This estimate has been adjusted because the original estimate did not cover the full age range or the data source was only representative of rural areas.

h. The estimate for Palestine reflects the situation before the conflict erupted at the end of 2023.

SOURCES: Data for undernourishment and food insecurity are from FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0; data for stunting, wasting and overweight are based on UNICEF, WHO & World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF, Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, http://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition; data for adult obesity are based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024]. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-=-30-(age-standardized-estimate)-(-). Licence: CC-BY-4.0; data for anaemia are based on WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children; data for exclusive breastfeeding are based on UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding; data for low birthweight are from UNICEF & WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight; UNICEF & WHO. 2023. Joint low birthweight estimates. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-low-birthweight-estimates

TABLE A1.3 PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY, AND SEVERE FOOD INSECURITY ONLY, BY DEGREE OF URBANIZATION IN 2023

	Prevalence of severe food insecurity			Prevalence of moderate or severe food insecurity		
	Rural	Peri-urban	Urban	Rural	Peri-urban	Urban
	(%)			(%)		
WORLD	**11.3**	**12.0**	**9.0**	**31.9**	**29.9**	**25.5**
AFRICA	**22.9**	**22.4**	**19.9**	**60.2**	**59.9**	**54.3**
Northern Africa	13.0	9.8	12.6	40.0	29.8	34.0
Sub-Saharan Africa	23.9	25.2	22.4	62.4	66.5	61.2
Eastern Africa	24.1	25.9	21.7	63.9	68.0	60.4
Middle Africa	42.1	42.8	33.7	79.8	81.4	74.9
Southern Africa	13.6	10.8	9.4	31.1	24.5	21.7
Western Africa	17.0	20.4	19.2	57.0	66.0	61.6
ASIA	**9.2**	**11.8**	**8.1**	**26.6**	**27.2**	**21.6**
Central Asia	2.6	4.1	3.1	14.8	17.4	16.4
Eastern Asia	1.3	1.3	0.8	12.0	5.0	5.5
South-eastern Asia	3.2	3.4	2.4	19.3	19.6	13.8
Southern Asia	18.5	21.4	17.0	40.9	43.7	38.3
Western Asia	13.2	17.5	11.2	41.1	46.7	32.5
Western Asia and Northern Africa	*13.1*	*13.5*	*11.8*	*40.6*	*37.8*	*33.2*
LATIN AMERICA AND THE CARIBBEAN	**10.9**	**10.4**	**7.6**	**32.2**	**30.7**	**26.0**
Caribbean	33.2	35.5	28.6	65.3	68.2	58.4
Latin America	9.6	7.5	6.3	30.2	26.5	24.0
Central America	11.8	8.7	4.9	37.8	31.1	21.8
South America	8.5	7.0	6.8	26.4	24.4	24.8
OCEANIA	**5.1**	**4.6**	**4.7**	**15.3**	**16.6**	**15.8**
NORTHERN AMERICA AND EUROPE	**1.5**	**1.6**	**1.8**	**8.5**	**8.2**	**9.7**
Europe	1.8	2.0	2.2	8.6	8.1	8.6
Eastern Europe	2.2	2.1	1.9	12.5	11.3	10.6
Northern Europe	2.0	4.0	2.9	8.1	8.3	7.3
Southern Europe	1.3	1.1	1.3	6.6	5.9	6.1
Western Europe	1.4	1.7	2.7	4.5	5.4	8.1
Northern America	0.9	0.7	1.2	8.3	8.4	11.8
COUNTRY INCOME GROUP						
Low-income countries	24.9	28.5	22.8	63.7	69.5	59.9
Lower-middle-income countries	17.8	18.7	16.1	45.6	43.6	40.7
Upper-middle-income countries	3.5	2.6	2.7	16.4	9.9	11.7
High-income countries	1.5	2.1	2.2	7.8	8.3	9.4

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/FS.

TABLE A1.4 PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY, AND SEVERE FOOD INSECURITY ONLY, AMONG ADULT MEN AND WOMEN IN 2023

	Prevalence of severe food insecurity		Prevalence of moderate or severe food insecurity	
	Men	Women	Men	Women
	(%)		(%)	
WORLD	**9.2**	**10.0**	**25.4**	**26.7**
AFRICA	**20.6**	**21.3**	**56.1**	**57.2**
Northern Africa	10.7	12.5	31.3	35.0
Sub-Saharan Africa	23.2	23.6	62.6	62.7
Eastern Africa	23.6	24.5	64.7	64.3
Middle Africa	38.1	37.5	77.0	78.0
Southern Africa	10.0	11.5	23.5	25.7
Western Africa	18.9	18.8	61.3	61.7
ASIA	**8.8**	**9.9**	**23.1**	**24.2**
Central Asia	3.7	3.2	16.2	16.7
Eastern Asia	1.2	0.9	7.0	5.6
South-eastern Asia	2.9	2.8	16.1	17.1
Southern Asia	17.4	20.8	38.8	42.8
Western Asia	13.5	12.3	35.4	37.7
Western Asia and Northern Africa	*12.3*	*12.4*	*33.6*	*36.5*
LATIN AMERICA AND THE CARIBBEAN	**7.8**	**9.2**	**25.1**	**30.3**
Caribbean	n.a.	n.a.	n.a.	n.a.
Latin America	6.4	7.7	22.7	28.1
Central America	6.7	8.0	24.8	30.6
South America	6.3	7.5	21.9	27.2
OCEANIA	**10.1**	**9.1**	**25.6**	**24.8**
NORTHERN AMERICA AND EUROPE	**1.9**	**1.7**	**8.0**	**9.2**
Europe	2.4	2.0	7.9	8.3
Eastern Europe	1.8	2.1	9.8	11.9
Northern Europe	3.7	2.4	8.3	7.2
Southern Europe	1.0	1.6	4.7	7.5
Western Europe	2.5	1.4	7.0	5.2
Northern America	0.8	1.2	8.2	11.5

SOURCE: FAO. 2024. *FAOSTAT: Suite of Food Security Indicators*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/FS.

TABLE A1.5 THE COST OF A HEALTHY DIET BY REGION, SUBREGION, COUNTRY AND COUNTRY INCOME GROUP, 2017–2021

Regions/subregions/ countries/territories	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars per person per day)					
WORLD	**3.13**	**3.17**	**3.25**	**3.35**	**3.56**	**3.96**
Low-income countries	**2.94**	**2.93**	**2.95**	**3.02**	**3.33**	**3.48**
Lower-middle-income countries	**3.23**	**3.29**	**3.35**	**3.49**	**3.77**	**4.20**
Upper-middle-income countries	**3.30**	**3.36**	**3.46**	**3.54**	**3.74**	**4.20**
High-income countries	**3.01**	**3.07**	**3.16**	**3.26**	**3.41**	**3.78**
AFRICA	**3.07**	**3.09**	**3.12**	**3.18**	**3.41**	**3.74**
Northern Africa	**3.33**	**3.42**	**3.48**	**3.42**	**3.44**	**3.78**
Algeria	4.06	4.13	4.10	4.06	4.36	4.89
Egypt	3.83	3.88	3.88	3.73	3.88	4.55
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Morocco	2.60	2.64	2.65	2.69	2.79	3.14
Sudan	2.53	2.70	2.96	2.82	2.12	1.86
Tunisia	3.66	3.74	3.82	3.83	4.03	4.46
Sub-Saharan Africa	**3.04**	**3.05**	**3.07**	**3.15**	**3.41**	**3.73**
Eastern Africa*	**3.08**	**3.03**	**3.04**	**3.13**	**3.49**	**3.79**
Burundi	3.34	3.13	3.11	3.29	3.50	3.97
Comoros	4.56	n.a.	n.a.	n.a.	4.55	n.a.
Djibouti	2.79	2.86	2.98	3.10	3.27	3.71
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	2.83	2.86	2.99	3.10	3.37	3.72
Kenya	2.79	2.77	2.85	2.91	3.13	3.54
Madagascar	3.03	3.16	3.20	3.23	3.43	3.75
Malawi	2.46	2.53	2.70	2.84	3.03	3.43
Mauritius	3.43	3.52	3.56	3.74	3.92	4.39
Mozambique	2.81	2.77	2.84	2.97	3.26	3.60
Rwanda	3.09	2.94	3.01	3.20	3.22	3.80
Seychelles	3.51	3.47	3.46	3.32	3.62[a]	3.88[a]
Somalia	n.a.	n.a.	n.a.	n.a.	4.14	n.a.
South Sudan	n.a.	n.a.	n.a.	n.a.	3.97	n.a.
Uganda	3.12	3.08	3.04	3.03	3.15	3.60
United Republic of Tanzania	2.20	2.25	2.27	2.32	2.43	2.70
Zambia	2.73	2.79	2.88	2.92	3.20	3.53
Zimbabwe	3.46	n.r.	n.r.	n.r.	n.r.	n.r.
Middle Africa	**3.14**	**3.12**	**3.12**	**3.17**	**3.33**	**3.67**
Angola	3.44	3.41	3.46	3.65	4.00	4.41[a]
Cameroon	2.58	2.65	2.70	2.77	2.95	3.39
Central African Republic	2.96	3.03	3.08	3.12	3.27	3.53
Chad	2.75	2.66	2.59	2.74	2.86	3.27
Congo	3.02	3.05	3.04	3.09	3.27	3.64

TABLE A1.5 (Continued)

Regions/subregions/ countries/territories	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars per person per day)					
Democratic Republic of the Congo	4.30	3.80[a]	3.52[a]	3.30[a]	3.32[a]	3.53[a]
Equatorial Guinea	3.67	3.75	3.79	3.83	3.97	4.32
Gabon	3.25	3.30	3.38	3.43	3.61	3.96
Sao Tome and Principe	2.33	2.41	2.48	2.57	2.72	2.99
Southern Africa	**3.27**	**3.28**	**3.34**	**3.45**	**3.66**	**3.97**
Botswana	3.13	3.09	3.10	3.20	3.31	3.56
Eswatini	3.36	3.29	3.33	3.34[a]	3.47[a]	3.69[a]
Lesotho	3.52	3.62	3.74	3.98	4.31	4.68
Namibia	3.28	3.33	3.41	3.55	3.79	4.16
South Africa	3.05	3.08	3.12	3.19	3.39	3.74
Western Africa	**2.88**	**2.96**	**2.99**	**3.08**	**3.28**	**3.65**
Benin	2.84	2.94	2.93	2.97	3.23	3.42
Burkina Faso	2.67	2.78	2.73	2.82	3.04	3.57
Cabo Verde	3.20	3.26	3.32	3.40	3.51	4.07
Côte d'Ivoire	2.45	2.52	2.63	2.71	2.93	3.27
Gambia	2.65	2.71	2.75	2.80	3.00	3.31
Ghana	3.45	3.54	3.62	3.70	3.89	4.29
Guinea	2.26	2.39	2.48	2.56	2.75	3.06
Guinea-Bissau	2.95	3.03	3.11	3.20	3.44	3.73
Liberia	3.08	3.09	3.18[a]	3.37[a]	3.34[a]	3.50[a]
Mali	2.87	3.00	2.93	3.02	3.19	3.58
Mauritania	3.73	3.86	3.95	3.99	4.27	4.86
Niger	3.22	3.17	3.15	3.28	3.56	3.96
Nigeria	2.88	3.01	3.12	3.24	3.49	3.83
Senegal	2.66	2.73	2.77	2.83	2.98	3.38
Sierra Leone	2.69	2.80	2.70	2.74	3.00	3.32
Togo	2.46	2.50	2.52	2.59	2.86	3.18
ASIA	**3.23**	**3.29**	**3.38**	**3.54**	**3.84**	**4.20**
Central Asia	**3.14**	**3.19**	**3.31**	**3.52**	**3.78**	**4.14**
Kazakhstan	2.12	2.15	2.24	2.35	2.52	2.79[a]
Kyrgyzstan	3.23	3.19	3.25	3.46	3.81	4.20
Tajikistan	3.11	3.12[a]	3.29[a]	3.57[a]	3.71[a]	3.90[a]
Turkmenistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uzbekistan	4.11	4.30	4.48	4.71	5.09	5.67
Eastern Asia	**4.12**	**4.29**	**4.37**	**4.59**	**4.87**	**5.34**
China, mainland	2.68	2.74	2.91	3.11	3.08	3.35
Taiwan Province of China	3.99	n.a.	n.a.	n.a.	4.97	n.a.
China, Hong Kong SAR	3.64	3.81	3.93	4.13	4.43	4.88
China, Macao SAR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

TABLE A1.5 (Continued)

Regions/subregions/ countries/territories	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars per person per day)					
Democratic People's Republic of Korea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Japan	5.48	5.65	5.57	5.80	5.91	6.54
Mongolia	4.21	4.33	4.54	4.74	5.26	5.86
Republic of Korea	4.73	4.92	4.90	5.18	5.57	6.09
South-eastern Asia	**3.53**	**3.62**	**3.70**	**3.83**	**4.02**	**4.35**
Brunei Darussalam	3.98	4.11	4.17	4.25	4.48	4.90
Cambodia	3.72	3.81	3.89	4.00	4.18	4.50
Indonesia	3.69	3.82	3.83	3.98	4.22	4.64
Lao People's Democratic Republic	3.80	3.86	3.99	4.17	4.34	4.65
Malaysia	2.99	3.08	3.16	3.28	3.41	3.77
Myanmar	3.71	3.79	3.86	3.94[a]	4.25[a]	4.56[a]
Philippines	3.38	3.51	3.57	3.62	3.84	4.10
Singapore	2.83	2.92	2.99	3.12	3.24	3.48
Thailand	4.03	4.10	4.25	4.39	4.53	4.93
Timor-Leste	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Viet Nam	3.14	3.20	3.30	3.56	3.69	3.96
Southern Asia	**3.28**	**3.35**	**3.45**	**3.59**	**3.84**	**4.28**
Afghanistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bangladesh	3.03	3.13	3.18	3.22	3.37	3.64
Bhutan	4.07	4.26	4.38	4.66	4.96	5.28
India	2.86	2.87	2.92	3.01	3.11	3.36
Iran (Islamic Republic of)	3.01	3.21	3.64	3.60	4.17	5.13
Maldives	3.45	3.50	3.53	3.72	3.95	4.36
Nepal	3.30	3.34	3.41	3.52	3.69	3.97
Pakistan	2.92	2.91	2.97	3.16	3.34	3.76
Sri Lanka	3.58	3.58	3.54	3.79	4.13	4.77
Western Asia	**2.67**	**2.74**	**2.82**	**2.98**	**3.37**	**3.70**
Armenia	3.21	3.28	3.36	3.37	3.66	4.11
Azerbaijan	2.87	2.93	3.00	3.09	3.28	3.74
Bahrain	3.07	3.15	3.25	3.48	3.67	4.22
Cyprus	2.89	2.93	3.04	3.14	3.19	3.53
Georgia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Iraq	3.38	3.47	3.54	3.54	3.67	4.03
Israel	2.51	2.58	2.60	2.61	2.75	3.02
Jordan	2.94	2.98	3.01	3.12	3.22	3.45
Kuwait	2.17	2.21	2.25	2.34	2.59	2.89
Lebanon	1.47	1.49	1.53	2.97	5.01	6.76[a]
Oman	2.32	2.34	2.41	2.49	2.59	2.87
Palestine	2.62	2.66	2.74	2.63	2.58	2.98
Qatar	2.31	2.36	2.42	2.51	2.63	2.82
Saudi Arabia	2.49	2.65	2.82	3.00	3.22	3.52

TABLE A1.5 (Continued)

Regions/subregions/ countries/territories	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars per person per day)					
Syrian Arab Republic	n.a.	n.a.	n.a.	n.a.	5.11	n.a.
Türkiye	3.44	3.58	3.87	3.71	3.82	4.50
United Arab Emirates	2.42	2.50	2.55	2.74	2.86	3.14
Yemen	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
LATIN AMERICA AND THE CARIBBEAN	**3.61**	**3.68**	**3.76**	**3.87**	**4.08**	**4.56**
Caribbean	**4.03**	**4.16**	**4.27**	**4.41**	**4.63**	**5.16**
Antigua and Barbuda	3.93	4.11	4.20	4.31	4.48	4.97
Aruba	3.47	3.68	3.97	4.09[a]	4.20[a]	4.71[a]
Bahamas	4.28	4.39	4.36	4.49	4.66	5.41
Barbados	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
British Virgin Islands	3.53	3.37[a]	3.59[a]	3.52[a]	3.74[a]	3.80[a]
Cuba	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cayman Islands	3.58	3.52[a]	3.32[a]	3.56[a]	3.72[a]	3.83[a]
Curaçao	3.02	3.15	3.31	3.41[a]	3.68[a]	4.10[a]
Dominica	4.30	4.46	4.56	4.67	4.91[a]	5.32[a]
Dominican Republic	3.33	3.41	3.54	3.67	3.91	4.31
Grenada	4.52	4.65	4.72	4.87	5.12	5.70
Haiti	3.93	4.07	4.28	4.49	4.81	5.26
Jamaica	4.94	5.08	5.29	5.52	5.82	6.42
Puerto Rico	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saint Kitts and Nevis	3.35	3.55	3.70	3.80	3.94	4.58
Saint Lucia	3.44	3.59	3.71	3.79	3.87	4.15
Saint Vincent and the Grenadines	4.34	4.45	4.51	4.68	4.94	5.56
Sint Maarten (Dutch part)	4.46	4.79[a]	4.81[a]	4.90[a]	5.23[a]	5.50[a]
Trinidad and Tobago	3.91	4.01	4.07	4.21	4.51	5.08
Turks and Caicos Islands	2.81	2.90	2.97	3.07	3.23	3.55
Central America	**3.24**	**3.30**	**3.37**	**3.42**	**3.60**	**4.05**
Belize	2.51	2.55	2.60	2.66	2.83	3.10
Costa Rica	3.54	3.57	3.67	3.55	3.67	4.27
El Salvador	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guatemala	2.43	2.58	2.73	2.85	3.00	3.31
Honduras	3.63	3.69	3.68	3.77	3.89	4.37
Mexico	2.90	2.97	2.98	3.07	3.29	3.89
Nicaragua	3.67	3.73	3.77	3.84	4.07	4.61
Panama	3.99	4.03	4.13	4.22	4.42	4.82
South America**	**3.42**	**3.44**	**3.52**	**3.61**	**3.84**	**4.29**
Argentina	3.32	n.r.	n.r.	n.r.	n.r.	n.r.
Bolivia (Plurinational State of)	3.50	3.60	3.72	3.70	3.87	4.20
Brazil	3.22	3.21	3.30	3.53	3.84	4.25
Chile	3.38	3.52	3.66	3.79	3.86	4.54
Colombia	2.84	2.87	2.95	3.15	3.34	4.13

