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AFRICA REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

CONTAINING THE DAMAGE OF ECONOMIC SLOWDOWNS AND DOWNTURNS TO FOOD INSECURITY IN AFRICA

COVER PHOTOGRAPH ©FAO/Luis Tato

NIGER. A farmer inspects the greens growing at his crops in a remote area near Maradi, Niger on July 28, 2019.

2019

AFRICA

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FOREWORD

This edition marks the first time that the African Union Commission joins FAO and the United Nations Economic Commission for Africa to co-publish the *Africa Regional Overview of Food Security and Nutrition report*. This is a reflection of FAO's efforts to forge close partnerships with relevant UN agencies and leading continental organizations so as to strengthen the technical work, enhance the visibility of the findings, and promote dialogue on the food security and nutrition policies addressed in the report.

In the last two editions of this report, FAO reported that the trend in hunger, measured by the prevalence of undernourishment (PoU), was rising in the region. Most of this rise occurred between 2014 and 2018, and the latest data shows that the deterioration has slowed. However, a fifth of the population – 256 million people – remains hungry in Africa, an increase of 44 million over 2014. Of the total undernourished population in 2018, 17 million are in Northern Africa and 239 million in sub-Saharan Africa.

This year marks the first time that the prevalence of moderate or severe food insecurity is reported, based on the Food Insecurity Experience Scale (FIES), to complement the traditional PoU indicator and to provide a broader perspective on the food access dimension of food security. The regional estimate of people suffering severe food insecurity is broadly in line with the PoU. However, the indicator also shows that in addition to the severely food insecure, there are 399 million people who are moderately food insecure, i.e. they did not have regular access to nutritious and sufficient food, even if they were not necessarily suffering from hunger.

The report also documents progress towards several key nutrition targets, which form part of the Sustainable Development Goals (SDG) monitoring framework and the World Health Assembly global nutrition targets. In general, progress towards achieving the targets is inadequate, although a small number of countries are on track to meet some of the targets. A detailed analysis of stunting in children under the age of five shows that economic growth is an important driver of progress, but it is not sufficient. Nutrition-specific as well as nutrition-sensitive interventions that include the food system (which encompasses the entire range of actors and their interlinked activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products), as well as health and education, are essential. This cannot happen without strong political commitment and leadership which facilitates coordinated and multisectoral programming, implementation and monitoring.

Given the growing health concern caused by the rapid rise in obesity, this year's report presents an overview of the situation and trend in adult overweight and obesity in Africa, as well as discussing likely policy solutions. Although the prevalence of overweight children fell from 2012 to 2018, the prevalence of overweight adults and obesity continues to rise in all countries for which there is data. In 2016, nearly 12 percent of the adult population was obese. However, there are significant differences between regions, with the prevalence of obesity being well above the continental average in Northern and Southern Africa. The threat posed by the rapid increase in such a dimension of malnutrition is recognized by the Africa Regional Nutrition Strategy, which also prescribes country level strategies to combat overweight and obesity.

FOREWORD

Policies and interventions should focus on promoting nutrition-sensitive food systems that can promote and sustain healthy and diverse diets. Policy makers should put particular emphasis on maternal and child malnutrition and health in the first 1 000 days since conception, both as a moral imperative but also as an investment with high returns.

This report, which builds on the past two editions, explains that the worsening food security situation is due to climate shocks, conflict and economic slowdowns and downturns, sometimes overlapping. These factors continue to be the main causes of food insecurity in the region. The 2017 edition of this report detailed how conflicts in the region primarily affected rural areas, damaging agriculture and disrupting both food production and food systems. The 2018 edition focused on climate variability and extremes as key drivers of the recent rise in food insecurity and two of the leading causes of the severe food crises that have affected the continent. In this edition, the thematic part focuses on economic slowdowns and downturns and the channels through which they impact food security and nutrition.