TABLE A1.5 (Continued)

Regions/subregions/ countries/territories	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars per person per day)					
Ecuador	2.50	2.52	2.56	2.62	2.72	2.99
Guyana	4.63	4.74	4.83	4.89	5.12	5.53
Paraguay	3.68	3.77	3.78	3.81	4.15	4.70
Peru	3.28	3.26	3.30	3.33	3.55	4.00
Suriname	4.42	4.65[a]	4.75	5.11	5.42	5.82
Uruguay	2.87	2.96	3.04	3.19	3.31	3.64
Venezuela (Bolivarian Republic of)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OCEANIA	**2.74**	**2.74**	**2.85**	**2.95**	**3.12**	**3.46**
American Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Australia	2.33	2.36	2.40	2.51	2.58	2.90
Cook Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Fiji	3.24	3.30	3.46	3.51	3.91	4.28
French Polynesia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Kiribati	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Marshall Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Micronesia (Federated States of)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nauru	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
New Caledonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
New Zealand	2.65	2.57	2.70	2.83	2.86	3.21
Niue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palau	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Papua New Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Solomon Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tokelau (Associate Member)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tonga	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tuvalu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vanuatu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NORTHERN AMERICA AND EUROPE	**2.77**	**2.82**	**2.95**	**3.02**	**3.12**	**3.57**
Northern America	**2.73**	**2.69**	**2.72**	**2.77**	**2.77**	**2.96**
Bermuda	2.95	2.74[a]	2.78[a]	2.69[a]	2.46[a]	2.35[a]
Canada	3.08	3.13	3.19	3.33	3.48	3.89
Greenland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United States of America	2.17	2.18	2.20	2.28	2.36	2.63
Europe	**2.77**	**2.83**	**2.97**	**3.04**	**3.15**	**3.61**
Eastern Europe	**2.83**	**2.90**	**3.04**	**3.15**	**3.26**	**3.75**
Belarus	3.13	3.18	3.26	3.26	3.42	3.74
Bulgaria	3.39	3.47	3.66	3.80	3.94	4.74
Czechia	2.81	2.83	2.97	3.00	3.13	3.63
Hungary	3.36	3.45	3.60	3.69	3.71	4.51
Poland	2.95	3.03	3.25	3.38	3.43	3.91

TABLE A1.5 (Continued)

Regions/subregions/ countries/territories	Cost of a healthy diet					
	2017	2018	2019	2020	2021	2022
	(PPP dollars per person per day)					
Republic of Moldova	2.35	2.46	2.57	2.69	2.87	3.17
Romania	2.79	2.84	3.03	3.17	3.24	3.66
Russian Federation	2.25	2.28	2.33	2.44	2.63	2.90
Slovakia	2.46	2.53	2.68	2.89	2.98	3.54
Ukraine	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Northern Europe	**2.62**	**2.66**	**2.77**	**2.84**	**2.90**	**3.28**
Denmark	2.20	2.26	2.34	2.41	2.49	2.73
Estonia	3.14	3.21	3.35	3.43	3.41	3.88
Finland	2.53	2.61	2.72	2.81	2.88	3.29
Iceland	2.37	2.41	2.52	2.70	2.78	3.02
Ireland	2.33	2.27	2.30	2.22	2.24	2.48
Latvia	3.04	3.03	3.19	3.28	3.35	3.97
Lithuania	2.85	2.87	3.04	3.07	3.15	3.72
Norway	3.32	3.43	3.53	3.61	3.63	4.01
Sweden	2.71	2.77	2.91	3.00	3.10	3.56
United Kingdom of Great Britain and Northern Ireland	1.70	1.75	1.83	1.86	1.93	2.12
Southern Europe	**3.11**	**3.18**	**3.35**	**3.39**	**3.55**	**4.15**
Albania	3.04	3.13	3.32	3.40	3.55	4.19
Andorra	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bosnia and Herzegovina	4.07	4.13	4.34	4.34	4.57	5.53
Croatia	3.31	3.35	3.44	3.53	3.66	4.21
Greece	2.93	2.99	3.10	3.13	3.25	3.74
Italy	2.74	2.83	3.01	3.09	3.19	3.61
Malta	3.35	3.49	3.75	3.74	3.94	4.44
Montenegro	3.21	3.24	3.49	3.43	3.67	4.49
North Macedonia	3.29	3.30	3.48	3.51	3.86	4.60
Portugal	2.64	2.73	2.85	2.87	2.99	3.52
Serbia	3.56	3.64	3.84	3.85	3.99	4.62
Slovenia	2.60	2.70	2.85	2.98	3.02	3.44
Spain	2.53	2.57	2.70	2.75	2.91	3.35
Western Europe	**2.33**	**2.42**	**2.52**	**2.60**	**2.68**	**3.01**
Austria	2.06	2.11	2.19	2.30	2.43	2.76
Belgium	2.00	2.07	2.16	2.28	2.32	2.56
France	2.58	2.65	2.83	2.94	3.04	3.42
Germany	2.64	2.76	2.87	2.97	3.10	3.56
Luxembourg	2.46	2.59	2.62	2.62	2.70	2.99
Netherlands (Kingdom of the)	2.21	2.27	2.39	2.49	2.54	2.90
Switzerland	2.39	2.45	2.55	2.59	2.65	2.85

NOTES: PPP = purchasing power parity. n.a. = data not available. n.r. = data not reported.* Includes Zimbabwe. ** Includes Argentina. [a] PPP was imputed.

SOURCE: FAO. 2024. *FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD)*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/CAHD.

TABLE A1.6 UNAFFORDABILITY OF A HEALTHY DIET BY REGION, SUBREGION, COUNTRY AND COUNTRY INCOME GROUP, 2017–2022

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet (%)						Number of people unable to afford a healthy diet (millions)					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
WORLD	**40.3**	**38.0**	**36.4**	**37.9**	**36.4**	**35.4**	**3 062.3**	**2 916.1**	**2 823.4**	**2 968.0**	**2 876.4**	**2 826.3**
Low-income countries	**73.9**	**72.6**	**72.3**	**73.0**	**72.0**	**71.5**	**453.9**	**457.8**	**468.9**	**487.0**	**493.5**	**503.2**
Lower-middle-income countries	**59.3**	**55.5**	**52.9**	**55.5**	**54.2**	**52.6**	**1 771.4**	**1 683.8**	**1 624.8**	**1 729.9**	**1 711.2**	**1 676.9**
Upper-middle-income countries	**28.2**	**25.7**	**24.2**	**24.8**	**22.2**	**21.5**	**769.7**	**707.7**	**668.9**	**690.5**	**620.1**	**601.2**
High-income countries	**8.4**	**8.2**	**7.6**	**7.6**	**6.7**	**6.3**	**102.9**	**101.0**	**94.4**	**94.0**	**83.7**	**79.0**
AFRICA	**65.1**	**64.6**	**64.1**	**65.1**	**64.6**	**64.8**	**822.4**	**836.5**	**851.4**	**885.3**	**900.2**	**924.8**
Northern Africa	**36.9**	**38.1**	**37.0**	**35.7**	**31.7**	**31.5**	**87.7**	**92.4**	**91.4**	**89.9**	**81.2**	**81.9**
Algeria	17.8	17.0	16.4	18.3	18.7	19.7	7.3	7.1	7.0	7.9	8.3	8.8
Egypt	53.0	54.2	49.4	44.9	42.3	44.4	53.9	56.2	52.2	48.3	46.2	49.3
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Morocco	13.0	12.4	11.7	13.8	12.0	12.7	4.6	4.5	4.3	5.1	4.4	4.8
Sudan	45.2	50.0	56.7	56.3	41.6	33.7	18.4	21.0	24.5	25.0	19.0	15.8
Tunisia	7.7	7.2	6.9	8.1	7.3	7.3	0.9	0.9	0.8	1.0	0.9	0.9
Sub-Saharan Africa	**71.6**	**70.7**	**70.3**	**71.7**	**72.0**	**72.2**	**734.7**	**744.2**	**760.0**	**795.4**	**819.0**	**842.9**
Eastern Africa*	**73.6**	**72.5**	**72.3**	**73.2**	**73.5**	**73.7**	**305.5**	**308.7**	**316.1**	**329.0**	**339.1**	**348.6**
Burundi	89.6	87.9	87.2	88.1	88.3	89.6	10.0	10.1	10.4	10.8	11.1	11.6
Comoros	63.5	n.a.	n.a.	n.a.	60.8	n.a.	0.5	n.a.	n.a.	n.a.	0.5	n.a.
Djibouti	54.5	53.0	52.5	53.4	52.7	53.6	0.6	0.6	0.6	0.6	0.6	0.6
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	59.3	55.5	54.5	54.2	55.2	54.1	64.2	61.6	62.2	63.5	66.3	66.7
Kenya	71.7	72.0	73.7	77.0	78.8	79.2	35.1	36.0	37.5	40.0	41.8	42.8
Madagascar	92.8	93.0	92.7	93.8	93.6	93.6	24.3	25.0	25.5	26.5	27.1	27.7
Malawi	84.6	85.5	87.1	88.5	88.7	89.6	15.1	15.7	16.4	17.1	17.6	18.3
Mauritius	15.1	14.2	13.3	18.6	17.8	17.5	0.2	0.2	0.2	0.2	0.2	0.2
Mozambique	84.9	85.3	86.5	88.6	89.2	89.3	24.3	25.1	26.2	27.6	28.6	29.4
Rwanda	80.1	76.6	74.9	78.0	74.6	75.7	9.8	9.6	9.6	10.3	10.0	10.4
Seychelles	40.0	40.2	36.3	40.1	38.8	45.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Somalia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Sudan	n.a.	n.a.	n.a.	n.a.	92.8	n.a.	n.a.	n.a.	n.a.	n.a.	10.0	n.a.
Uganda	74.3	73.0	72.1	72.0	71.4	72.5	29.8	30.3	31.0	32.0	32.7	34.2

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
United Republic of Tanzania	76.4	76.0	75.1	75.6	75.2	75.5	43.0	44.1	45.0	46.7	47.8	49.4
Zambia	77.8	78.0	79.0	80.5	81.3	81.7	13.5	13.9	14.5	15.2	15.8	16.4
Zimbabwe	74.9	n.r.	n.r.	n.r.	n.r.	n.r.	11.0	n.r.	n.r.	n.r.	n.r.	n.r.
Middle Africa	**78.1**	**77.7**	**77.5**	**78.6**	**78.7**	**78.8**	**131.3**	**134.7**	**138.7**	**145.1**	**149.8**	**154.5**
Angola	62.7	65.1	66.8	70.1	71.7	72.2	18.9	20.4	21.6	23.4	24.7	25.7
Cameroon	52.4	52.3	52.5	53.7	54.3	55.9	12.8	13.1	13.5	14.2	14.8	15.6
Central African Republic	86.9	86.1	85.7	86.1	86.5	86.7	4.3	4.4	4.5	4.6	4.7	4.8
Chad	63.0	60.4	57.1	59.1	59.0	60.8	9.5	9.4	9.2	9.8	10.1	10.8
Congo	74.2	75.0	74.8	77.7	78.2	79.1	3.9	4.1	4.2	4.4	4.6	4.7
Democratic Republic of the Congo	94.8	93.4	93.1	93.1	92.4	91.4	79.9	81.4	83.7	86.5	88.6	90.5
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gabon	32.0	32.6	33.1	34.8	36.3	37.3	0.7	0.7	0.7	0.8	0.8	0.9
Sao Tome and Principe	49.0	48.7	48.8	49.0	49.3	51.3	0.1	0.1	0.1	0.1	0.1	0.1
Southern Africa	**61.5**	**60.9**	**60.9**	**62.6**	**61.7**	**61.6**	**39.8**	**39.9**	**40.4**	**42.1**	**42.0**	**42.2**
Botswana	63.5	61.9	61.3	61.5	61.2	60.3	1.5	1.5	1.5	1.6	1.6	1.6
Eswatini	68.9	67.6	67.0	67.5	65.1	65.0	0.8	0.8	0.8	0.8	0.8	0.8
Lesotho	69.9	71.0	72.1	75.9	76.3	76.3	1.5	1.6	1.6	1.7	1.7	1.8
Namibia	57.8	58.0	58.5	62.2	59.7	57.1	1.4	1.4	1.4	1.5	1.5	1.5
South Africa	61.0	60.5	60.4	62.1	61.2	61.2	34.6	34.7	35.1	36.5	36.4	36.6
Western Africa	**68.3**	**67.3**	**66.6**	**68.4**	**68.8**	**69.3**	**258.0**	**260.8**	**264.8**	**279.2**	**288.1**	**297.5**
Benin	78.5	69.9	63.2	61.6	60.2	56.8	9.1	8.3	7.8	7.8	7.8	7.6
Burkina Faso	64.9	62.1	58.8	59.7	59.1	63.1	12.9	12.7	12.3	12.8	13.1	14.3
Cabo Verde	30.0	28.9	27.3	35.5	33.4	30.5	0.2	0.2	0.2	0.2	0.2	0.2
Côte d'Ivoire	53.5	49.2	46.7	48.9	49.6	49.7	13.3	12.5	12.2	13.1	13.6	14.0
Gambia	42.4	41.3	40.6	43.2	43.6	44.0	1.0	1.0	1.0	1.1	1.2	1.2
Ghana	65.2	64.1	62.7	63.6	62.7	63.0	19.7	19.8	19.8	20.5	20.6	21.1
Guinea	37.4	36.9	36.1	35.8	36.8	37.4	4.6	4.6	4.6	4.7	5.0	5.2
Guinea-Bissau	62.5	61.6	58.9	62.6	63.8	64.0	1.2	1.2	1.2	1.3	1.3	1.3
Liberia	64.5	63.9	66.0	69.9	66.3	64.1	3.1	3.1	3.3	3.6	3.4	3.4
Mali	55.2	52.3	47.8	53.0	55.6	58.7	10.7	10.4	9.8	11.3	12.2	13.3

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
Mauritania	49.9	49.9	50.4	52.1	54.4	55.2	2.1	2.1	2.2	2.3	2.5	2.6
Niger	85.8	83.9	83.2	84.7	86.8	86.3	18.7	18.9	19.5	20.6	21.9	22.6
Nigeria	74.3	75.1	76.0	78.0	78.5	78.7	143.8	149.0	154.5	162.5	167.4	172.0
Senegal	54.3	48.7	47.1	48.6	47.5	49.5	8.2	7.6	7.5	8.0	8.0	8.6
Sierra Leone	62.2	62.3	58.2	60.5	61.8	62.5	4.8	4.9	4.7	5.0	5.2	5.4
Togo	62.4	54.2	50.2	52.0	54.0	54.6	4.9	4.4	4.1	4.4	4.7	4.8
ASIA	**43.3**	**39.5**	**37.0**	**39.0**	**36.5**	**35.1**	**1 967.5**	**1 813.7**	**1 714.5**	**1 819.3**	**1 712.0**	**1 655.9**
Central Asia	**21.2**	**18.5**	**17.6**	**19.1**	**17.1**	**16.3**	**15.1**	**13.4**	**12.9**	**14.3**	**13.0**	**12.6**
Kazakhstan	9.3	6.3	6.9	6.6	5.2	5.6	1.7	1.2	1.3	1.3	1.0	1.1
Kyrgyzstan	40.9	34.0	31.0	41.0	36.7	35.9	2.5	2.1	2.0	2.6	2.4	2.4
Tajikistan	37.8	34.3	33.9	35.7	32.5	28.6	3.4	3.1	3.2	3.4	3.2	2.9
Turkmenistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uzbekistan	19.7	18.0	16.4	17.3	15.7	15.0	6.3	5.8	5.4	5.8	5.3	5.2
Eastern Asia	**25.7**	**22.4**	**20.3**	**21.2**	**16.5**	**16.3**	**424.4**	**371.4**	**336.8**	**353.3**	**275.3**	**271.4**
China	27.9	24.1	21.7	22.7	17.4	17.3	401.6	349.4	316.0	330.6	253.8	251.8
China, mainland	28.2	24.4	22.0	23.0	17.6	17.5	398.1	346.2	313.1	327.6	251.3	249.3
Taiwan Province of China	5.3	n.a.	n.a.	n.a.	4.5	n.a.	1.2	n.a.	n.a.	n.a.	1.1	n.a.
China, Hong Kong SAR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China, Macao SAR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Democratic People's Republic of Korea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Japan	7.2	7.2	7.2	8.0	7.6	7.5	9.1	9.1	9.0	10.0	9.5	9.3
Mongolia	29.7	27.9	24.5	24.9	23.5	19.6	0.9	0.9	0.8	0.8	0.8	0.7
Republic of Korea	10.5	9.7	9.2	10.7	10.0	9.0	5.4	5.0	4.8	5.6	5.2	4.7
South-eastern Asia	**38.4**	**36.8**	**35.3**	**36.9**	**37.3**	**36.3**	**250.0**	**242.2**	**234.2**	**247.4**	**251.9**	**247.0**
Brunei Darussalam	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cambodia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indonesia	51.4	48.9	47.1	46.8	46.6	46.5	135.9	130.7	127.1	127.2	127.6	128.0
Lao People's Democratic Republic	59.2	57.7	56.9	58.7	58.0	57.1	4.1	4.1	4.1	4.3	4.3	4.3
Malaysia	4.0	3.4	2.6	3.1	2.8	1.8	1.3	1.1	0.9	1.0	0.9	0.6
Myanmar	47.6	44.4	43.5	50.1	57.4	56.3	24.9	23.4	23.1	26.7	30.9	30.5
Philippines	48.1	46.9	45.7	51.9	51.4	48.1	51.3	50.9	50.4	58.2	58.5	55.6