The focus on economic slowdowns and downturns is relevant not only because they have become more frequent in recent years, including in Africa, but also because the global economic outlook remains gloomy. The worsening economic situation in recent years coincides with the rise in the regional prevalence of undernourishment that started in 2011 and accelerated after 2014. Of particular concern are falling demand and weakening prices for commodities. *The State of Food Security and Nutrition in the World 2019* reports that 52 out of 65 countries that experienced a rise in hunger during recent economic slowdowns and downturns are countries, many of them in Africa, whose economies are highly dependent on primary commodities for export and/or import.

The analysis presented in this report shows that falling primary commodity prices and/or falling demand from key trading partners were the main causes for the economic slowdown and/or downturn experienced by many countries. In the majority of cases, a combination of conflict, climate extremes and economic slowdowns and/or downturns led to the rise in undernourishment. Economic slowdowns and in particular downturns undermine food security because they lead to unemployment, lower wages, income losses and staple food price inflation. For policy makers, the immediate problem is to alleviate the suffering through interventions to stabilize prices and boost incomes. In the longer-term, it is equally important to stimulate agricultural output and to design and implement sound policies, technical and institutional interventions that help diversify the economy. The recently ratified African Continental Free Trade Area Agreement (AfCFTA) provides new opportunities for trade and investment and is of particular importance in this regard.

Countries responses to the soaring food prices in 2007–2008 and 2010–2011 show that many tools are available to policy makers to reduce the negative welfare impacts of food price shocks on consumers. A wealth of evidence shows that social protection, when well designed and implemented, can be effective in reducing poverty and food insecurity as well as strengthening household resilience, building human capital and stimulating farm and non-farm activities. In addition, social protection programmes, when appropriately designed and implemented, can be effective tools for responding to shocks. While many policy tools are available in theory, and there is concrete evidence they work, in practice their adoption will depend on the availability of fiscal space to affect the desired policy action.

Policies and interventions to reduce inequalities, including gender-based and spatial inequalities, are needed for broad-based, inclusive economic growth that is essential for longer-term social stability. Inequalities in income and in access to basic services and assets, as well as social exclusion, prevent many from benefiting from economic growth. At the same time, inequalities worsen the impact of a slowdown and/or downturn for large parts of the population. Therefore, reducing inequalities is essential to strengthening household resilience, laying the path to inclusive growth, reducing food insecurity and improving nutrition outcomes.

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Andre Croppenstedt (RAF), Laila Lokosang (AUC) and Medhat El-Helepi (ECA) coordinated the preparation of the document and led its production under the overall supervision and guidance of Abebe Haile-Gabriel, Assistant Director-General and Regional Representative for Africa, assisted by Ade Freeman, Regional Programme Leader. The FAO-AUC-UNECA collaboration was supported and facilitated by Kafkas Caprazli (SFE), under the guidance of David Phiri, SFE coordinator.

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ACRONYMS

AfCFTA	African Continental Free Trade Area Agreement.
ARNS	Africa Regional Nutrition Strategy
BMI	Body mass index
CH	Cadre Harmonisé
DALY	Disability-Adjusted Life Year
FAO	Food and Agriculture Organization of the United Nations
FIES	Food Insecurity Experience Scale
GDP	Gross Domestic Product
ICN	International Conference on Nutrition
IMAM	Integrated Management of Acute Malnutrition
IPC	Integrated Food Security Phase Classification
IYCF	Infant and Young Child Feeding
PoU	Prevalence of undernourishment
SDG	Sustainable Development Goal
SUN	Scaling Up Nutrition
VAT	Value Added Tax
UNECA	United Nations Economic Commission for Africa
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHA	World Health Assembly
WHO	World Health Organization

KEY MESSAGES

➔ After a long period of improvement, hunger in Africa – as measured by the prevalence of undernourishment – worsened in 2014–2018. This trend slowed in 2017–2018. Today 256 million Africans, or 20 percent of the population, are undernourished. Of these, 239 million are in sub-Saharan Africa and 17 million in Northern Africa.

➔ There is significant variation in the levels and trends of hunger in Africa's subregions. The prevalence of undernourishment has for the past 18 years been highest in Eastern Africa and Central Africa, indicating persistent constraints in terms of availability and access to food. However, over the 2014–2018 period, the trend in the prevalence of hunger worsened the most in Western and Central Africa, for the most part due to conflicts, climate extremes and economic slowdowns, sometimes combined.

➔ In this year's report, a second indicator for monitoring SDG Target 2.1 – the Prevalence of Moderate or Severe Food Insecurity based on the Food Insecurity Experience Scale (FIES) – is introduced. Whereas severe food insecurity is associated with the concept of hunger, people experiencing moderate food insecurity face uncertainties regarding their ability to obtain food and have been forced to compromise on the quality and/or quantity of the food they consume.

➔ This broader measure of food insecurity shows that in Africa, the number of people that are severely food insecure is broadly in line with the number of people that are undernourished. However, an additional 399 million people were found to be moderately food insecure, i.e. they did not have regular access to nutritious and sufficient food, even if they were not necessarily suffering from hunger. Of these, 87 percent live in sub-Saharan Africa.

➔ Despite a slowing in the upward trend in hunger, the food insecurity situation remains a challenge and food crises continued to affect millions of Africans in 2018. The 2017 and 2018 edition of the *Africa Regional Overview of Food Security and Nutrition* highlighted the importance of climate extremes, linked in particular to the 2014–2016 El Niño phenomena, and conflicts as key drivers of the deteriorating food security situation. These two factors continued to be the main drivers of food crises in 2018. Conflict left 33 million people in 10 countries in Africa in 2018 in need of urgent humanitarian assistance. Another 23 million were in need of assistance due to climate shocks, while 10 million people were acutely food insecure due to economic shocks.

➔ Nutrition outcomes are generally improving across Africa, but at a very slow rate. Too slow in most countries to meet the SDG – and World Health Assembly (WHA) – global nutrition targets for stunting, wasting and overweight in children under the age of five, or for low birthweight, exclusive breastfeeding and anaemia in women of reproductive age.

➔ Very few countries are on track to achieve the SDG target of a 40 percent reduction in the number of stunted children. Although the prevalence of stunting in children under five is falling at the regional level, the number of stunted children is rising, reaching 58.8 million in 2018. Economic growth is necessary to reduce stunting, but alone it is not sufficient, and nutrition-specific and nutrition-sensitive interventions are also needed.

➔ This edition of the report presents estimates on low birthweight for the first time. These indicate that in 2015, 13.7 percent of babies born in Africa had low birthweight. If current trends continue, the 2025 WHA target of a 30 percent reduction in the prevalence of low birthweight will not be met.

➔ In many African countries, overweight and obesity is a rising threat to the health of children and adults, compounding the challenges posed by widespread undernutrition and micronutrient deficiencies. In particular, Northern and Southern Africa suffer a high burden of obesity. Policy interventions must focus on the

entire food system (which encompass the entire range of actors and their interlinked activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products) to promote healthy diets that include more fruits and vegetables and less energy-dense processed foods and sugary drinks.

➔ The most critical period for interventions for maternal and child health and nutrition are in the first 1 000 days. The effectiveness of a variety of nutrition-specific and nutrition-sensitive interventions is well documented. With strong political commitment and investment in complementary health services, safe drinking water and good sanitation, maternal and child malnutrition can be reduced significantly. Doing so is not only a moral imperative but would yield very high economic returns in the future.

➔ Three major drivers of hunger and food insecurity are climate change, conflict and economic slowdowns and downturns. In most cases, the recent economic slowdowns and downturns were triggered by falling commodity prices, often leading to currency depreciation and staple food price inflation as well as lower government revenues available for social sector spending.

➔ In addition, inequalities in income and in access to basic services and assets, as well as social exclusion, prevent many from benefiting from economic growth. At the same time, they worsen the impact of a slowdown and/or downturn for large parts of the population. In particular, gender inequalities perpetuate intergenerational poverty and malnutrition. Reducing inequalities is essential to strengthening household resilience, laying the path to inclusive growth and reducing food insecurity. Furthermore, addressing food insecurity, through building human capital and strengthening access to and use of basic services also helps to reduce inequality.

➔ But what can countries do? Countries' responses to the soaring food prices in 2007–2008 and 2010–2011 show that many tools are available to policy makers and that these can effectively reduce the negative welfare impacts of food price shocks on consumers. However, these tools are often expensive and distortional and can have negative consequences for trading partners.