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
Singapore	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Thailand	21.1	21.9	19.6	19.7	18.3	16.4	14.9	15.6	14.0	14.1	13.1	11.7
Timor-Leste	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Viet Nam	11.2	10.1	8.5	9.3	9.6	9.4	10.5	9.6	8.1	9.0	9.4	9.2
Southern Asia	**64.2**	**58.6**	**54.8**	**57.9**	**55.8**	**53.1**	**1 221.4**	**1 128.3**	**1 068.0**	**1 141.1**	**1 110.5**	**1 066.3**
Afghanistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bangladesh	65.0	61.4	58.5	55.8	51.7	48.2	105.2	100.5	96.8	93.4	87.6	82.4
Bhutan	28.9	14.1	18.0	17.4	21.5	5.3	0.2	0.1	0.1	0.1	0.2	<0.1
India	69.5	62.5	57.1	61.2	59.0	55.6	941.1	855.3	789.3	854.9	830.9	788.2
Iran (Islamic Republic of)	7.7	9.2	14.6	14.8	15.0	15.8	6.5	7.9	12.6	12.9	13.2	14.0
Maldives	4.9	3.5	2.1	8.8	3.0	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nepal	47.3	43.8	43.5	44.7	43.6	41.1	13.3	12.5	12.5	13.1	13.1	12.6
Pakistan	57.8	56.5	58.1	60.2	58.7	58.7	125.1	124.2	129.7	136.8	135.8	138.3
Sri Lanka	32.2	29.0	28.5	33.4	34.0	41.1	6.9	6.3	6.2	7.2	7.4	9.0
Western Asia	**20.6**	**21.0**	**22.1**	**22.0**	**21.2**	**20.0**	**56.6**	**58.4**	**62.5**	**63.2**	**61.3**	**58.7**
Armenia	49.3	49.5	53.3	53.8	54.1	54.9	1.4	1.4	1.5	1.5	1.5	1.5
Azerbaijan	0.7	0.7	0.7	1.2	0.7	0.7	0.1	0.1	0.1	0.1	0.1	0.1
Bahrain	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cyprus	4.0	2.7	2.6	2.2	2.3	1.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Georgia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Iraq	23.1	23.1	21.9	28.5	28.4	26.7	9.2	9.4	9.1	12.1	12.4	11.9
Israel	19.2	18.2	19.5	19.0	18.0	16.5	1.6	1.5	1.7	1.7	1.6	1.5
Jordan	13.0	12.9	12.9	14.4	13.6	13.0	1.3	1.3	1.4	1.6	1.5	1.5
Kuwait	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lebanon	n.a.	n.a.	n.a.	0.1	1.8	2.9	n.a.	n.a.	n.a.	<0.1	0.1	0.2
Oman	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palestine	5.0	5.1	5.5	6.8	5.4	4.4	0.2	0.2	0.3	0.3	0.3	0.2
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Syrian Arab Republic	n.a.	n.a.	n.a.	n.a.	86.2	n.a.	n.a.	n.a.	n.a.	n.a.	18.4	n.a.
Türkiye	11.7	12.3	14.7	10.9	8.7	6.1	9.6	10.2	12.3	9.1	7.4	5.2

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
United Arab Emirates	1.0	2.5	2.1	<0.1	<0.1	2.3	0.1	0.2	0.2	<0.1	<0.1	0.2
Yemen	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
LATIN AMERICA AND THE CARIBBEAN	**29.2**	**28.4**	**27.8**	**28.9**	**30.1**	**27.7**	**185.5**	**181.8**	**180.0**	**188.1**	**197.2**	**182.9**
Caribbean	**47.2**	**45.9**	**46.1**	**49.5**	**50.1**	**50.0**	**20.4**	**19.9**	**20.1**	**21.8**	**22.1**	**22.2**
Antigua and Barbuda	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Aruba	n.a.	n.a.	n.a.	n.a.	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.	n.a.	n.a.	n.a.	n.a.
Barbados	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
British Virgin Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cuba	n.a.	n.a.	n.a.	n.a.	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.	n.a.	n.a.	n.a.	n.a.
Curaçao	n.a.	n.a.	n.a.	n.a.	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.	n.a.	n.a.	n.a.	n.a.
Dominican Republic	26.9	23.4	21.8	25.7	26.1	24.8	2.9	2.5	2.4	2.8	2.9	2.8
Grenada	19.6	19.1	18.8	23.2	22.2	21.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Haiti	77.4	77.9	79.4	81.5	82.4	83.6	8.4	8.6	8.9	9.2	9.4	9.7
Jamaica	19.2	17.1	18.2	23.6	23.1	22.1	0.5	0.5	0.5	0.7	0.7	0.6
Puerto Rico	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saint Kitts and Nevis	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saint Lucia	8.5	8.5	8.6	12.4	9.7	8.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Saint Vincent and the Grenadines	n.a.	n.a.	n.a.	n.a.	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.	n.a.	n.a.	n.a.	n.a.
Trinidad and Tobago	32.0	33.0	33.3	38.1	39.2	39.1	0.5	0.5	0.5	0.6	0.6	0.6
Turks and Caicos Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Central America	**30.7**	**29.8**	**27.9**	**31.9**	**27.7**	**26.3**	**52.6**	**51.5**	**48.9**	**56.3**	**49.1**	**47.1**
Belize	65.6	65.5	62.8	69.9	65.6	61.8	0.2	0.3	0.2	0.3	0.3	0.3
Costa Rica	14.3	15.1	15.2	20.9	15.1	15.9	0.7	0.8	0.8	1.1	0.8	0.8
El Salvador	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guatemala	46.7	46.5	45.6	48.0	44.9	43.9	7.7	7.8	7.8	8.3	7.9	7.8
Honduras	39.8	39.0	38.7	43.4	38.9	39.0	3.8	3.8	3.9	4.4	4.0	4.1

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
Mexico	28.3	27.1	24.6	28.6	24.2	22.5	34.8	33.6	30.8	36.0	30.7	28.7
Nicaragua	25.0	26.9	29.2	30.6	26.8	27.3	1.6	1.8	1.9	2.1	1.8	1.9
Panama	42.3	40.1	39.4	49.9	45.1	43.5	1.7	1.7	1.7	2.1	2.0	1.9
South America**	**26.7**	**26.0**	**25.9**	**25.5**	**29.0**	**26.0**	**112.5**	**110.3**	**111.0**	**110.1**	**126.0**	**113.6**
Argentina	8.6	n.r.	n.r.	n.r.	n.r.	n.r.	3.8	n.r.	n.r.	n.r.	n.r.	n.r.
Bolivia (Plurinational State of)	14.3	13.0	9.6	10.8	8.9	8.5	1.6	1.5	1.1	1.3	1.1	1.0
Brazil	27.4	26.6	26.3	19.8	30.2	25.3	57.2	56.0	55.7	42.1	64.7	54.4
Chile	48.1	46.1	46.0	50.3	42.5	40.4	8.8	8.6	8.8	9.7	8.3	7.9
Colombia	31.7	31.6	32.7	41.2	37.9	36.6	15.3	15.6	16.4	21.0	19.5	19.0
Ecuador	23.1	23.9	24.8	30.4	27.2	25.9	3.9	4.1	4.3	5.3	4.8	4.7
Guyana	41.3	41.0	39.2	22.6	16.9	9.4	0.3	0.3	0.3	0.2	0.1	0.1
Paraguay	24.0	22.3	22.0	24.7	24.6	24.1	1.5	1.4	1.4	1.6	1.6	1.6
Peru	33.5	30.4	28.9	42.9	33.9	33.6	10.6	9.8	9.5	14.3	11.4	11.5
Suriname	19.6	18.6	18.9	24.8	25.9	25.5	0.1	0.1	0.1	0.2	0.2	0.2
Uruguay	31.1	32.6	33.3	38.2	37.8	36.1	1.1	1.1	1.1	1.3	1.3	1.2
Venezuela (Bolivarian Republic of)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OCEANIA	**15.7**	**16.4**	**18.0**	**21.2**	**22.4**	**20.2**	**6.6**	**7.0**	**7.8**	**9.3**	**10.0**	**9.1**
American Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Australia	2.9	3.2	3.2	3.5	3.2	3.2	0.7	0.8	0.8	0.9	0.8	0.8
Cook Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Fiji	45.8	47.4	52.6	62.5	66.8	59.0	0.4	0.4	0.5	0.6	0.6	0.5
French Polynesia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Kiribati	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Marshall Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Micronesia (Federated States of)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nauru	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
New Caledonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
New Zealand	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Niue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palau	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Papua New Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet (%)						Number of people unable to afford a healthy diet (millions)					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
Samoa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Solomon Islands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tokelau (Associate Member)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tonga	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tuvalu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vanuatu	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NORTHERN AMERICA AND EUROPE	**7.2**	**6.9**	**6.2**	**5.9**	**5.1**	**4.8**	**80.4**	**77.0**	**69.7**	**66.0**	**57.1**	**53.6**
Northern America	**4.8**	**4.5**	**4.1**	**3.2**	**2.5**	**2.5**	**17.7**	**16.8**	**15.2**	**12.1**	**9.6**	**9.5**
Bermuda	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Canada	3.2	2.7	2.7	3.2	3.0	2.7	1.2	1.0	1.0	1.2	1.1	1.1
Greenland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United States of America	5.0	4.7	4.2	3.2	2.5	2.5	16.5	15.8	14.2	10.9	8.4	8.5
Europe	**8.4**	**8.1**	**7.3**	**7.2**	**6.4**	**5.9**	**62.7**	**60.3**	**54.5**	**53.8**	**47.5**	**44.1**
Eastern Europe	**11.0**	**11.3**	**9.9**	**9.8**	**8.4**	**8.0**	**32.5**	**33.3**	**29.2**	**28.8**	**24.5**	**23.1**
Belarus	3.2	1.9	2.4	1.2	1.0	1.0	0.3	0.2	0.2	0.1	0.1	0.1
Bulgaria	10.2	8.4	7.8	5.3	6.1	5.8	0.7	0.6	0.6	0.4	0.4	0.4
Czechia	4.8	4.2	3.7	3.9	3.8	4.2	0.5	0.4	0.4	0.4	0.4	0.4
Hungary	32.0	26.5	26.4	20.4	12.7	10.5	3.1	2.6	2.6	2.0	1.2	1.0
Poland	17.2	14.9	10.4	9.8	8.0	6.6	6.6	5.7	4.0	3.8	3.1	2.6
Republic of Moldova	11.0	9.0	9.5	14.3	10.2	11.9	0.4	0.3	0.3	0.4	0.3	0.4
Romania	52.4	68.3	63.7	66.0	59.7	55.9	10.3	13.4	12.4	12.8	11.5	11.0
Russian Federation	3.1	2.8	2.4	2.4	1.9	2.0	4.5	4.0	3.4	3.5	2.7	2.9
Slovakia	19.7	18.3	15.3	20.0	19.3	17.7	1.1	1.0	0.8	1.1	1.1	1.0
Ukraine	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Northern Europe	**4.0**	**4.0**	**3.6**	**2.9**	**3.0**	**2.7**	**4.1**	**4.2**	**3.8**	**3.1**	**3.2**	**2.8**
Denmark	0.9	1.0	1.0	1.1	0.8	0.9	0.1	0.1	0.1	0.1	<0.1	0.1
Estonia	10.9	9.5	8.2	7.5	5.1	5.1	0.1	0.1	0.1	0.1	0.1	0.1
Finland	1.0	1.1	0.7	0.6	0.8	0.8	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Iceland	0.6	0.5	0.6	0.7	0.6	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ireland	2.3	1.4	1.6	1.2	1.1	1.0	0.1	0.1	0.1	0.1	0.1	<0.1
Latvia	27.1	21.3	18.1	16.9	14.2	12.7	0.5	0.4	0.3	0.3	0.3	0.2

TABLE A1.6 (Continued)

Regions/subregions/ countries/territories	Proportion of the population unable to afford a healthy diet						Number of people unable to afford a healthy diet					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
	(%)						(millions)					
Lithuania	21.3	16.7	13.1	9.0	8.9	9.0	0.6	0.5	0.4	0.3	0.2	0.2
Norway	1.9	1.7	1.5	1.9	1.7	1.5	0.1	0.1	0.1	0.1	0.1	0.1
Sweden	3.5	4.1	3.5	2.9	3.6	3.6	0.4	0.4	0.4	0.3	0.4	0.4
United Kingdom of Great Britain and Northern Ireland	3.2	3.7	3.5	2.7	3.0	2.5	2.1	2.5	2.3	1.8	2.0	1.7
Southern Europe	**14.0**	**12.4**	**11.2**	**11.5**	**9.9**	**9.1**	**21.1**	**18.7**	**16.9**	**17.3**	**14.9**	**13.6**
Albania	24.3	17.5	15.3	14.1	12.6	12.2	0.7	0.5	0.4	0.4	0.4	0.3
Andorra	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bosnia and Herzegovina	6.1	5.7	5.6	5.7	5.0	5.8	0.2	0.2	0.2	0.2	0.2	0.2
Croatia	27.9	23.2	19.0	18.8	15.5	13.5	1.2	1.0	0.8	0.8	0.6	0.5
Greece	30.8	28.0	24.6	24.2	21.0	18.3	3.3	3.0	2.6	2.5	2.2	1.9
Italy	10.3	10.0	8.6	9.1	7.7	6.9	6.2	6.0	5.1	5.4	4.6	4.1
Malta	4.5	4.2	3.4	3.3	2.6	2.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Montenegro	17.4	18.5	15.6	15.6	12.5	12.1	0.1	0.1	0.1	0.1	0.1	0.1
North Macedonia	23.9	21.1	19.7	21.5	19.0	19.4	0.5	0.4	0.4	0.5	0.4	0.4
Portugal	18.9	16.2	13.1	14.0	13.1	12.0	1.9	1.7	1.4	1.4	1.3	1.2
Serbia	24.2	10.2	13.1	11.6	8.7	8.1	1.8	0.8	1.0	0.9	0.6	0.6
Slovenia	3.7	2.6	2.3	2.0	1.7	1.4	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Spain	10.9	10.8	10.2	10.6	9.3	8.9	5.1	5.0	4.8	5.0	4.4	4.2
Western Europe	**2.6**	**2.1**	**2.4**	**2.4**	**2.5**	**2.3**	**5.0**	**4.0**	**4.6**	**4.6**	**4.9**	**4.5**
Austria	2.5	2.3	2.7	2.5	3.4	2.9	0.2	0.2	0.2	0.2	0.3	0.3
Belgium	2.1	1.2	1.3	1.0	0.8	0.7	0.2	0.1	0.2	0.1	0.1	0.1
France	1.9	2.2	3.4	2.8	3.3	3.1	1.2	1.4	2.2	1.8	2.2	2.0
Germany	3.5	2.2	2.0	2.5	2.5	2.2	2.9	1.9	1.7	2.1	2.1	1.9
Luxembourg	2.6	2.1	1.2	0.6	1.9	1.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Netherlands (Kingdom of the)	1.8	1.5	1.6	1.6	1.1	1.1	0.3	0.3	0.3	0.3	0.2	0.2
Switzerland	1.3	1.6	1.4	1.3	1.2	1.2	0.1	0.1	0.1	0.1	0.1	0.1

NOTES: n.a. = data not available. n.r. = data not reported.* Includes Zimbabwe. ** Includes Argentina. The global number of people unable to afford a healthy diet (NUA) estimate is obtained by multiplying the proportion of the population unable to afford a healthy diet for each of the five world regions by the total population size in each region. Calculating the global NUA estimate as the sum of the NUA estimates of other country groupings, such as those based on income levels, should be avoided.

SOURCE: FAO. 2024. *FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD)*. [Accessed on 24 July 2024]. www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

ANNEX 1B METHODOLOGICAL NOTES FOR THE FOOD SECURITY AND NUTRITION INDICATORS

PREVALENCE OF UNDERNOURISHMENT

Definition: 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.

How it is reported: The indicator (denominated "prevalence of undernourishment" [PoU]) is an estimate of the percentage of individuals in the population that are in a condition of undernourishment. National estimates are reported as three-year moving averages, to control for the low reliability of the estimates of some of the underlying parameters due to elements for which complete, reliable information is very scarce. This includes, for example, the year-to-year variation in food commodity stocks, one of the components of the annual FAO Food Balance Sheets (FBS). Regional and global aggregates, on the other hand, are reported as annual estimates, as possible estimation errors are expected not to be correlated and therefore expected to be reduced to acceptable levels when aggregating across countries.

The entire series of PoU values is revised with each new edition of this report to reflect new data and information that FAO has obtained since the release of the previous edition. As this process usually implies backward revisions of the entire PoU series, readers are advised to refrain from comparing series across different editions of this report and should always refer to the current edition of the report, including for values in past years.

Methodology: To compute an estimate of the prevalence of undernourishment in a population, the probability distribution of habitual dietary energy intake levels (expressed in kcal per person per day) for the average individual is modelled as a parametric probability density function, $f(x)$.[1, 2] The indicator is obtained as the cumulative probability that the habitual dietary energy intake (x) is below the minimum dietary energy requirement (MDER) (i.e. the lowest limit of the range of energy requirements that is appropriate for the population's representative average individual) as in the formula below:

$$PoU = \int_{x<MDER} f(x|\theta)dx,$$

where θ is a vector of parameters that characterizes the probability density function. In the actual computations, the distribution is assumed to be lognormal and thus fully characterized by only two parameters: the mean dietary energy consumption (DEC) and its coefficient of variation (CV).

Data source: Different data sources are used to estimate the different parameters of the model.

Minimum dietary energy requirement (MDER): Human energy requirements for an individual in a given sex/age class are determined on the basis of normative requirements for basic metabolic rate per kilogram of body mass, multiplied by the ideal weights that a healthy person of that sex/age class may have, given their height, and then multiplied by a coefficient of physical activity level (PAL) to take into account physical activity.[bl] Given that both healthy body mass indices (BMIs) and normal PALs vary among active and healthy individuals of the same sex and age, a range of energy requirements apply to each sex and age group of the population. The MDER for the average individual in the population, which is the parameter used in the PoU formula, is obtained as the weighted average of the lower bounds of the energy requirement ranges for each sex and age group, using the shares of the population in each sex

bl A person is considered healthy if their BMI indicates neither underweight nor overweight. Human energy requirement norms per kilogram of body mass are given in FAO and WHO (2004).[3]

and age group as weights. Similar to the MDER, the average dietary energy requirement (ADER) (used to estimate the one component of the CV as described below) is estimated using the average values of the PAL category "Active or moderately active lifestyle".[4]

Information on the population structure by sex and age needed to compute the MDER is available for most countries in the world and for each year from the United Nations Department of Economic and Social Affairs *World Population Prospects*, revised every two years. This edition of *The State of Food Security and Nutrition in the World* uses the 2022 revision of the *World Population Prospects*.[5]

Information on the median height in each sex and age group for a given country is derived from a recent Demographic and Health Survey (DHS) or from other surveys that collect anthropometry data on children and adults. Even if such surveys do not refer to the same year for which the PoU is estimated, the impact of possible small intervening changes in median heights over the years on the MDER, and therefore on the PoU estimates, is expected to be negligible.

Dietary energy consumption (DEC): Ideally, DEC could be estimated from data on food consumption coming from nationally representative household surveys (such as Living Standards Measurement Study [LSMS] surveys or Household Consumption and Expenditure Surveys). However, only very few countries conduct such surveys on an annual basis. Thus, in FAO's PoU estimates for global monitoring, DEC values are estimated from the dietary energy supply (DES) reported in the FBS, compiled by FAO for most countries in the world.[6]

Since the last edition of this report, the FBS domain on FAOSTAT has been updated with new values of the series up to 2021 for all countries. In addition, at the time of closing this report, the FBS series were updated to 2022 for the following 68 countries, selected as a priority due to the high contribution they make to the total number of undernourished people in the world: Afghanistan, Angola, Argentina, Bangladesh, Benin, Bolivia (Plurinational State of), Brazil, Burkina Faso, Cameroon, Central African Republic, Chad, Colombia, Congo, Côte d'Ivoire, Democratic People's Republic of Korea, Democratic Republic of the Congo, Ecuador, Egypt, Ethiopia, Ghana, Guatemala, Guinea, Haiti, Honduras, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kenya, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Mali, Morocco, Mozambique, Myanmar, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Peru, Philippines, Rwanda, Saudi Arabia, Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Sri Lanka, Sudan, Syrian Arab Republic, Thailand, Togo, Uganda, Ukraine, United Republic of Tanzania, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia and Zimbabwe. In addition, FBS DES series were updated up to 2022 for another group of 27 countries that contribute less to the total number of undernourished people: Albania, Armenia, Bahamas, Bosnia and Herzegovina, Cabo Verde, Chile, China (mainland), Costa Rica, Djibouti, Dominican Republic, El Salvador, Eswatini, Jamaica, Kuwait, Lebanon, Libya, Mauritania, Mongolia, Montenegro, Oman, Panama, Paraguay, Sao Tome and Principe, Slovakia, Timor-Leste, Tunisia and United States of America.

Per capita average DES in 2022 (for countries other than the ones listed above) and in 2023 (for all countries) are nowcast on the basis of the short-run market outlook exercises conducted by FAO to inform the World Food Situation Portal[7] and used to calculate the 2022 and 2023 values of DEC for each country.

Waste factors

This edition of the report involved updating the waste factors that are used to calculate the DEC by subtracting the percentage of waste from the DES for all countries. The percentages of food waste at distribution level have been estimated using the FBS data available on FAOSTAT.

Using the percentages given in FAO's document *Global food losses and food waste*,[8] calorie waste for each food group is calculated and summed up, with the exception that the waste factors used for cereals is 2 percent for all the regions. Finally, the total calorie waste is taken as a percentage of total calories for each year and country. The data are available up to the year 2021. For the years 2022 and 2023, the same value of the year 2021 is used.

For Somalia and Palestine, fish consumption data were missing, so waste factors have been estimated for all other food groups except fish. Guatemala and the Dominican Republic have not been updated.

Coefficient of variation (CV): The CV of habitual DEC in the population is obtained as the geometric mean of two components, labelled respectively $CV|y$ and $CV|r$:

$$CV = \sqrt{(CV|y)^2 + (CV|r)^2}$$

The first component (CV|y) refers to variability in the per capita consumption across households belonging to different sociodemographic strata, and therefore is referred to as the CV "due to income", while the second component (CV|r) captures variability across individuals, due to differences in sex, age, body mass and PAL that can be found among members of the same household. As these are the same elements that determine energy requirements, the second component is referred to as CV "due to energy requirements".

CV|y

When reliable data on food consumption are available from nationally representative household surveys, the CV due to income (CV|y) can be estimated directly. Since the last edition of this report, 14 new surveys from the following 13 countries have been processed to update the CV|y: Armenia (2022), Costa Rica (2019), Côte d'Ivoire (2022), India (2011/12 and 2022/23), Jordan (2017), Kazakhstan (2022), Maldives (2016), Mali (2022), Mexico (2022), Niger (2022), Republic of Moldova (2022), Senegal (2022) and Timor-Leste (2015). That makes for a total of 143 surveys from 69 countries for which the estimate of the CV|y is based on data from national surveys.

When no suitable survey data are available, Food Insecurity Experience Scale (FIES) data collected by FAO since 2014 are used to project the changes in the CV|y from 2015 (or from the year of the last food consumption survey, if more recent) up to 2023, based on the observed trend in severe food insecurity. The projections are based on the assumption that observed changes in the extent of severe food insecurity measured with the FIES might be indicative of equivalent changes in the PoU. To the extent that such implied changes in the PoU cannot be fully explained by the "supply-side" effects of changes in average food supplies, they can be confidently attributed to unobserved changes in the CV|y that might have occurred at the same time. Analysis of historical PoU estimates reveals that, on average, and once differences in DEC, MDER and CV|r have been controlled for, differences in the CV|y explain about one-third of the differences in PoU across time and space. Based on all this, for each country for which FIES data are available, the change in the CV|y that may have occurred from 2015, or from the date of the last available survey, is therefore estimated as the change that would generate one-third of a percentage-point change in the PoU for each observed percentage-point change in the prevalence of severe food insecurity. For all other countries, lacking any supporting evidence, the CV|y is kept constant at the last available estimate. As in the last two reports, the nowcast of the CV|y for 2020, 2021, 2022 and 2023 required special treatment to account for the effects of the COVID-19 pandemic (see Supplementary material to Chapter 2).

CV|r

The CV due to energy requirements (CV|r) represents the variability of the distribution of dietary energy requirements of a hypothetical average individual representative of a healthy population, which is also equal to the CV of the distribution of dietary energy intakes of a hypothetical average individual if everyone in the population were perfectly nourished. For estimation purposes, the distribution of dietary energy requirements of such a hypothetical average individual is assumed to be normal and its standard deviation (SD) can be estimated from any two known percentiles. We use the MDER and the ADER mentioned above to approximate the 1st and the 50th percentiles.[9, 10] The value of CV|r is then derived as the inverse cumulative standard normal distribution of the difference between the MDER and the ADER.

Challenges and limitations: While formally the state of being undernourished or not is a condition that applies to individuals, given the data usually available on a large scale, it is impossible to reliably identify which individuals in a certain

group are actually undernourished. Through the statistical model described above, the indicator can only be computed with reference to a population or a group of individuals for which a sufficiently representative sample is available. The prevalence of undernourishment is thus an estimate of the percentage of individuals in that group that are in such a condition, but it cannot be further disaggregated.

Due to the probabilistic nature of the inference and the margins of uncertainty associated with estimates of each of the parameters in the model, the precision of the PoU estimates is generally low. While it is not possible to formally compute margins of error around PoU estimates, they are expected to exceed 5 percent in most cases. For this reason, FAO does not consider PoU estimates that result lower than 2.5 percent as sufficiently reliable to be reported.

It is important to note that the ranges presented for the values of the PoU in 2020, 2021, 2022 and 2023 should not be interpreted as statistical confidence intervals. Rather, they represent different scenarios used to nowcast the values of CV|y from 2020 to 2023.

Recommended readings:

FAO. 1996. Methodology for assessing food inadequacy in developing countries. In: *The Sixth World Food Survey*, pp. 114–143. Rome.
https://www.fao.org/4/w0931e/w0931e16.pdf
FAO. 2003. *Proceedings: Measurement and Assessment of Food Deprivation and Undernutrition: International Scientific Symposium*. Rome.
FAO. 2014. *Advances in hunger measurement: traditional FAO methods and recent innovations*. FAO Statistics Division Working Paper, No. 14–04. Rome.
Naiken, L. 2002. *Keynote paper: FAO methodology for estimating the prevalence of undernourishment*. Paper presented at the Measurement and Assessment of Food Deprivation and Undernutrition International Scientific Symposium, Rome, 26–28 June 2002. Rome, FAO.
Wanner, N., Cafiero, C., Troubat, N. & Conforti, P. 2014. *Refinements to the FAO methodology for estimating the prevalence of undernourishment indicator.* Rome, FAO.

PREVALENCE OF FOOD INSECURITY AS MEASURED BY THE FOOD INSECURITY EXPERIENCE SCALE

Definition: Food insecurity as measured by this 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 Food Insecurity Experience Scale 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 SDG monitoring, the questions are asked with reference to the 12 months preceding the survey.

Using sophisticated statistical techniques based on the Rasch model, the information obtained in an FIES-SM survey is validated for internal consistency and converted into a quantitative measure along a scale of severity, ranging from low to high. Based on their responses to the survey items, the individuals or households interviewed in a nationally representative survey of the population are assigned a probability of being in one of three classes: i) food secure or only marginally insecure; ii) moderately food insecure; and iii) severely food insecure, as defined by two globally set thresholds. Based on FIES data collected over three years from 2014 to 2016, FAO has established the FIES reference scale, which is used as the global standard for experience-based food-insecurity measures, and to set the two reference thresholds of severity.

SDG Indicator 2.1.2 is obtained as the cumulated probability of being in the two classes of moderate and severe food insecurity. A separate indicator (FI_{sev}) is computed by considering only the severe food insecurity class.

How it is reported: In this report, FAO provides estimates of food insecurity at two different levels of severity: moderate or severe food insecurity ($FI_{mod+sev}$), and severe food insecurity (FI_{sev}). For each of these two levels, two estimates are reported:

- the **prevalence (percent) of individuals** in the population living in households where at least one adult was found to be food insecure; and

- the estimated **number of individuals** in the population living in households where at least one adult was found to be food insecure.

Data source: Since 2014, the eight-question FIES-SM has been applied in nationally representative samples of the adult population (defined as aged 15 or older) in more than 140 countries included in the Gallup© World Poll (GWP), covering more than 90 percent of the world population. In 2023, interviews were conducted in both telephone and face-to-face modality. Telephone interviews were maintained in some countries already covered with this modality in 2020 given the high risk of community transmission from conducting face-to-face data collection during the COVID-19 pandemic.

Gallup© traditionally uses telephone surveys in Northern America, Western Europe, some parts of Asia, and Cooperation Council for the Arab States of the Gulf countries. In Central and Eastern Europe, much of Latin America, and nearly all of Asia, the Near East and Africa, an area frame design is used for face-to-face interviewing.

In most countries, samples include about 1 000 individuals, with larger samples of 3 000 individuals in India, 3 500 in China (mainland) and 2 000 in the Russian Federation. No data were collected in China (mainland) in 2023.

National government survey data were used to calculate the food insecurity prevalence estimates for at least one year for 70 countries, covering more than a quarter of the world population, by applying FAO's statistical methods to internally validate and adjust national results to the same global reference standard. Once validated, the data are used to inform or update the national series (see description below). When the population of a country accounts for a large proportion of the regional population, this may result in revision or back revision of the regional and subregional series. For this reason, comparisons of assessments across different versions of this report should be avoided, and the current version should be considered as the reference.

In this edition of the report, national government survey data from the following 70 countries were used: Afghanistan, Angola, Armenia, Belize, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cabo Verde, Canada, Chad, Chile, Colombia, Congo, Costa Rica, Côte d'Ivoire, Dominican Republic, Ecuador, Fiji, Ghana, Greece, Grenada, Guinea-Bissau, Guyana, Honduras, Indonesia, Israel, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Lesotho, Malawi, Mali, Mexico, Mozambique, Namibia, Niger, Nigeria, Pakistan, Palestine, Papua New Guinea, Paraguay, Philippines, Republic of Korea, Russian Federation, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Senegal, Seychelles, Sierra Leone, South Africa, South Sudan, Sri Lanka, Sudan, Timor Leste, Togo, Tonga, Uganda, United Arab Emirates, United Republic of Tanzania, United States of America, Uruguay, Vanuatu, Viet Nam, Yemen and Zambia. National data for these countries are considered for the year or years when they are available. For the remaining years, the following strategy was followed:

- When more than one year of national data is available, the missing years are linearly interpolated.
- If only one year of data is available, missing years are informed as follows:
  - using FAO data if considered compatible with the national surveys;
  - imputed using the trend suggested by FAO data if national data are not compatible;
  - imputed using the trend of the subregion if no other reliable and timely information is available; or
  - considered constant to the level of the national survey if the subregion cannot be computed or the trend of other surveys or the subregion is not applicable to the country-specific situation considering evidence found in support of the trend (e.g. evolution of poverty, extreme poverty, employment and food inflation, among others); this applies also to countries where the prevalence of food insecurity is very low (below 3 percent at the severe level) or very high (above 85 percent at the moderate or severe level).

Given the heterogeneity of the survey sources and the small sample size of some of the FAO surveys, new data can occasionally cause a notably large increase or decrease from one year to the next. In such situations, the protocol is to look for external information for the country (data and/or

reports, possibly in consultation with country experts like FAO country or regional officers) to explore whether big shocks or interventions have occurred. If the trend can be justified by supporting evidence, but seems excessive, the trend is kept but smoothed (e.g. using the three-year average). Otherwise, the same protocol used for missing years is applied (i.e. keeping the level constant or applying the subregional trend). In 2023, no FIES data were collected in China (mainland), therefore the trend was kept constant.

Methodology: The data were validated and used to construct a scale of food-insecurity severity using the Rasch model, which postulates that the probability of observing an affirmative answer by respondent i to question j is a logistic function of the distance, on an underlying scale of severity, between the position of the respondent, a_i, and that of the item, b_j.

$$Prob(X_{i,j} = \text{Yes}) = \frac{\exp(a_i - b_j)}{1 + \exp(a_i - b_j)}$$

By applying the Rasch model to the FIES data, it is possible to estimate the cross-country comparable probability of being food insecure ($p_{i,L}$) at each level of severity of food insecurity L (moderate or severe, or severe only), for each respondent i, with $0 < p_{i,L} < 1$.

The prevalence of food insecurity at each level of severity (FI_L) in the population is computed as the weighted sum of the probability of being food insecure for all respondents (i) in a sample:

$$FI_L = \Sigma p_{i,L} w_i$$

where w_i are post-stratification sampling weights that indicate the proportion of individuals or households in the national population represented by each record in the sample.

As only individuals aged 15 years or more are sampled in the GWP, the prevalence estimates directly produced from these data refer to the population aged 15 years and older. To arrive at the **prevalence and number of individuals (of all ages) in the population**, an estimate is required of the number of people living in households where at least one adult is estimated to be food insecure. This involves a multistep procedure detailed in Annex II of *Methods for estimating comparable rates of food insecurity experienced by adults throughout the world* (see link in the "Recommended readings" section, below).

Regional and global aggregates of food insecurity at moderate or severe, and severe levels, $FI_{L,r}$, are computed as:

$$FI_{L,r} = \frac{\Sigma_c FI_{L,c} \times N_c}{\Sigma_c N_c}$$

where r indicates the region, $FI_{L,c}$ is the value of FI at level L estimated for country c in the region, and N_c is the corresponding population size. When no estimate of FI_L is available for a country, it is assumed to be equal to the population-weighted average of the estimated values of the remaining countries in the same subregion. A regional aggregate is produced only if the countries for which an estimate is available cover at least 50 percent of the region's population.

Universal thresholds are defined on the FIES global standard scale (a set of item parameter values based on results from all countries covered by the GWP in 2014–2016) and converted into corresponding values on local scales. The process of calibrating each country's scale against the FIES global standard can be referred to as **equating** and permits the production of **internationally comparable** measures of food insecurity severity for individual respondents, as well as comparable national prevalence rates.

The problem stems from the fact that, when defined as a *latent* trait, the severity of food insecurity has no absolute reference against which it could be evaluated. The Rasch model enables identification of the relative position that the various items occupy on a scale that is denominated in logit units but whose "zero" is arbitrarily set, usually to correspond to the mean estimated severity. This implies that the zero of the scale changes in each application. To produce comparable measures over time and across different populations requires establishing a common scale to use as a reference and finding the formula needed to convert measures across different scales. As is the case for converting measures of temperature across difference measuring scales (such as Celsius and Fahrenheit),

this requires the identification of a number of "anchoring" points. In the FIES methodology, these anchoring points are the severity levels associated with the items whose *relative* position on the scale of severity can be considered equal to that of the corresponding items on the global reference scale. The "mapping" of the measures from one scale to the other is then obtained by finding the formula that equates the mean and the standard deviation of the common items' severity levels.

Challenges and limitations: When food-insecurity prevalence estimates are based on FIES data collected in the GWP, with national sample sizes of about 1 000 individuals in most countries, confidence intervals rarely exceed 20 percent of the measured prevalence (that is, prevalence rates of 50 percent would have margins of error of up to plus or minus 5 percent). Confidence intervals are much smaller, however, when national prevalence rates are estimated using larger samples and for estimates referring to aggregates of several countries. To reduce the impact of year-to-year sampling variability, country-level estimates are presented as three-year averages, computed as averages of all available years in the considered triennia.

National government surveys are the preferred source to inform food insecurity prevalence estimates based on the FIES. However, they may not be available on a yearly basis and data may become available to FAO with some years of delay. In the absence of annual national surveys, the time series is informed using the strategy described above (see "Data source"). This may result in a back revision of the series.