➔ Economic resilience must be strengthened to safeguard food security and nutrition against economic adversity. This will require short- and long-term policies and programmes.

➔ In the short term, countries need to protect incomes and purchasing power in the face of economic hardship. A wealth of evidence shows that social protection – in particular cash transfers, school feeding and public works programmes to reduce unemployment – is effective when well designed and implemented, at reducing poverty and food security as well as strengthening household resilience, building human capital and stimulating farm and non-farm activities. In addition, it is important to have in place health sector policies that protect the poor against catastrophic out-of-pocket healthcare costs as well as policies aimed at reducing excessive volatility of food prices.

➔ In the longer term, countries need to invest to reduce economic vulnerabilities and inequalities; build capacity to withstand shocks; maintain health and other social expenditures; and use policy tools to create healthier food environments. This requires balancing a set of policies and investments to achieve an inclusive structural transformation that diversifies the economy away from commodity dependence, while fostering poverty reduction and more egalitarian societies.

➔ But countercyclical measures and investment require savings! It is critical to strengthen savings capacity when the economy is growing, using available instruments, such as automatic fiscal stabilizers, stabilization funds, sovereign wealth funds, macro-prudential norms, and the like. It is critical to invest these savings wisely!

LUNGA-LUNGA, KENYA

Two farmer women chat during a break sitting on a fallen tree at the mixed crop of a conservation agriculture farm.

©FAO/Luis Tato

PART 1
REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

PART 1

REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

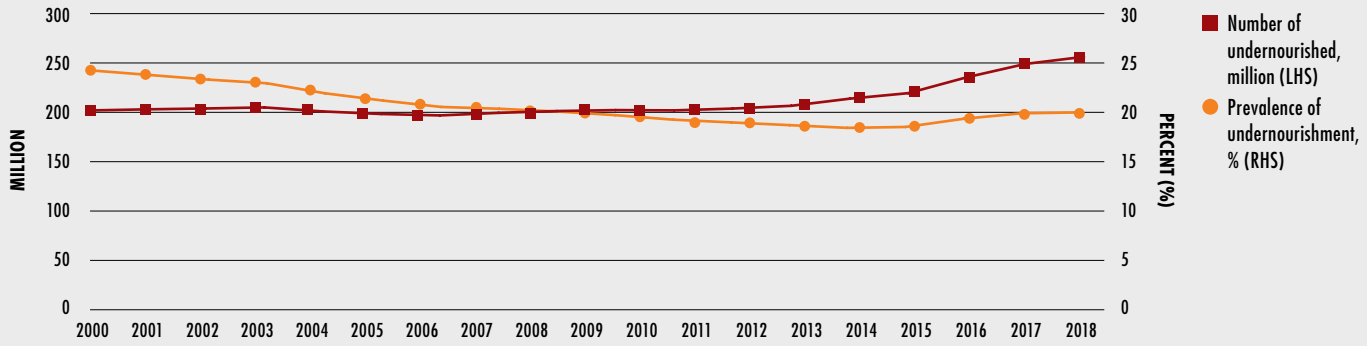
FOOD SECURITY IS NOT IMPROVING IN AFRICA

In the 2017 and 2018 editions of the *Africa Regional Overview of Food Security and Nutrition*, FAO reported that the prevalence of undernourishment was rising in the region. The latest data shows that the deterioration has slowed, but there remain 256 million hungry people in Africa today (Figure 1): with 17 million in Northern Africa and 239 million in sub-Saharan Africa.[1] This report, which builds on the past two editions, shows that the worsening food security situation is due to climate shocks, conflict and economic slowdowns and downturns, sometimes overlapping. These factors continue to be the main causes of food insecurity in the region. ■

TRENDS IN FOOD SECURITY IN AFRICA

The *Africa Regional Overview of Food Security and Nutrition* reports annually on progress towards achieving the Sustainable Development Goal (SDG) 2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture." Progress towards food security and improved nutrition is

FIGURE 1
THE PREVALENCE OF UNDERNOURISHMENT IN AFRICA HAS BEEN ON THE RISE SINCE 2014, AND IS BACK TO THE 2008 LEVEL



SOURCE: FAO

assessed with reference to: Target 2.1, which captures progress towards ensuring access to food for all, and Target 2.2, which measures progress towards eliminating all forms of malnutrition. Both targets are assessed using specific indicators. With regard to Target 2.1, these are the prevalence of undernourishment (PoU) and the prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES).[2] The latter indicator, which provides additional information on access to food, is presented for the first time in the *Africa Regional Overview series*.[3] The corresponding indicators for Target 2.2 are the prevalence of stunting, wasting and overweight of children under the age of five. In addition, the report assesses progress towards the World Health Assembly (WHA) global nutrition targets for 2025.[4] ■

SDG TARGET 2.1

"By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round."

SDG INDICATOR 2.1.1 Prevalence of undernourishment (PoU)

FAO's Prevalence of undernourishment (PoU) indicator is an estimate of the proportion of the population whose habitual food consumption over the course of a year is insufficient to provide the dietary energy intake levels that are required to maintain a normal, active and healthy life.

Globally, the PoU has remained at 10.8 percent over 2017 and 2018. Today, there are 822 million undernourished people in the world, up from 812 million in 2017 and 797 million in 2016 (Table 1). For Africa, the prevalence of undernourishment had fallen from 24.5 percent in 2000 to 18.2 percent in 2014, but then started rising to 20 percent of the continent's population, or 256 million people (Table 2).[5] In sub-Saharan Africa, there were 239 million (22.8 percent) undernourished people in 2018, up from 232 million in 2017.

Most of the rise in the prevalence and number of the undernourished occurred in 2014–2017, though more recently, the increase in the PoU has slowed. The rise in the PoU was strongest in Western (3.4 percentage points) and Central Africa (1.9 percentage points) (Table 2), while in Southern Africa, the PoU rose between 2014 and 2017 but fell between 2017 and 2018. In Eastern Africa, the growth in the PoU has been slower compared to that experienced in Western and Central Africa.

In terms of the number of undernourished people, the greatest deterioration between 2014 and 2018 occurred in Eastern and Western Africa, and by far the largest number of undernourished live in Eastern Africa. In Northern Africa, there was an increase from 16 to 17 million undernourished people from 2014 to 2017, while in Southern Africa the number of undernourished increased by 600 000 over that period.[6]

TABLE 1
THE NUMBER OF UNDERNOURISHED IN THE WORLD, AFRICA AND ITS SUBREGIONS, 2000–2018 (MILLION)

	Year							
Regions/ subregions*	2000	2010	2014	2015	2016	2017	2018	Change between 2014–2018 (Million)
World	**909.3**	**822.3**	**788.8**	**785.4**	**796.5**	**811.7**	**821.6**	**32.8**
Africa	**199.7**	**199.8**	**212.1**	**217.9**	**234.6**	**248.6**	**256.1**	**44.0**
Northern Africa**	9.7	8.5	15.8	15.5	16.1	16.5	17.0	1.2
Sub-Saharan Africa	190	191.2	196.2	202.5	218.5	232.1	239.1	42.9
Central Africa	37.7	36.5	36.7	37.9	41.1	43.2	44.6	7.9
Eastern Africa	112.4	118.6	116.1	119.3	126.9	129.8	133.1	17.0
Southern Africa	3.8	4.2	4.7	5.0	5.5	5.4	5.3	0.6
Western Africa	36.1	31.9	38.7	40.3	45.0	53.7	56.1	17.4

SOURCE: FAO

* FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

** The series for Northern Africa experienced a jump in 2012 due to the inclusion of the Sudan from that year onwards.

TABLE 2
PREVALENCE OF UNDERNOURISHMENT IN THE WORLD, AFRICA AND ITS SUBREGIONS, 2000–2018[7] (%)