Recommended readings:

FAO. 2016. *Methods for estimating comparable rates of food insecurity experienced by adults throughout the world*. Rome. https://openknowledge.fao.org/handle/20.500.14283/i4830e

FAO. 2018. Voices of the Hungry. In: *FAO*. [Cited 28 April 2020]. https://www.fao.org/in-action/voices-of-the-hungry

Cafiero, C., Viviani, S. & Nord, M. 2018. Food security measurement in a global context: The food insecurity experience scale. *Measurement*, 116: 146–152. [Cited 25 June 2024]. https://www.sciencedirect.com/science/article/pii/S0263224117307005

COST OF A HEALTHY DIET

Definition: The cost of a healthy diet is defined as the cost of purchasing the least expensive, locally available foods that may compose a diet that meets requirements for energy and food-based dietary guidelines (FBDGs) for a reference person within energy balance set at 2 330 kcal per day.

How it is reported: The indicator (denominated "cost of a healthy diet" [CoHD]) is an estimate of the average minimum cost that people must spend in a country to buy the least expensive, locally available foods needed to compose a healthy diet. For cross-country comparability, the cost of a healthy diet is converted from local currency units (LCU) to international dollars using purchasing power parity (PPP) exchange rates for private consumption. The CoHD indicator is thus reported as average **PPP dollars per person per day**.

Data source: The prices of items in each food group needed for a healthy diet are obtained using retail food price data from the International Comparison Program (ICP), coordinated by the World Bank, which estimates PPPs based on a range of internationally standardized items expressed in LCU.[11] For international comparisons, prices in LCU are converted into international dollars using PPP conversion factors for private consumption computed by the ICP and reported in the World Development Indicators (WDI) database.[12] To update the cost of a healthy diet in gap years where ICP rounds are not available, food consumer price index (CPI) data published by FAO are used.[13]

Methodology:

Method for defining a healthy diet basket

Given that the foods selected for a healthy diet vary by local context, countries have developed national FBDGs to recommend healthy dietary habits that reflect their specific cultural context and locally available foods. However, not all countries have FBDGs, and those that do often lack quantifiable recommendations in terms of food quantities and kilocalories. To address this data limitation and create a global standard of a healthy diet that reflects the commonalities in dietary guidelines worldwide, ten quantified FBDGs, representative of different world regions

and compiled in recent years, have been selected. The Healthy Diet Basket (HDB) has been created to set this global standard. It is based on the average food group proportions across national FBDGs, using the median food group amounts recommended in the ten quantified FBDGs. The HDB is identified to meet a dietary energy intake of 2 330 kcal per day and consists of locally available items from six food groups: starchy staples; vegetables; fruits; animal source foods; legumes, nuts and seeds; oils and fats. Specifically, it is designed to provide 1 160 kcal from starchy staples, 110 kcal from vegetables, 160 kcal from fruits, 300 kcal from animal source foods, 300 kcal from legumes, nuts and seeds, and 300 kcal from oils and fats. The cost of a healthy diet is estimated for 169 countries from year 2017 to year 2022.

Methods for cost calculation when ICP data are available

To calculate the least-cost healthy diet, at each time and place, each ICP food item is classified into its food group, and the cheapest items that reach HDB requirements are identified. For each country, a total of 11 least-cost food items are selected in the HDB: two for starchy staples, three for vegetables, two for fruits, two for animal source foods, one for legumes, nuts and seeds, and one for oils and fats. The cost per day of each food group is calculated as the price of acquiring the selected items in that group multiplied by the quantity containing the energy content required by the HDB for that group. Finally, by summing the cost of the six food groups, the cost of a healthy diet is determined in each country.

Methods for cost update when ICP data are unavailable

The ICP is currently the only source of retail food price data for internationally standardized items, and these data are only made available once every three to four years, which does not allow for an annual updating of healthy diet costs. The last series of ICP data was released in 2024, and it refers to 2021 prices. For updating the cost indicator with reference to the years between the ICP publication cycles, food CPIs published by FAO are applied to the cost of a healthy diet in 2021 to estimate the cost in the years when ICP rounds are not available. This dataset tracks changes in monthly general and food CPIs at the national level with reference to a base year of 2015. The annual CPIs are computed as simple averages of the 12 monthly CPIs within a year. The cost of a healthy diet, $c(PPP)_t$, is estimated for missing years by multiplying each country's 2021 actual cost, expressed in LCU, by the food consumer price index (FCPI) ratio, and finally dividing by PPPs:

$$c\,(PPP)_t = \frac{c(LCU)_{2021} \times FCPI\ ratio_t}{PPP_t}$$

Where:

$$t = 2017, 2018, 2019, 2020, 2022$$

and

$$FCPI\ ratio_t = \left(\frac{FCPI_t}{FCPI_{2021}}\right).$$

For countries with missing PPP data, PPP imputations are applied using an Autoregressive Integrated Moving Average with External Explanatory Variable (ARIMAX) model. In line with the World Bank's WDI methodology for PPP extrapolations, the ratio between a country's general CPI and the CPI for the base country (in this case, the United States of America) is included in the model specification as a key predictor of PPP values. Furthermore, per capita gross domestic product (GDP) and per capita household consumption expenditure are also added as external covariates, and the Holt-Winter smoothing methodology is applied to both series to fill the gaps, if needed. The ARIMAX approach allows to estimate, for each country, several model specifications that include an autoregressive component, an integration component, a moving average, and a combination of the three. The best specification is selected when at least the estimated coefficient of the CPI ratio is statistically significant, followed by the statistical significance of the ARIMAX parameters. For countries and territories showing abnormal PPP series over time, the CPI ratio is found to be the only statistically significant coefficient to affect the variability of the PPP values. On the contrary, for countries and territories with a less volatile PPP series, the historical PPP trend also plays a role in predicting PPP values, as well as the coefficient estimates of per capita GDP and/or per capita expenditure. The ARIMAX computes the predicted values on the best specification selected for each country/territory.

Challenges and limitations: Data on internationally standardized food prices are not available every year to allow annual monitoring. A limitation of the method used to update the cost of a healthy diet is that changes in the cost depend on food CPIs and do not reflect item-specific changes in food prices, nor any differential changes in the price of different food groups.[bm] FAO, in collaboration with the World Bank, is exploring how to expand reporting of item-level prices to allow more frequent and robust monitoring of the cost of a healthy diet.

Regional and global aggregates of the cost of a healthy diet are computed using an arithmetic mean across the countries falling into each group.

Recommended readings:

Herforth, A., Bai, Y., Venkat, A., Mahrt, K., Ebel, A. & Masters, W.A. 2020. *Cost and affordability of healthy diets across and within countries. Background paper for The State of Food Security and Nutrition in the World 2020.* FAO Agricultural Development Economics Technical Study, No. 9. Rome, FAO. https://doi.org/10.4060/cb2431en

Herforth, A., Venkat, A., Bai, Y., Costlow, L., Holleman, C. & Masters, W.A. 2022. *Methods and options to monitor the cost and affordability of a healthy diet globally. Background paper to 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

Bai, Y., Conti, V., Ebel, A., Cafiero, C., Herforth, A., Rissanen, M.O., Rosero Moncayo, J. & Masters, W.A. (forthcoming). *Methods for monitoring the cost of a healthy diet based on price data from the International Comparison Program.* FAO Statistics Division Working Paper. Rome, FAO.

UNAFFORDABILITY OF A HEALTHY DIET

Definition: The unaffordability of a healthy diet is defined as the inability of a household or of an individual to pay the amount of money needed to acquire the least-cost combination of locally available foods that meets the requirement for a healthy diet, after having accounted for the portion of their income they have to reserve for acquiring all basic needs other than food.

How it is reported: The main indicator (denominated **"prevalence of unaffordability" [PUA]**) is an estimate of the percentage of individuals in a population whose disposable income, net of the amount needed to acquire all basic non-food goods and services, is lower than the minimum cost of a healthy diet. National estimates are obtained by contrasting the country-specific income distributions against a threshold (r) obtained by summing the cost of a healthy diet with the relevant cost of basic non-food needs (n). Along with the PUA, the **number of people unable to afford a healthy diet (NUA)** is also computed by multiplying PUA by the reference population size.

The entire series (2017–2022) of PUA and NUA estimates are revised with each new edition of this report to reflect new cost data, new population data, and updated income distributions. As this process usually implies backward revisions of the entire PUA and NUA series, readers are advised to refrain from comparing series across different editions of this report and should always refer to the current edition of the report, including for values in past years.

Methodology: To estimate the PUA in a population, a daily per capita cost threshold is computed for each country. Due to the lack of information to determine the country-specific cost of basic non-food goods and services, differences in the non-food spending are based on the four World Bank country income classification groups. Therefore, the daily per capita cost threshold combines the cost of a healthy diet in a country i and the basic cost of non-food needs for the income group j to which country i belongs. The resulting cost threshold r_i is determined as follows:

$$r_i = c_i + n_j,$$

bm The food CPIs reflect average price changes for a basket of various food items defined in each country, which may not accurately represent the price changes of foods in the Healthy Diet Basket. As the basket is designed to include only the cheapest nutritious foods that compose a healthy diet, this means that using the aggregate food CPI may lead to an overestimation of the cost of a healthy diet.

where c_i is the cost of a healthy diet in a country, and n_j is the cost of basic non-foods for income group j. The final n_i is expressed in 2017 PPP dollars, and is calculated by multiplying World Bank international poverty lines by a share of total expenditure to be reserved for non-food basic goods and services that is specific to each income group, as follows:

$n_{\text{Low-income}} = 2.15 \times 0.37 = 0.80$

$n_{\text{Lower-middle-income}} = 3.65 \times 0.44 = 1.61$

$n_{\text{Upper-middle-income}} = 6.85 \times 0.54 = 3.70$

$n_{\text{High-income}} = 24.36 \times 0.54 = 13.20$

The shares of income to be reserved for non-food goods and services are determined with reference to those reported by households that belong to the second quintile of the income distribution for low- and lower-middle-income countries, and by those in the first quintile for upper-middle- and high-income countries. These shares are derived from recent household surveys compiled by the World Bank, including real consumption information by income quintile for 71 countries from different income groups (see Supplementary material to Chapter 2).

Finally, the cost threshold r_i is compared with the country-specific income distributions x_i that reflect a household's disposable income to estimate the percentage of the population whose income falls below that threshold, as in the formula below:

$$PUA = \int_{x_i<r_i} f(x)dx \ \ where\ r_i = c_i + n_j$$

Data source: Income distributions are sourced by the World Bank Poverty and Inequality Platform and are available for around 150 countries up to 2022.[14]

Regional and global aggregates of the prevalence of unaffordability are computed as the population-weighted averages of the PUA estimated for the countries for which data are available, as follows:

$$PUA_a = \frac{\sum_i PUA_i \times N_i}{\sum_i N_i}$$

where a indicates the region or other aggregate, PUA_i is the value of PUA estimated for country i in the aggregate, and N_i is the corresponding population size. A regional aggregate is produced only if the countries for which an estimate is available cover at least 50 percent of the aggregate's population.

The number of people unable to afford a healthy diet (NUA_a) is then obtained by multiplying the average PUA_a – calculated from countries with available data – by the total population size N_a of all countries belonging to that aggregate.

$$NUA_a = PUA_a \times N_a$$

For Comoros and Taiwan Province of China, data on unaffordability are available only in 2017 and 2021. Therefore, a linear interpolation is used to estimate the values for 2018, 2019 and 2020, and the 2021 value is applied for 2022. For South Sudan and the Syrian Arab Republic, data are available only for 2021, so the 2021 value is used for all other years to calculate the aggregate statistics. In Lebanon, the 2020 value is applied to years 2017, 2018 and 2019, where information is missing. The global NUA estimate is obtained by multiplying the PUA for each of the five world regions by the total population size in each region. Calculating the global NUA estimate as the sum of the NUA estimates of other country groupings, such as those based on income levels, should be avoided. Population data are taken from the 2022 revision of the *World Population Prospects*.[5]

Challenges and limitations: In this edition of the report, method refinements are made to recognize that the cost of non-food needs varies across countries. However, due to the lack of country-specific information, the difference in non-food spending is incorporated across income groups, not yet across countries. Furthermore, besides the need to apply a correction to account for differences *across* countries, another important aspect is to recognize that the cost of a minimally dignified standard of living ($r = c + n$) also varies *within* each country. Especially for large, and diverse countries, the failure to account for such differences, and the use of a cost threshold r set at the national average, may result in biased estimates of unaffordability. The direction and extent of the bias will depend on the direction

and the magnitude of the possible correlation that exists between income levels and the correct, location-specific threshold.

Recommended readings:

Bai, Y., Herforth, A., Cafiero C., Conti V., Rissanen, M.O., Masters, W.A & Rosero Moncayo, J. (forthcoming). *Methods for monitoring the affordability of a healthy diet*. FAO Statistics Division Working Paper. Rome, FAO.

Herforth, A., Bai, Y., Venkat, A., Mahrt, K., Ebel, A. & Masters, W.A. 2020. *Cost and affordability of healthy diets across and within countries. Background paper for The State of Food Security and Nutrition in the World 2020.* FAO Agricultural Development Economics Technical Study, No. 9. Rome, FAO. https://doi.org/10.4060/cb2431en

WASTING IN CHILDREN UNDER FIVE YEARS OF AGE

Definition: Weight (kg) for height/length (cm) <–2 SD of the WHO Child Growth Standards median.

How it is reported: This is the percentage of children aged 0 to 59 months who are <–2 SD from the median weight-for-height of the WHO Child Growth Standards. The regional and global aggregates presented are based on the report *Levels and trends in child malnutrition: UNICEF/WHO/World Bank Joint Child Malnutrition Estimates – Key findings of the 2023 edition.* The entire series of aggregates is revised with every new edition of the key findings report. Readers are advised to refrain from comparing regional and global series with prior editions of the report. Country level estimates are based on the UNICEF/WHO/World Bank Joint Child Malnutrition Estimates November 2023 dataset.

Methodology:

Country level

The Joint Child Malnutrition Estimates (JME) dataset contains the point estimate, and where available, the standard error, the 95 percent confidence bounds and the unweighted sample size. Where microdata are available, the JME dataset uses estimates that have been recalculated to adhere to the global standard definition. Where microdata are not available, reported estimates are used, except in cases where adjustments are required to standardize for:

- use of an alternate growth reference from the 2006 WHO Child Growth Standards;
- age ranges that do not include the full 0–59-month age group; and
- data sources that were only nationally representative for populations residing in rural areas.

Regional and global aggregates

The wasting prevalence data derived from national data sources in the JME March 2023 dataset were used to generate regional and global estimates from 1990 to 2022, using the JME subregional multilevel model and applying population weights for children under five years of age from the 2022 revision of the *World Population Prospects*.[5]

Data sources: Nationally representative household surveys, e.g. DHS, Multiple Indicator Cluster Surveys (MICS), Standardized Monitoring and Assessment of Relief and Transition (SMART) surveys, and LSMS surveys are the most common nationally representative data sources that specifically collect child nutrition data on height, weight and age of children under five years of age, and which can be used to generate national-level prevalence estimates for wasting. Some administrative data sources (e.g. from surveillance systems) are also included where population coverage is high.

Given that country surveys can be collected during any season, the prevalence estimate from any survey may be at a high or a low, or it may fall somewhere in between if data collection spans several seasons. Thus, the prevalence of wasting captures the situation of wasting at a specific point in time and not over an entire year. Variations in seasons across surveys make it difficult to draw inferences on trends.

Challenges and limitations: The recommended periodicity for countries to report on wasting is every three to five years; however, for some countries, data are available less frequently. While every effort has been made to maximize the comparability of statistics across countries and over time, country data may differ in terms of data collection methods, population coverage and

estimation methods. Survey estimates come with levels of uncertainty due to both sampling errors and non-sampling errors (technical measurement errors, recording errors, and so on). Neither of the two sources of error has been fully taken into account for deriving estimates at the country or regional and global levels.

Recommended readings:

de Onis, M., Blössner, M., Borghi, E., Morris, R. & Frongillo, E.A. 2004. Methodology for estimating regional and global trends of child malnutrition. *International Journal of Epidemiology*, 33(6): 1260–1270. https://doi.org/10.1093/ije/dyh202

UNICEF, WHO & World Bank. 2021. *Technical notes from the background document for country consultations on the 2021 edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates. SDG Indicators 2.2.1 on stunting, 2.2.2a on wasting and 2.2.2b on overweight*. New York, USA, UNICEF. data.unicef.org/resources/jme-2021-country-consultations

UNICEF, WHO & World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF, Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, http://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition

WHO. 2014. *Comprehensive Implementation Plan on maternal, infant and young child nutrition*. Geneva, Switzerland. https://www.who.int/publications/i/item/WHO-NMH-NHD-14.1

WHO. 2024. *Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide*. Second edition. Geneva, Switzerland. https://www.who.int/publications/i/item/9789241516952

STUNTING IN CHILDREN UNDER FIVE YEARS OF AGE

Definition: Stunting is defined as height/length (cm) for age (days) <–2 SD of the WHO Child Growth Standards median.

How it is reported: This is the percentage of children aged 0 to 59 months who are <–2 SD from the median height-for-age of the WHO Child Growth Standards. The estimates presented are based on the report *Levels and trends in child malnutrition: UNICEF/WHO/World Bank Joint Child Malnutrition Estimates – Key findings of the 2023 edition.* The entire series of estimates is revised with every new edition of the key findings report. Readers are advised to refrain from comparing series with prior editions of the report.

Methodology:

Country level

The JME dataset contains the point estimate, and where available, the standard error, the 95 percent confidence bounds and the unweighted sample size. Where microdata are available, the JME dataset contains estimates that have been recalculated to adhere to the global standard definition. Where microdata are not available, reported estimates are presented, except in cases where adjustments are required to standardize for:

- use of an alternate growth reference from the 2006 WHO Child Growth Standards;
- age ranges that do not include the full 0–59-month age-group; and
- data sources that were only nationally representative for populations residing in rural areas.

Based on the JME March 2023 dataset, the prevalence of stunting was modelled at logit (log-odds) scale using a penalized longitudinal mixed model with a heterogeneous error term. The quality of the models was quantified with model-fit criteria that balance the complexity of the model with the closeness of the fit to the observed data. The proposed method has important characteristics, including non-linear time trends, regional trends, country-specific trends, covariate data and a heterogeneous error term. All countries with data contribute to estimates of the overall time trend and the impact of covariate data on the prevalence. The covariate data consisted of linear and quadratic sociodemographic index (SDI),[bn]

bn The SDI is a summary measure that identifies where countries or other geographic areas sit on the spectrum of development. Expressed on a scale of 0 to 1, SDI is a composite average of the rankings of the income per capita, average educational attainment, and fertility rates of all areas in the Global Burden of Disease study.

average health system access over the previous five years, and data source type.

Annual country-level modelled estimates from 2000 to 2022 for stunting were disseminated by the JME in 2023 for 159 countries with at least one data point in the JME country dataset (e.g. from a household survey). Modelled country estimates were also produced for an additional 46 countries, used solely for the generation of regional and global aggregates. Modelled estimates for these 46 countries are not shown because they did not have any household surveys in the JME dataset. The uncertainty intervals are important in monitoring trends, especially for countries with sparse data and where primary data sources present large sampling errors. When only sparse data are available in the most recent period, the inclusion of a survey can induce a substantial change in the predicted trajectory. For this reason, uncertainty intervals are needed to enhance trend interpretability in terms of the caution level employed. The uncertainty intervals for the estimates have been tested and validated.

Regional and global aggregates

Global and regional aggregates for all years from 2000 to 2022 were derived as the respective country averages weighted by the countries' under-five population from the 2022 revision of the *World Population Prospects*,[5] using model-based estimates for 205 countries and areas. This includes 159 countries with national data sources (e.g. household surveys) included in the JME country dataset. It also includes 46 countries with modelled estimates generated for development of regional and global aggregates but for which country-modelled estimates are not shown because they did not have any household surveys in the JME country dataset. Confidence intervals were generated based on bootstrapping methodology.

Data sources: Nationally representative household surveys (e.g. DHS, MICS, SMART surveys and LSMS surveys) are the most common nationally representative data sources that specifically collect child nutrition data on height and age of children under five, and which can be used to generate national-level prevalence estimates for stunting. Some administrative data sources (e.g. from surveillance systems) are also included where population coverage is high.

Challenges and limitations: The recommended periodicity for countries to report on stunting is every three to five years; however, for some countries, data are available less frequently. While every effort has been made to maximize the comparability of statistics across countries and over time, country data may differ in terms of data collection methods, population coverage and estimation methods. Survey estimates come with levels of uncertainty due to both sampling errors and non-sampling errors (technical measurement errors, recording errors, and so on). Neither of the two sources of error has been fully taken into account for deriving estimates at the country or regional and global levels.

Recommended readings:

GBD 2019 Risk Factors Collaborators. 2020. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, 396(10258): 1223–1249. https://doi.org/10.1016/s0140-6736(20)30752-2

McLain, A.C., Frongillo, E.A., Feng, J. & Borghi, E. 2019. Prediction intervals for penalized longitudinal models with multisource summary measures: An application to childhood malnutrition. *Statistics in Medicine*, 38(6): 1002–1012. https://doi.org/10.1002/sim.8024

UNICEF, WHO & World Bank. 2021. *Technical notes from the background document for country consultations on the 2021 edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates. SDG Indicators 2.2.1 on stunting, 2.2.2a on wasting and 2.2.2b on overweight*. New York, USA, UNICEF. data.unicef.org/resources/jme-2021-country-consultations

UNICEF, WHO & World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF, Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, http://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition

WHO. 2014. *Comprehensive Implementation Plan on maternal, infant and young child nutrition*. Geneva, Switzerland. https://www.who.int/publications/i/item/WHO-NMH-NHD-14.1
WHO. 2024. *Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide*. Second edition. Geneva, Switzerland. https://www.who.int/publications/i/item/9789241516952
WHO & UNICEF. 2019. *Recommendations for data collection, analysis and reporting on anthropometric indicators in children under 5 years old*. Geneva, Switzerland and New York, USA. https://www.who.int/publications/i/item/9789241515559

OVERWEIGHT IN CHILDREN UNDER FIVE YEARS OF AGE

Definition: Weight (kg) for height/length (cm) >+2 SD of the WHO Child Growth Standards median.

How it is reported: This is the percentage of children aged 0 to 59 months who are >+2 SD from the median weight-for-height of the WHO Child Growth Standards. The estimates presented are based on the report *Levels and trends in child malnutrition: UNICEF/WHO/World Bank Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. The entire series of estimates is revised with every new edition of the key findings report. Readers are advised to refrain from comparing series with prior editions of the report.

Methodology:

Country level

The JME dataset contains the point estimate, and where available, the standard error, the 95 percent confidence bounds and the unweighted sample size. Where microdata are available, the JME dataset contains estimates that have been recalculated to adhere to the global standard definition. Where microdata are not available, reported estimates are presented, except in cases where adjustments are required to standardize for:

- use of an alternate growth reference from the 2006 WHO Child Growth Standards;
- age ranges that do not include the full 0–59-month age group; and
- data sources that were only nationally representative for populations residing in rural areas.

Based on the JME March 2023 dataset, the prevalence of overweight was modelled at logit (log-odds) scale using a penalized longitudinal mixed model with a heterogeneous error term. The quality of the models was quantified with model-fit criteria that balance the complexity of the model with the closeness of the fit to the observed data. The proposed method has important characteristics, including non-linear time trends, regional trends, country-specific trends, covariate data and a heterogeneous error term. All countries with data contribute to estimates of the overall time trend and the impact of covariate data on the prevalence. The covariate data consisted of linear and quadratic SDI and data source type.

Annual country-level modelled estimates from 2000 to 2022 of overweight were disseminated by the JME in 2023 for 160 countries with at least one data point included in the JME country dataset (e.g. from a household survey). Modelled country estimates were also produced for an additional 45 countries, used solely for the generation of regional and global aggregates. Modelled estimates for these 45 countries are not shown because they did not have any household surveys in the JME dataset. The uncertainty intervals are important in monitoring trends, especially for countries with sparse data and where primary data sources present large sampling errors. When only sparse data are available in the most recent period, the inclusion of a survey can induce a substantial change in the predicted trajectory. For this reason, uncertainty intervals are needed to enhance trend interpretability in terms of the caution level employed. The uncertainty intervals for the estimates have been tested and validated.

Regional and global aggregates

Global and regional aggregates for all years from 1990 to 2022 were derived as the respective country averages weighted by the countries' under-five population from the 2022 revision of the *World Population Prospects*,[5] using model-based estimates for 205 countries. This includes 160 countries with national data sources (e.g. household surveys) included

in the JME country dataset. It also includes 45 countries with modelled estimates generated for development of regional and global aggregates but for which country-modelled estimates are not shown because they did not have any household surveys in the JME country dataset. Confidence intervals were generated based on bootstrapping methodology.

Data sources: Nationally representative household surveys (e.g. DHS, MICS, SMART surveys and LSMS surveys) are the most common nationally representative data sources that specifically collect child nutrition data on height, weight and age of children under five years of age, and which can be used to generate national-level prevalence estimates for overweight. Some administrative data sources (e.g. from surveillance systems) are also included where population coverage is high.

Challenges and limitations: The recommended periodicity for countries to report on overweight is every three to five years; however, for some countries, data are available less frequently. While every effort has been made to maximize the comparability of statistics across countries and over time, country data may differ in terms of data collection methods, population coverage and estimation methods. Survey estimates come with levels of uncertainty due to both sampling errors and non-sampling errors (technical measurement errors, recording errors, and so on). Neither of the two sources of error has been fully considered for deriving estimates at the country or regional and global levels.

Recommended readings:

GBD 2019 Risk Factors Collaborators. 2020. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, 396(10258): 1223–1249. https://doi.org/10.1016/s0140-6736(20)30752-2

McLain, A.C., Frongillo, E.A., Feng, J. & Borghi, E. 2019. Prediction intervals for penalized longitudinal models with multisource summary measures: An application to childhood malnutrition. *Statistics in Medicine*, 38(6): 1002–1012. https://doi.org/10.1002/sim.8024

UNICEF, WHO & World Bank. 2021. *Technical notes from the background document for country consultations on the 2021 edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates. SDG Indicators 2.2.1 on stunting, 2.2.2a on wasting and 2.2.2b on overweight*. New York, USA, UNICEF. data.unicef.org/resources/jme-2021-country-consultations

UNICEF, WHO & World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF, Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, http://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition

WHO. 2014. *Comprehensive Implementation Plan on maternal, infant and young child nutrition*. Geneva, Switzerland. https://www.who.int/publications/i/item/WHO-NMH-NHD-14.1

WHO. 2024. *Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide*. Second edition. Geneva, Switzerland. https://www.who.int/publications/i/item/9789241516952

WHO & UNICEF. 2019. *Recommendations for data collection, analysis and reporting on anthropometric indicators in children under 5 years old*. Geneva, Switzerland and New York, USA. https://www.who.int/publications/i/item/9789241515559

EXCLUSIVE BREASTFEEDING

Definition: Exclusive breastfeeding for infants under six months of age is defined as receiving only breastmilk and no additional food or drink, not even water.

How it is reported: This is the percentage of infants aged 0 to 5 months who are fed exclusively on breastmilk with no additional food or drink, not even water, in the 24 hours preceding the survey.

The estimates presented are from UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

Methodology:

Country level

This indicator is defined as breastfeeding with no other food or drink, not even water. Estimates are

based on a recall of the previous day's feeding to a cross-section of infants 0 to 5 months of age.

$$\frac{\textit{Infants 0–5 months of age who received only breastmilk during the previous day}}{\textit{Infants 0–5 months of age}}$$

Breastfeeding by a wet nurse, feeding of expressed breastmilk and feeding of donor human milk all count as being fed breastmilk. Prescribed medicines, oral rehydration solution, vitamins and minerals are not counted as fluids or foods. However, herbal fluids and similar traditional medicines are counted as fluids, and infants who consume these are not exclusively breastfed.

Regional and global aggregates

For 2012, the regional and global exclusive breastfeeding estimates were generated using the most recent estimate available for each country between 2005 and 2012. Similarly, 2022 estimates were developed using the most recent estimate available for each country between 2016 and 2022. Global and regional estimates are calculated as weighted averages of the prevalence of exclusive breastfeeding in each country, using the total number of infants aged 0 to 5 months (defined as half of the population aged zero) from the 2022 revision of the *World Population Prospects* (2012 for the baseline and 2022 for the current) as weights.[5] Estimates are presented in the cases where the available data represent at least 50 percent of corresponding regions' total number of infants aged 0 to 5 months, unless otherwise noted.

Data sources: Data are collected through nationally representative household surveys such as DHS and MICS. The estimates are based on questions about liquid and food intake of children aged 0–23 months in the 24 hours preceding the survey.

Challenges and limitations: While a high proportion of countries collect data for exclusive breastfeeding, data are particularly lacking from high-income countries. The recommended periodicity of reporting on exclusive breastfeeding is every three to five years. However, for some countries, data are reported less frequently, meaning changes in feeding patterns are often not detected for several years after the change occurs.

Regional and global averages may be affected depending on which countries had data available for the periods considered in this report.

Using the previous day's feeding as a basis may cause the proportion of exclusively breastfed infants to be overestimated, as some infants who may have been given other liquids or foods irregularly may not have received these on the day before the survey.

Recommended readings:

UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

WHO. 2014. *Comprehensive implementation plan on maternal, infant and young child nutrition*. Geneva, Switzerland. https://www.who.int/publications/i/item/WHO-NMH-NHD-14.1

WHO. 2024. *Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide.* Second edition. Geneva, Switzerland. https://www.who.int/publications/i/item/9789241516952

WHO & UNICEF. 2021. *Indicators for assessing infant and young child feeding practices: definitions and measurement methods.* Geneva, Switzerland, and New York, USA. https://www.who.int/publications/i/item/9789240018389

LOW BIRTHWEIGHT

Definition: Low birthweight is defined as a weight at birth of less than 2 500 g.

How it is reported: This is the percentage of newborns weighing less than 2 500 g (less than 5.51 lbs) at birth. The estimates presented are from the 2023 edition of the UNICEF and WHO *Joint low birthweight estimates.* As the entire series of estimates is revised with every new edition, readers are advised to refrain from comparing series with prior editions.

Methodology:

Country level

Nationally representative low birthweight data, including survey and administrative data sources, were collated from 2000 to 2020 from 158 countries. Data quality criteria and adjustment methods were applied to develop

the final set of country data to be included in the modelling exercise. Country data are reviewed prior to entry into the dataset for coverage and quality and adjusted to account for biases due to birthweight missingness and heaping. To be included, birthweights available from administrative data needed to cover at least 80 percent of the 2022 revision of the *World Population Prospects*[5] estimated live births for that year. For national household surveys to be included in the dataset, they must have:

- a birthweight in the dataset for a minimum of 30 percent of the sample;
- a minimum of 200 birthweights in the dataset;
- no indication of severe data heaping or implausible distribution – this means that: i) ≤55 percent of all birthweights can fall on the three most frequent birthweights (i.e. if 3 000 g, 3 500 g and 2 500 g were the three most frequent birthweights, when added together, they would have to make up ≤55 percent of all birthweights in the dataset); ii) ≤10 percent of all birthweights are ≥4 500 g; and iii) ≤5 percent of birthweights fall on tail ends of <500 g or >5 000 g; and
- undergone an adjustment for missing birthweights and heaping.

Estimates of low birthweight prevalence at the national level were predicted from a Bayesian multilevel regression model. The model is fit on the logit (log-odds) scale to ensure that proportions are bounded between zero and one, and then back-transformed and multiplied by 100 to obtain prevalence estimates.

Hierarchical random country-specific intercepts (countries within regions within global) accounted for the correlation within and between regions. Penalized splines were used as temporal smoothing across the time series, meaning that country-level non-linear time trends were captured without random variation affecting the trend. The final covariates included in the model were: gross national income PPP per person,[bo] the prevalence of underweight among female adults, the adult female literacy rate, the modern contraception prevalence rate and the percentage of urban population.

bo Measured in constant 2017 international dollars.

Data quality categories were used to apply bias shifts and additional variance terms. These bias shifts were applied to administrative data from lower quality categories, which approximated the expected bias from heaping that was already accounted for in the survey adjustment. The additional variance was based on the data quality category of the administrative data, and the weighting between administrative and survey data if the country had both.

Standard diagnostic checks were done to assess for convergence and sampling efficiency. Cross-validation was implemented, averaging over 200 random splits of 20 percent test data, 80 percent training data. Sensitivity analyses were undertaken including checks on covariates, bias method, temporal smoothing, and non-informative priors. All models were fitted in R statistical software and the R packages "rjags" and "R2jags".[15, 16]

The model included all 2040 country-years of data meeting the inclusion criteria and generated annual estimates from 2000 to 2020 with 95 percent credible intervals for the 195 countries and areas with either low birthweight input data or covariate data. Only estimates for countries and areas with data are reported. For the 37 (out of 195) countries with no data or data not meeting inclusion criteria, the final model was used to predict estimates of the prevalence of low birthweight based on country intercepts and time trends estimated from the region- and country-level covariates for all country years.

Regional and global aggregates

Regional and global aggregates are produced using all estimates from all 195 countries and areas weighted by estimated live births for that year from the 2022 revision of the *World Population Prospects*.[5]

Data sources: Nationally representative estimates of low birthweight prevalence can be derived from a range of sources, broadly defined as national administrative data or representative household surveys. National administrative data are those coming from national systems including civil registration and vital statistics systems, national health management information systems and birth registries. National household

surveys such as DHS and MICS which contain information about birthweight as well as key related indicators including maternal perception of size at birth are also an important source of data on low birthweight, especially in contexts where birthweights are not recorded and/or data heaping is a problem.

Challenges and limitations: A major limitation of monitoring low birthweight globally is the lack of birthweight data for many of the world's children. There is a notable bias, with children born to poorer, less educated, rural mothers and families being less likely to have a recorded birthweight when compared with their richer, urban counterparts with more highly educated mothers. Close to one out of three surveys containing birthweight data were not included, primarily due to missingness or poor data quality, and mostly from low-income countries in regions with a high risk of low birthweight.

As newborns with missing birthweights have risk factors for low birthweight, estimates that do not represent these children may be lower than the true value. Furthermore, poor data quality regarding excessive heaping on multiples of 500 g or 100 g exists in data from low- and middle-income countries which can further underestimate low birthweight. The methods applied in the current database to adjust for missing birthweights and heaping in survey estimates are meant to address this problem. A limitation of current methods is that individual-level data are not available for administrative data, and these data cannot be directly adjusted to remove bias from heaping and missingness.

The geographical groupings used in the modelling may not be appropriate for epidemiological or economic regional outliers. In all, the estimates for 37 (out of 195) countries without input data may have been affected. In addition, the confidence limits of the regional and global estimates may be artificially small given that about half of the modelled countries had a country-specific effect generated at random for each bootstrap prediction, some of which were positive and others negative, making the relative uncertainty at the regional and global levels less than that at the country level.

Recommended readings:

Blanc, A. & Wardlaw, T. 2005. Monitoring low birth weight: An evaluation of international estimates and an updated estimation procedure. *Bulletin World Health Organization*, 83(3): 178–185. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2624216

Chang, K.T., Carter, E.D., Mullany, L.C., Khatry, S.K., Cousens, S., An, X., Krasevec, J. *et al.* 2022. Validation of MINORMIX approach for estimation of low birthweight prevalence using a rural Nepal dataset. *The Journal of Nutrition*, 152(3): 872–879. https://doi.org/10.1093/jn/nxab417

Okwaraji, Y.B., Krasevec, J., Bradley, E., Conkle, J., Stevens, G.A., Gatica-Domínguez, G., Ohuma, E.O. *et al.* 2024. National, regional, and global estimates of low birthweight in 2020, with trends from 2000: a systematic analysis. *The Lancet*, 403(10431): 1071–1080. https://doi.org/10.1016/S0140-6736(23)01198-4

UNICEF & WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight

UNICEF & WHO. 2023. Joint low birthweight estimates. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-low-birthweight-estimates

ADULT OBESITY

Definition: Body mass index ≥30.0 kg/m^2. The BMI is the weight-to-height ratio 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/m^2). Obesity includes individuals with BMI equal to or higher than 30 kg/m^2.

How it is reported: Percentage of the population over 18 years of age with BMI ≥30.0 kg/m^2 weighted by sex and standardized by age. The estimates presented are based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country.* [Accessed on 24 July 2024]. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(age-standardized-estimate)-(-). Licence: CC-BY-4.0.