Regions/ subregions*	2000	2010	2014	2015	2016	2017	2018	Change between 2014–2018 (Percentage points)
World	**14.8**	**11.8**	**10.8**	**10.6**	**10.7**	**10.8**	**10.8**	**0.0**
Africa	**24.5**	**19.1**	**18.2**	**18.3**	**19.2**	**19.8**	**19.9**	**1.7**
Northern Africa**	6.7	5.0	7.2	6.9	7.0	7.0	7.1	-0.1
Sub-Saharan Africa	28.4	21.7	20.8	20.9	22	22.7	22.8	2.0
Central Africa	39.2	27.8	24.6	24.7	25.9	26.4	26.5	1.9
Eastern Africa	39.1	31.2	30.0	29.9	31.0	30.8	30.8	0.8
Southern Africa	7.3	7.1	7.5	7.8	8.5	8.3	8.0	0.5
Western Africa	15.3	10.4	11.3	11.4	12.4	14.4	14.7	3.4

SOURCE: FAO

* FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

** The series for Northern Africa experienced a jump in 2012 due to the inclusion of the Sudan from that year onwards.

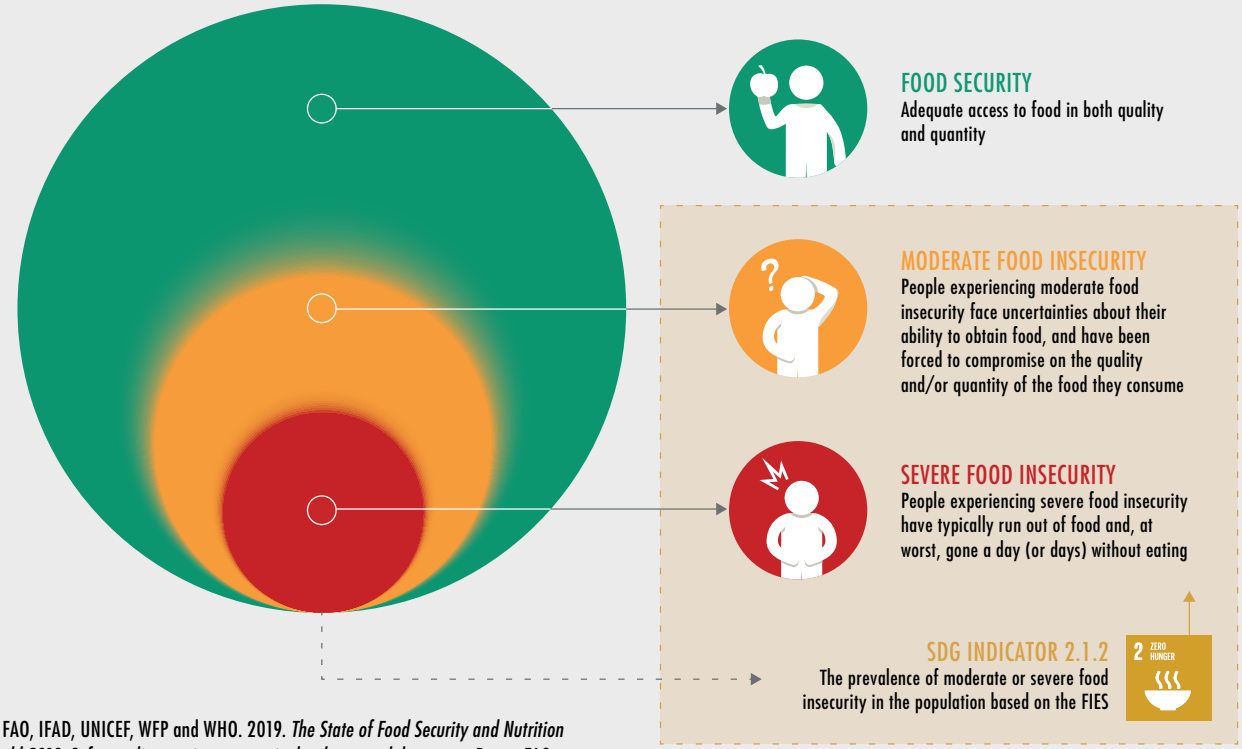
The rise in the prevalence of undernourishment in sub-Saharan Africa over the 2014 to 2018 period was widespread, and part two of this overview provides a detailed, country-focused discussion of the underlying factors (identifying conflict, climate extremes and economic slowdowns and downturns as the main drivers) of rising food insecurity during that period. The 2017 edition of this report detailed how conflicts in the region primarily affected rural areas, damaging activities across the food system (which encompasses the entire range of actors and their interlinked activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products). The resulting disruption or destruction of livelihood constitutes a major cause of acute and chronic food insecurity[8] and various forms of malnutrition. The 2018 edition focused on climate variability and extremes as key drivers of the recent rise in food insecurity and two of