The entire series of estimates is revised with every new update. Readers are advised to refrain from comparing the current series with prior updates.

Methodology:

Country level

A Bayesian hierarchical regression model, fitted using a Markov Chain Monte Carlo (MCMC) sample, with inference made using posterior MCMC samples, was applied to estimate the trends in the prevalence of different BMI categories by sex, age, country and year from 1990 to 2022. Countries were organized into 20 regions and 8 super regions, primarily based on geography and national income. The model had a hierarchical structure in which estimates for each country and year were informed by its own data, if available, and by data from other years within the same country and from other countries, especially those in the same region and super-region with data for similar time periods. The model included non-linear time trends through a combination of linear and second-order random walk terms, all modelled hierarchically. The age association of BMI was modelled using a cubic spline to allow for non-linear age patterns, which might vary across countries. The coefficients of the splines were modelled hierarchically and were allowed to vary over time to reflect the changing age associations. Age standardization was performed by taking the weighted means of age-sex-specific estimates, using age weights from the WHO standard population.[17]

Regional and global aggregates

Global and regional prevalence estimates are calculated as population-weighted averages of the constituent countries.

Data sources: Population-based studies with measurements of height and weight such as nationally representative household surveys constitute most of the data sources for monitoring adult obesity.

Challenges and limitations: Body mass index is an imperfect measure of the extent and distribution of body fat, but is widely available in population-based surveys, and is used in clinical practice; it is also correlated with the more complex and costly dual-energy x-ray absorptiometry.

Some countries had few data sources and three countries had no data source. Estimates for these countries were informed to a larger degree by data from other countries through geographical hierarchy.

There were also differences in data availability by age group, with fewer data available for older adults (≥65 years), which increased the uncertainty of estimates for that age group.

Recommended readings:

Ahmad, O.B., Boschi-Pinto, C., Lopez, A.D., Murray, C.J., Lozano, R. & Inoue, M. 2001. *Age standardization of rates: A new WHO standard*. GPE Discussion Paper Series 31. Geneva, Switzerland, WHO. https://cdn.who.int/media/docs/default-source/gho-documents/global-health-estimates/gpe_discussion_paper_series_paper31_2001_age_standardization_rates.pdf

NCD-RisC (NCD Risk Factor Collaboration). 2024. Worldwide trends in underweight and obesity from 1990 to 2022: a pooled analysis of 3663 population-representative studies with 222 million children, adolescents, and adults. *The Lancet*, 403(10431): 1027–1050. https://doi.org/10.1016/S0140-6736(23)02750-2

Sixty-Sixth World Health Assembly. 2013. *Follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases*. https://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R10-en.pdf?ua=1

WHO. 2022. *Updated Appendix 3 of the WHO Global NCD Action Plan 2013-2030*. Technical Annex (version dated 26 December 2022). Geneva, Switzerland. https://cdn.who.int/media/docs/default-source/ncds/mnd/2022-app3-technical-annex-v26jan2023.pdf?sfvrsn=62581aa3_5

WHO. 2024. Noncommunicable Diseases Data Portal. In: *WHO*. [Cited 8 April 2024]. https://ncdportal.org

WHO. 2024. *Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide*. Second edition. Geneva, Switzerland. https://www.who.int/publications/i/item/9789241516952

WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024]. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(age-standardized-estimate)-(-). Licence: CC-BY-4.0.

ANAEMIA IN WOMEN AGED 15 TO 49 YEARS

Definition: Percentage of women aged 15 to 49 years with a haemoglobin concentration of 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.

How it is reported: Percentage of women aged 15 to 49 years with a haemoglobin concentration below 110 g/L for pregnant women and below 120 g/L for non-pregnant women. The estimates presented are based on WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children. The entire series of estimates is revised with every new edition. Readers are advised to refrain from comparing the current series with prior editions.

Methodology:

Country level

The 2021 edition of anaemia estimates in women aged 15 to 49 years, by pregnancy status, included data sources from the Micronutrients Database, part of the WHO Vitamin and Mineral Nutrition Information System (VMNIS) and from anonymized individual-level data which span from 1995 to 2019. Adjustments of data on blood haemoglobin concentrations for altitude were carried out when relevant (i.e. the country has a high-altitude population) and adjustments for smoking done when feasible. Biologically implausible haemoglobin values (<25 g/L or >200 g/L) were excluded.

A Bayesian hierarchical mixture model was used to estimate haemoglobin distributions and systematically address missing data, non-linear time trends, and representativeness of data sources. Briefly, the model calculated estimates for each country and year, informed by data derived from that same country and year where available, data from other years within the same country, and data from other countries during similar time periods, especially countries in the same region. The model borrows data, to a greater extent, when data are non-existent or weakly informative, and to a lesser extent for data-rich countries and regions. The resulting estimates are also informed by covariates that help predict blood haemoglobin concentrations (e.g. sociodemographic index, meat supply [kcal/capita], mean BMI for women, and log of under-five mortality for children). The uncertainty ranges (credibility intervals) reflect the major sources of uncertainty, including sampling error, non-sampling error due to issues in sample design/measurement, and uncertainty from making estimates for countries and years without data.

Regional and global aggregates

Global and regional prevalence estimates are calculated as population-weighted averages of the constituent countries.

Data sources: The preferable data source is population-based surveys. Data from surveillance systems may be used under some circumstances, but recorded diagnoses are typically underestimated. The Micronutrients Database of the WHO VMNIS compiles and summarizes data on the micronutrient status of populations from various other sources, including data collected from the scientific literature and through collaborators, including WHO regional and country offices, United Nations organizations, ministries of health, research and academic institutions, and non-governmental organizations. In addition, anonymized individual-level data are obtained from multicountry surveys, including DHS, Malaria Indicator Surveys and Reproductive Health Surveys.

Challenges and limitations: Despite a high proportion of countries having nationally representative survey data for anaemia, there is still a lack of reporting on this indicator, especially in high-income countries. As a result, the estimates may not fully capture the variation across countries and regions, thus tending to "shrink" towards global means when data are sparse.

Recommended readings:

Stevens, G.A., Paciorek, C.J., Flores-Urrutia, M.C., Borghi, E., Namaste, S., Wirth, J.P., Suchdev, P.S., Ezzati, M., Rohner, F., Flaxman, S.R. & Rogers, L.M. 2022. National, regional, and global estimates of anaemia by severity in women and children for 2000–19: a pooled analysis of

population-representative data. *The Lancet Global Health*, 10(5): e627–e639. https://doi.org/10.1016/S2214-109X(22)00084-5

WHO. 2011. *Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. Vitamin and Mineral Nutrition Information System*. Geneva, Switzerland. https://apps.who.int/iris/bitstream/handle/10665/85839/WHO_NMH_NHD_MNM_11.1_eng.pdf

WHO. 2014. *Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition*. Geneva, Switzerland. https://www.who.int/publications/i/item/WHO-NMH-NHD-14.1

WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children

WHO. 2021. Vitamin and Mineral Nutrition Information System (VMNIS). In: *WHO*. [Cited 20 April 2023]. https://www.who.int/teams/nutrition-and-food-safety/databases/vitamin-and-mineral-nutrition-information-system

WHO. 2024. Nutrition Landscape Information System (NLIS) Country Profile. In: *WHO*. [Cited 20 April 2023]. https://www.who.int/data/nutrition/nlis/country-profile

WHO. 2024. Nutrition Data Portal. In: *WHO*. [Cited 6 April 2024]. https://platform.who.int/nutrition/nutrition-portals ■

ANNEX 2
GLOSSARY

Acute food insecurity
Food insecurity found in a specified area at a specific point in time and of a severity that threatens lives or livelihoods, or both, regardless of the causes, context or duration. It has relevance in providing strategic guidance to actions that focus on short-term objectives to prevent, mitigate or decrease severe food insecurity.[18]

Affordability
The ability of people to buy foods in their local environment. In this report, cost refers to what people have to pay to secure a healthy diet, while affordability refers to the cost relative to a person's income, minus other required expenses. In **Section 2.2**, unaffordability is determined by comparing the cost of a healthy diet plus the cost of basic non-food goods and services with income distributions available in the Poverty and Inequality Platform (PIP) of the World Bank. This allows for a computation of the percentage and number of people in each country who are not able to afford a healthy diet.[bp]

Agrifood systems
A term increasingly used in the context of transforming food systems for sustainability and inclusivity, agrifood systems encompass both agricultural and food systems and focus on both food and non-food agricultural products, with clear overlaps. 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.

Animal source foods
All types of meat, poultry, fish, shellfish, insects, grubs, eggs, milk, cheese, yoghurt and other milk products.[19, 20]

Blended finance
The strategic use of development finance for the mobilization of additional finance towards sustainable development in developing countries. It attracts commercial capital towards projects that contribute to sustainable development, while providing financial returns to investors.[21]

Bond
A debt investment in which an investor lends money to an entity (typically corporate or governmental) that borrows the funds for a defined period of time at a variable or fixed interest rate. Bonds are used by companies, municipalities, states and sovereign governments to raise money and finance a variety of projects and activities.[22]

Capital markets
A subset of financial markets that specifically deal with the buying and selling of equity and debt securities.[23]

Commercial finance
Finance related to activities of commercial business operations to earn profits. Non-commercial activities can be conducted by non-profit organizations or government agencies.[24]

Concessional loans
Loans that are extended on terms substantially more generous than market loans. The concessions are achieved either through interest rates below those available on the market or by grace periods, or a combination of these two.[22]

bp See Supplementary material to Chapter 2 for the full description of the methodology.

ANNEX 2

Climate
Climate is usually defined in a narrow sense as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years.[25]

Climate change
A change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.[25]

Climate extreme (extreme weather or climate event)
The occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variable. For simplicity, both extreme weather events and extreme climate events are referred to collectively as "climate extremes".[26]

Climate shocks
Climate shocks include not only those disturbances in the usual pattern of rainfall and temperatures but also complex events like droughts and floods. Equivalent to the concept of a natural hazard or stress, they are exogenous events that can have a negative impact on food security and nutrition, depending on the vulnerability to the shock of an individual, a household, a community or systems.[27–30]

Climate variability
Variations in the mean state and other statistics (standard deviations, the occurrence of extremes, and so on) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability) or to variations in natural or anthropogenic external forcing (external variability).[25]

Conflict
Conflict as used in this report is defined as struggles between interdependent groups that have either actual or perceived incompatibilities with respect to needs, values, goals, resources or intentions. This definition includes (but is broader than) armed conflict – that is, organized collective violent confrontations between at least two groups, either state or non-state actors.

Debt
An amount of money borrowed by one party from another. Many corporations and individuals use debt as a method of making large purchases that they would not be able to afford under normal circumstances. A debt arrangement gives the borrowing party permission to borrow money on the condition that it must pay back the sum at a later date, usually with interest.[22]

Debt-based financing
When a firm raises money for working capital or capital expenditures by selling debt instruments to individuals and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise that the principal and interest on the debt will be repaid.[22]

Debt swap
The cancellation of (part of the) external debt of a country in exchange for the debtor government's commitment to mobilize domestic resources (local currency or another asset, such as bonds, privatized public assets) for an agreed purpose on agreed terms. The cancellation of external debt usually comes at a discount from the face value.[31]

Diet quality (or healthy diets)
Comprising four key aspects: diversity (within and across food groups), adequacy (sufficiency of all essential nutrients compared to requirements), moderation (foods and nutrients that are related to poor health outcomes) and balance (energy and macronutrient intake). Foods consumed should be safe.

Dietary energy requirements
The amount of dietary energy, measured in kilojoules or kilocalories (often referred to as calories), required by an individual to maintain body functions, health and normal activity. Dietary energy requirements are dependent upon age, sex, body size and level of physical activity. Additional energy is required to support optimal growth and development in children and in women during pregnancy, and for milk production during lactation, consistent with the good health of mother and child.

Domestic private investment
A measure of the amount of money that domestic businesses invest within their own country. It can be represented with the accounting equation: non-residential investment + residential investment + change in inventories.[32]

Domestic public expenditure
Government expenditure (or spending) as reported by central governments. Public sector enterprises are included to the extent that their budgets are reported in national budgets. Subnational government budgets are not included, although transfers they may receive from central governments are included in national budgets.

Drought
A period of abnormally dry weather lasting long enough to cause a serious hydrological imbalance.[25]

Due diligence
The necessary assessment of the past performance, reputation and future plans of a prospective partner, private sector entity, or other organization with regard to various business practices and principles to evaluate the risks and benefits of working together. This assessment of a prospective partner would normally involve, at a minimum, examining their social, environmental and financial track records.[22]

Economic downturn
A period of decline in economic activity or negative growth as measured by the growth rate in real GDP. It is a synonym for economic recession, a temporary or short-term downturn in economic growth. In the analyses and figures presented in this report, an economic downturn is identified using the year as a period of reference.

Economic shock
An unexpected or unpredictable event that is external to the specific economy and can either harm or boost it. A global financial crisis causing bank lending or credit to fall, or an economic downturn in a major trading partner of a country both reflect demand-side shocks that can have multiple effects on spending and investment. A steep rise in oil and gas prices, natural disasters that result in sharp falls in production, or conflict that disrupts trade and production, are examples of supply-side shocks.

Economic slowdown
Economic activity that is growing at a slower pace compared to the previous period. An economic slowdown occurs when real GDP growth declines from one period to another, but it is still positive.

Energy-dense foods
Food with a high content of calories (energy) with respect to its mass or volume.

Equity
The value of an asset minus the amount of all liabilities on that asset. It can be represented with the accounting equation: assets – liabilities = equity.[22]

Equity-based finance
The contribution of capital to a company or project through the purchase of shares, stocks or similar documents. Equity investors purchase shares with the expectation that shares or stocks will rise in value through appreciation, and/or generate capital gains from the company. In the development finance context, equity investments provide developmental support and long-term growth capital that private enterprises need. The objective is to exit the investment with a return of at least the initial capital, if not enhanced values to invest elsewhere.[22]

Extreme poverty
Refers to the percentage of people living on less than USD 2.15 a day (2017 PPP prices) in a country in a given year.[33]

Extreme weather or climate event
The occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variable. Many weather and climate extremes are the result of natural **climate variability**, and natural decadal or multidecadal variations in the climate provide the backdrop for anthropogenic **climate changes**. Even if there were no anthropogenic changes in climate, a wide variety of natural weather and climate extremes would still occur.

Finance, financing
The process of providing funds for business activities, making purchases or investing. The funds may or may not be provided

conditional upon a certain return (interests, dividends, and so on) and/or reimbursement (of debt principal).[34]

Fiscal subsidies

Budget transfers made by governments in the context of policy measures, projects and programmes to individual actors of the food and agriculture sector, such as farmers (fiscal subsidies to producers) or consumers (fiscal subsidies to consumers). Fiscal subsidies to producers aim to reduce production costs or increase farm income and can be granted depending on output, input use or use of other factors of production. Fiscal subsidies to consumers include transfers under social protection programmes (given to final consumers) and food subsidies to lower the cost of food (provided to intermediaries such as processors, traders, transporters).

Flood

The overflowing of the normal confines of a stream or other body of water, or the accumulation of water over areas not normally submerged. Floods include river (fluvial) floods, flash floods, urban floods, pluvial floods, sewer floods, coastal floods and glacial lake outburst floods.[25]

Food environment

The physical, economic, political and sociocultural context in which consumers engage with agrifood systems to make decisions about acquiring, preparing and consuming food.[35]

Food Insecurity Experience Scale

An experience-based food security scale used to produce a measure of access to food at different levels of severity that can be compared across contexts. It relies on data obtained by asking people, directly in surveys, about the occurrence of conditions and behaviours that are known to reflect constrained access to food.

Food security

A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Based on this definition, four food security dimensions can be identified: food availability, economic and physical access to food, food utilization, and stability over time. The concept of food security is evolving to also recognize the centrality of agency and sustainability (see **Food security dimensions** [e] and [f] below for the definition of these two additional dimensions).

Food security dimensions

In this report, food security dimensions refer to the four traditional dimensions of food security:

a. Availability – This dimension addresses whether or not food is actually or potentially physically present, including aspects of production, food reserves, markets and transportation, and wild foods.
b. Access – If food is actually or potentially physically present, the next question is whether or not households and individuals have sufficient physical and economic access to that food.
c. Utilization – If food is available and households have adequate access to it, the next question is whether or not households are maximizing the consumption of adequate nutrition and energy. Sufficient energy and nutrient intake by individuals is the result of good caring and feeding practices, food preparation, dietary diversity and intra-household distribution of food, and access to clean water, sanitation and health care. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals.
d. Stability – If the dimensions of availability, access and utilization are sufficiently met, stability is the condition in which the whole system is stable, thus ensuring that households are food secure at all times. Stability issues can refer to short-term instability (which can lead to acute food insecurity) or medium- to long-term instability (which can lead to chronic food insecurity). Climatic, economic, social and political factors can all be a source of instability.

The report also refers to two additional dimensions of food security that are proposed by the High Level Panel of Experts of the Committee on World Food Security; however, they are not formally agreed upon by FAO or others, and an agreed upon language has not

been negotiated. However, due to their relevance in the context of this report, they are included here. These two additional dimensions of food security are reinforced in conceptual and legal understandings of the right to food and are currently referred to and defined as follows:

e. Agency refers to the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, and how that food is produced, processed and distributed within food systems; and to their ability to engage in processes that shape food system policies and governance.[64]
f. Sustainability refers to the long-term ability of agrifood systems to provide food security and nutrition in a way that does not compromise the economic, social and environmental bases that generate food security and nutrition for future generations.[36]

Foreign direct investment
Investment made by a private entity resident in one economy in an enterprise resident in another. The investment must involve a long-term relationship and reflect a lasting interest and control, it must be an equity investment (or reinvested earnings or intracompany loan) rather than an intercompany loan, and it must be made directly rather than through capital markets.

Funding
The money that lenders and equity holders provide to a business for daily and long-term needs. A company's capital funding consists of both debt (bonds) and equity (stock). The business uses this money for operating capital. The bond and equity holders expect to earn a return on their investment in the form of interest, dividends and stock appreciation.[37]

Governance
Formal and informal rules, organizations and processes through which public and private actors articulate their interests and make and implement decisions.[38]

Guarantee
A risk-sharing agreement under which a guarantor agrees to pay part or the entire amount due on a loan, equity or other instrument to a lender/investor in the event of non-payment by the borrower, or loss of value in case of investment.[22]

Hazard
A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.[39]

Healthy diets
See **diet quality** definition.