the leading causes of the severe food crises that have affected the continent. They undermine, directly and indirectly, food availability, access, utilization and stability with grave consequences for immediate and long-term food security and nutrition outcomes, especially for children. Part two of this edition focuses on economic slowdowns and downturns and the channels through which they impact food security and nutrition.

SDG INDICATOR 2.1.2
Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)

In 2017, FAO introduced the prevalence of severe food insecurity based on the Food Insecurity Experience Scale (FIES) as a complementary indicator of hunger to FAO's traditional indicator, the PoU, to provide additional information on the access dimension of food security. At the time, the prevalence of severe food insecurity based on the Food Insecurity Experience Scale (FIES) was reported at the regional and subregional level. This year marks the first time that the prevalence of moderate and severe food insecurity is reported for countries that have authorized FAO to publish the estimates. The Food Insecurity Experience Scale (FIES) is based on data collected directly from representative samples of individuals. 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 resulting FIES indicator is an estimate of the proportion of the population who face moderate or severe constraints on their ability to obtain sufficient food over the course of a year (see Figure 2).[9]

FIGURE 2
EXPLANATION OF FOOD-INSECURITY SEVERITY LEVELS MEASURED BY THE FIES IN SDG INDICATOR 2.1.2



SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO.

Moderate food insecurity describes the situation when individuals face uncertainties about their ability to obtain food and have been forced to reduce, at times during the year, the quality and/or quantity of food they consume due to lack of money or other resources. On the other hand, severe food insecurity is when individuals have likely run out of food, experienced hunger and, at the most extreme, gone for days without eating, putting their health and well-being at grave risk.

The upward trend in undernourishment over the 2014 to 2018 period in Africa is confirmed by the rise in the prevalence of moderate or severe food insecurity within the population (Table 3). This trend was particularly noticeable in Southern Africa, which may have reflected the severe economic conditions in South Africa in 2016 and 2017.[10] In all subregions, severe food insecurity appears to have fallen from 2017 to 2018, even if only very marginally in some cases. The improvement was strongest in Eastern and Northern Africa. However, moderate food insecurity has worsened or remained unchanged in Western and Southern Africa.

The PoU and the prevalence of severe food insecurity are broadly similar at the regional level, which confirms their complementarity in measuring severe food deprivation, or hunger. At the subregional level, the PoU estimates indicated a lower level of undernourishment in Western and especially Southern Africa than that indicated by the FIES. It is possible that access to food was a more serious constraint in these two subregions, as the PoU gives greater weight to food availability.

The measure of moderate or severe food insecurity also shows that in addition to the 277 million people in Africa who are severely food insecure, there are 399 million people who are moderately food insecure, i.e. they did not have regular access to nutritious and sufficient food, even if they were not necessarily suffering from hunger (Table 4). Of these, 87 percent live in sub-Saharan Africa. ■

TABLE 3
PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY (MEASURED USING FIES) IN THE WORLD, AFRICA AND ITS SUBREGIONS, 2014 TO 2018 (%)