Health taxes
Excise taxes levied on products that have a negative public health impact. These are taxes targeting specific products, such as foods of high energy density and minimal nutritional value, to increase their relative cost compared to nutritious foods, thus reducing their consumption and preventing or mitigating these negative health outcomes while generating resources for government budgets.[40]

Healthy food environments
Food environment refers to the physical, economic, sociocultural and policy conditions that shape access, affordability, safety and food preferences. Healthy food environments are safe and supportive food environments that provide physical access to nutritious foods for healthy diets that reduce the risk of all forms of malnutrition, including undernutrition, overweight, obesity and diet-related non-communicable diseases.[36, 41] Many elements of the food environment determine dietary patterns, while culture, language, culinary practices, knowledge and consumption patterns, food preferences, beliefs and values all relate to the way food is sourced, generated, produced and consumed.[42]

Highly processed foods
Foods that have been industrially prepared, including those from bakeries and catering outlets, and which require no or minimal domestic preparation apart from heating and cooking (such as bread, breakfast cereals, cheese, commercial sauces, canned foods including jams, commercial cakes, processed meats, biscuits and sauces).[43] Highly processed foods can contain very high quantities of salt, free sugars and saturated or trans fats, and these products, when consumed in high amounts, can undermine diet quality.

Hunger
An uncomfortable or painful physical sensation caused by insufficient consumption of dietary energy. In this report, the term hunger is synonymous with chronic undernourishment and is measured by the prevalence of undernourishment.

Impact investing
Investing that aims to generate specific beneficial social or environmental effects in addition to financial gain. Impact investing is a subset of socially responsible investing and actively seeks to make a positive impact by investing, for example, in non-profits that benefit the community or in clean technology enterprises. Core characteristics include intentionality (i.e. an investor intends to have a positive impact); return expectation on capital, or at a minimum, return of capital; and measurement of social and environmental impacts.[22]

International portfolio investments
A type of investment that consists of securities and other financial assets held by investors in another country.[44]

Macronutrients
The major source of energy and bulk (volume) in our diets, macronutrients are needed in large quantities (in gram range). They include carbohydrates, proteins and fats. They are a main source of dietary energy, which is measured in calories. Obtaining sufficient energy is essential for everyone in order to maintain body growth, development and good health. Carbohydrates, proteins and fats, in addition to providing energy, each have very specific functions in the body and must be supplied in sufficient amounts to carry out those functions.

Malnutrition
An abnormal physiological condition caused by inadequate, unbalanced or excessive intake of macronutrients and/or micronutrients. Malnutrition includes undernutrition (child stunting and wasting, and vitamin and mineral deficiencies), as well as overweight and obesity.

Mezzanine finance
A hybrid of debt and equity financing that gives the lender the right to convert to an equity interest in the company in case of default.[22]

Micronutrients
Including vitamins and minerals, micronutrients are required in very small (micro) but specific amounts. Vitamins and minerals in foods are necessary for the body to grow, develop and function properly, and are essential for our health and well-being. Our bodies require a number of different vitamins and minerals, each of which has a specific function in the body and must be supplied in different, sufficient amounts.

Moderate food insecurity
The level of severity of food insecurity, based on the Food Insecurity Experience Scale, at which people 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. It thus refers to a lack of consistent access to food, which diminishes dietary quality, disrupts normal eating patterns, and can have negative consequences for nutrition, health and well-being.

Multilateral development bank
A financial institution established by multiple member countries and which falls under international law. The owners of multilateral development banks are national governments and other international institutions and organizations.[45]

Nutrition transition
As incomes rise and populations become more urban, diets high in complex carbohydrates and fibre give way to more energy-dense diets high in fats, sugars and/or salt. These global dietary trends are accompanied by a demographic transition with a shift towards increased life expectancy and reduced fertility rates. At the same time, disease patterns move away from infectious and nutrient-deficiency diseases towards higher rates of overweight and obesity and diet-related non-communicable diseases including coronary heart disease, stroke, diabetes and some types of cancer.

Nutritional status
The physiological state of an individual that results from the relationship between nutrient intake and requirements and the body's ability to digest, absorb and use these nutrients.

Nutritious foods
Safe foods that contribute essential nutrients such as vitamins and minerals (micronutrients), fibre and other components to healthy diets that are beneficial for growth, and health and development, guarding against malnutrition. In nutritious foods, the presence of nutrients of public health concern including saturated fats, free sugars, and salt/sodium is minimized, industrially produced trans fats are eliminated, and salt is iodized.

Other official flows
Official sector transactions that do not meet official development assistance criteria.

Official development assistance
Government aid designed to promote the economic development and welfare of developing countries and that meets a minimum grant element requirement.[46]

Overweight and obesity
Body weight that is above normal for height as a result of an excessive accumulation of fat. It is usually a manifestation of expending less energy than is consumed. In adults, overweight is defined as a body mass index (BMI) of 25 kg/m^2 or more, and obesity as a BMI of 30 kg/m^2 or more. In children under five years of age, overweight is defined as weight-for-height greater than 2 standard deviations above the WHO Child Growth Standards median, and obesity as weight-for-height greater than 3 standard deviations above the WHO Child Growth Standards median.[47]

Portfolio
A grouping of financial assets such as stocks, bonds, commodities, currencies and cash equivalents, as well as their fund counterparts, including mutual, exchange-traded and closed funds.[22]

Prevalence of undernourishment
An estimate of the proportion of the population that lacks enough dietary energy for a healthy, active life. It is FAO's traditional indicator used to monitor hunger at the global and regional level, as well as SDG Indicator 2.1.1.

Private equity
An alternative investment class that invests in or acquires private companies that are not listed on a public stock exchange.[48]

Private funding
Funding provided by private entities, whether on commercial terms or not.

Project finance
A form of financing projects, primarily based on claims against the financed asset or project rather than on the sponsor of the project.

Public funding
Funding provided by public entities (e.g. domestic and foreign governments, international organizations).

Remittance
Private, voluntary monetary and non-monetary (social or in-kind) transfers made by migrants and diaspora, individually or collectively, to people or communities not necessarily in their areas of origin. They can be cross-border or in the home country.

Resilience
The ability of individuals, households, communities, cities, institutions, systems and societies to prevent, resist, absorb, adapt, respond and recover positively, efficiently and effectively when faced with a wide range of risks, while maintaining an acceptable level of functioning and without compromising long-term prospects for sustainable development, peace and security, human rights and well-being for all.[49]

Risk
The probability or likelihood of the occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Risk to food insecurity is the probability of food insecurity resulting from interactions between a natural or human-induced hazard, shock or stress and vulnerable conditions.

Security
A fungible, negotiable financial instrument that holds some type of monetary value. A security can represent ownership in a corporation in the form of stock, a creditor relationship with a governmental body or a corporation represented by owning that entity's bond, or rights to ownership as represented by an option.[50]

Severe food insecurity
The level of severity of food insecurity at which people 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 grave risk, based on the Food Insecurity Experience Scale.

Staple foods
Foods eaten regularly, and in such quantities as to constitute the dominant part of the diet and supply a major proportion of total dietary energy. The main kinds of staple foods are cereals (e.g. rice, maize, wheat, rye, barley, oats, millet, sorghum), roots and tubers (e.g. potatoes, cassava, yams) and legumes (e.g. beans, lentils, soybean).[20]

Stunting
Low height-for-age, reflecting a past episode or episodes of sustained undernutrition. In children under five years of age, stunting is defined as height-for-age less than –2 standard deviations below the WHO Child Growth Standards median.

Unaffordability
See **affordability** definition.

Undernourishment
The condition in which an individual's habitual food consumption is insufficient to provide the amount of dietary energy required to maintain a normal, active and healthy life. For the purposes of this report, hunger is defined as being synonymous with chronic undernourishment. The prevalence of undernourishment is used to measure hunger.

Undernutrition
The outcome of poor nutritional intake in terms of quantity and/or quality, and/or poor absorption and/or poor biological use of nutrients consumed as a result of repeated instances of disease. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (suffering from wasting) or deficient in vitamins and minerals (suffering from micronutrient deficiency).

Venture capital
Start-up or growth equity capital or loan capital provided by private investors (venture capitalists) or specialized financial institutions (development finance houses or venture capital firms). Also called risk capital. Venture capital is a type of funding for a new or growing business. The venture capital firm gives funding to the start-up company in exchange for equity in the start-up. This is most commonly found in high growth technology industries like biotech and software.[22]

Vulnerability
The conditions determined by physical, social, economic and environmental factors or processes that increase the susceptibility of an individual, community, assets or systems to the impacts of hazards.[39] Vulnerability to food insecurity is the range of conditions that increase the susceptibility of a household to the impact on food security in case of a shock or hazard.

Wasting
Low weight-for-height, generally the result of weight loss associated with a recent period of inadequate dietary energy intake and/or disease. In children under five years of age, wasting is defined as weight-for-height less than –2 standard deviations below the WHO Child Growth Standards median.

Weather
Conditions of the atmosphere over a short period of time (minutes to days), whereas climate is how the atmosphere behaves over relatively longer periods of time (the long-term average of weather over time). The difference between weather and climate is a measure of time (see above definitions for climate, climate change, climate variability and climate extremes).[51]

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NOTES ON GEOGRAPHIC REGIONS IN STATISTICAL TABLES IN CHAPTER 2 AND ANNEXES 1

Countries revise their official statistics regularly for past periods as well as for the latest reporting period. The same holds for statistics presented in this report. Whenever this happens, estimates are revised accordingly. Therefore, users are advised to refer to changes in estimates over time only within the same edition of *The State of Food Security and Nutrition in the World* and refrain from comparing data published in editions for different years.

Geographic regions

This publication follows the composition of geographic regions as presented by the Statistics Division of the United Nations Secretariat primarily for use in its publications and databases (https://unstats.un.org/unsd/methodology/m49). The assignment of countries or areas to specific groupings is for statistical convenience and does not imply any assumption regarding political or other affiliation of countries or territories by the United Nations. Please refer to the list below for the country composition of each region in the tables of **Chapter 2** and **Annex 1**.

Countries, areas and territories for which there were insufficient or unreliable data for conducting the assessment are not reported and not included in the aggregates. Specifically, with respect to the M49 classification:

- **Northern Africa:** In addition to the countries listed in the table, PoU and food insecurity based on the FIES include an estimate for the territory of Western Sahara. Child wasting, stunting and overweight, low birthweight, adult obesity, exclusive breastfeeding and anaemia estimates exclude the territory of Western Sahara.
- **Eastern Africa:** This grouping excludes Chagos Archipelago, French Southern Territories, Mayotte and Réunion.
- **Western Africa:** This grouping excludes Saint Helena.
- **Asia and Eastern Asia:** Low birthweight and child wasting aggregates exclude Japan.
- **Caribbean:** This grouping excludes Anguilla, Aruba, Bonaire, British Virgin Islands, Cayman Islands, Curaçao, Guadeloupe, Martinique, Montserrat, Saint Barthélemy, Saint Martin (French Part), Sint Eustatius and Saba, Sint Maarten (Dutch part), and Turks and Caicos Islands. Adult obesity, child wasting, low birthweight and exclusive breastfeeding exclude Puerto Rico and United States Virgin Islands.
- **South America:** This grouping excludes Bouvet Island, Falkland Islands (Malvinas), French Guyana, and South Georgia and the South Sandwich Islands.
- **Australia and New Zealand:** This grouping excludes Christmas Island, Cocos (Keeling) Islands, Heard Island and McDonald Islands, and Norfolk Island.
- **Melanesia:** Anaemia, child wasting, stunting and overweight, low birthweight and exclusive breastfeeding estimates exclude New Caledonia.
- **Micronesia:** Adult obesity, anaemia, child wasting, low birthweight and exclusive breastfeeding estimates exclude Guam, Northern Mariana Islands and US Minor Outlying Islands. Aggregates for child stunting and overweight exclude only US Minor Outlying Islands.
- **Polynesia:** This grouping excludes Pitcairn, and Wallis and Futuna Islands. Adult obesity, child wasting, low birthweight and exclusive breastfeeding estimates exclude American Samoa, French Polynesia and Tokelau (Associate Member). Aggregates for child stunting and overweight exclude only French Polynesia.
- **Northern America:** This grouping excludes Saint Pierre and Miquelon. Adult obesity, anaemia, low birthweight and exclusive breastfeeding aggregates also exclude Bermuda and Greenland. Aggregates for wasting are based only on data for the United States of America.
- **Northern Europe:** This grouping excludes Åland Islands, Channel Islands, Faroe Islands (Associate Member), Isle of Man, and Svalbard and Jan Mayen Islands.
- **Southern Europe:** This grouping excludes Gibraltar, Holy See and San Marino. However, anaemia, child stunting, overweight and low birthweight estimates include San Marino.
- **Western Europe:** This grouping excludes Liechtenstein and Monaco. However, child stunting, overweight, anaemia and low birthweight estimates include Monaco.

Other groupings

Least developed countries, landlocked developing countries and Small Island Developing States groupings include the countries as presented by the Statistics Division of the United Nations (https://unstats.un.org/unsd/methodology/m49).

Small Island Developing States: Estimates for child stunting, wasting and overweight, adult obesity, exclusive breastfeeding and low birthweight exclude Anguilla, Aruba, Bonaire, Sint Eustatius and Saba, British Virgin Islands, Curaçao, French Polynesia, Montserrat, New Caledonia and Sint Maarten (Dutch part). In addition, estimates for child wasting, adult obesity, exclusive breastfeeding and low birthweight also exclude American Samoa and Puerto Rico.

High-income, upper-middle-income, lower-middle-income and low-income countries include the countries as presented by the World Bank classification for the 2023/24 fiscal year (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519).

Low-income food-deficit countries (2023): Afghanistan, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Democratic People's Republic of Korea, Democratic Republic of the Congo, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kenya, Kyrgyzstan, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nepal, Nicaragua, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, Syrian Arab Republic, Tajikistan, Togo, Uganda, United Republic of Tanzania, Uzbekistan, Yemen and Zimbabwe.

Composition of geographic regions (countries and territories)

AFRICA

Northern Africa: Algeria, Egypt, Libya, Morocco, Sudan, Tunisia and Western Sahara.

SUB-SAHARAN AFRICA

Eastern Africa: Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Seychelles, Somalia, South Sudan, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.
Middle Africa: Angola, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, and Sao Tome and Principe.
Southern Africa: Botswana, Eswatini, Lesotho, Namibia and South Africa.
Western Africa: Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo.

ASIA

Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.
Eastern Asia: China, Democratic People's Republic of Korea, Japan, Mongolia and Republic of Korea.
South-eastern Asia: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Viet Nam.
Southern Asia: Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Maldives, Nepal, Pakistan and Sri Lanka.
Western Asia: Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syrian Arab Republic, Türkiye, United Arab Emirates and Yemen.

LATIN AMERICA AND THE CARIBBEAN

Caribbean: Antigua and Barbuda, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

LATIN AMERICA

Central America: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama.
South America: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of).

OCEANIA

Australia and New Zealand: Australia and New Zealand.

OCEANIA EXCLUDING AUSTRALIA AND NEW ZEALAND

Melanesia: Fiji, New Caledonia, Papua New Guinea, Solomon Islands and Vanuatu.
Micronesia: Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru and Palau.
Polynesia: American Samoa, Cook Islands, French Polynesia, Niue, Samoa, Tokelau, Tonga and Tuvalu.

NORTHERN AMERICA AND EUROPE

Northern America: Bermuda, Canada, Greenland and United States of America.

EUROPE

Eastern Europe: Belarus, Bulgaria, Czechia, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia and Ukraine.
Northern Europe: Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, and United Kingdom of Great Britain and Northern Ireland.
Southern Europe: Albania, Andorra, Bosnia and Herzegovina, Croatia, Greece, Italy, Malta, Montenegro, North Macedonia, Portugal, Serbia, Slovenia and Spain.
Western Europe: Austria, Belgium, France, Germany, Luxembourg, Netherlands (Kingdom of the) and Switzerland.

THE STATE OF THE WORLD

2024 THE STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD

FINANCING TO END HUNGER, FOOD INSECURITY AND MALNUTRITION IN ALL ITS FORMS

Six years away from 2030, hunger and food insecurity trends are not yet moving in the right direction to achieve the goal of ending hunger and food insecurity (SDG Target 2.1) by 2030. The indicators of progress towards global nutrition targets similarly show that the world is not on track to eliminate all forms of malnutrition (SDG Target 2.2). Billions of people still lack access to nutritious, safe and sufficient food. The challenges are many, but progress in many countries provides hope that it is possible to get back on track towards a world free of hunger and malnutrition.

Previous editions of this report have identified the major drivers and underlying structural factors behind these trends and provided evidence-based policy recommendations to revert them, which have been grouped into six transformative pathways that countries can adopt, depending on the drivers and factors they are facing.

However, transiting through any of the six transformative pathways will require proper financing for food security and nutrition, the theme of this year's report. Although there is a broad agreement on the urgent need to increase financing for food security and nutrition, the same cannot be said for a common understanding regarding how this financing should be defined and tracked. This year the report provides a long-awaited definition of financing for food security and nutrition and guidance for its implementation.

The report underlines that the data available are not enough to provide a full picture of the current financing flows that are contributing to meet SDG Targets 2.1 and 2.2 and of the gap that must be filled to fully meet them by 2030. The data for global official development flows are standardized and public, but a comprehensive and comparable analysis of global public spending on food and agriculture is challenged by data gaps, and private financing flows for food security and nutrition are even more difficult to track.

The report provides timely and relevant recommendations regarding the efficient use of innovative financing tools and reforms to the food security and nutrition financing architecture. Establishing a common ground on how food security and nutrition financing is defined, along with methods for its tracking, measurement and implementation, is an important first step towards sustainably increasing the financing flows needed to end hunger, food insecurity and all forms of malnutrition, and to ensure access to healthy diets for all, today and tomorrow. To this end, insights of this report are particularly important in light of the next Summit of the Future in September 2024 and the Fourth International Conference on Financing for Development in June and July 2025.

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