	Prevalence of severe food insecurity in the total population (%)					Prevalence of moderate or severe food insecurity in the total population (%)				
Regions/ subregions*	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
World	**8.0**	**7.7**	**8.0**	**8.7**	**9.2**	**23.2**	**23.2**	**24.1**	**25.6**	**26.4**
Africa	18.1	19.0	21.9	22.9	21.5	47.6	48.3	52.6	54.3	52.5
Northern Africa	8.6	7.2	9.3	10.1	8.0	27.1	22.9	27.8	35.2	29.5
Sub-Saharan Africa	20.3	21.7	24.8	25.8	24.6	52.4	54.2	58.3	58.7	57.7
Central Africa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Eastern Africa	23.9	25.1	27.8	28.7	25.9	58.2	59.7	64.8	65.5	62.7
Southern Africa	21.4	20.6	30.7	30.8	30.6	45.3	45.9	53.5	53.6	53.6
Western Africa	12.9	14.4	16.5	17.7	17.6	43.7	45.3	47.3	47.7	47.9

SOURCE: FAO

* FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

TABLE 4
NUMBER OF MODERATE OR SEVERE FOOD INSECURITY (MEASURED USING FIES) IN THE WORLD, AFRICA AND ITS SUBREGIONS, 2014 TO 2018 (MILLION)

	Number of severe food insecurity in the total population (million)					Number of moderate or severe food insecurity in the total population (million)				
Regions/ subregions*	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
World	**585.0**	**568.2**	**600.4**	**657.6**	**704.3**	**1696.3**	**1712.3**	**1801.9**	**1929.6**	**2013.8**
Africa	210.7	226.7	268.2	287.5	277.0	554.1	577.1	644.1	682.0	676.1
Northern Africa	19.1	16.3	21.2	23.6	19.0	59.8	51.6	63.8	82.1	70.2
Sub-Saharan Africa	191.6	210.4	246.9	263.9	258.0	494.3	525.5	580.3	599.9	605.8
Central Africa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Eastern Africa	93.0	100.2	114.3	121.3	112.5	226.1	238.4	266.0	276.3	271.7
Southern Africa	13.4	13.1	19.8	20.1	20.2	28.3	29.1	34.4	34.9	35.3
Western Africa	44.4	50.9	59.6	66.0	67.2	149.9	159.7	171.1	177.6	182.8

SOURCE: FAO

* FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

SPECIAL FOCUS ON THE MOST RECENT FOOD CRISES

There are a number of countries in Africa which also face severe levels of acute or "transitory" food insecurity which require urgent emergency actions to save lives and livelihoods.[11] These "food crises," as reported in the Global Report on Food Crises (GFRC),[12] are mainly based on IPC/CH estimates for food-insecure populations facing Crisis conditions or worse at the worst moment of the year.[13] Emergency levels of acute food insecurity are highly susceptible to change and can manifest in a population within a short amount of time as result of sudden changes and shocks. Although conceptually different from chronic food insecurity, as measured by the PoU, which persists over time mainly due to structural causes, acute and chronic food insecurity are not mutually exclusive. Repeated shocks can intensify acute food insecurity that over time can push populations into chronic food insecurity and destitution, while chronic food insecurity can increase the risk and susceptibility of populations to occurrences of more severe forms of acute food insecurity. This section provides a brief overview of the 2018 "hot spots" of acute food insecurity that require emergency response in Africa. The analysis is based on information presented in the 2019 GRFC and on the IPC/CH Classification. The GRFC reports only on food crises and does not provide an indication of long-term food insecurity nor allow for a comparative country-level wide assessment.

While 2018 has seen some improvement over 2017, in terms of fewer people affected by acute food insecurity, conflict, climate extremes and economic shocks remain the main drivers of the worst food crises observed in that year.[14] In Africa in 2018, conflict left 33 million people in ten countries in need of urgent humanitarian assistance, i.e. classified as being in ICP/CH category 3 or higher. Another 23 million were in need of assistance due to climate shocks, while just over 10 million people were acutely food insecure due to economic shocks.[15]

Worst affected by conflict, often combined with adverse weather conditions, and ranked by the number of people affected, were the Democratic Republic of the Congo, South Sudan, the Lake Chad Basin, Somalia and the Central African Republic. Climate shocks affected Ethiopia, Malawi, Kenya, Mozambique, Madagascar, Zambia, and Uganda, while economic shocks affected Sudan, Zimbabwe and Burundi.

In the **Democratic Republic of the Congo**, conflict affected several parts of the country while there were also localized floods and an outbreak of Ebola Virus Disease (EVD), and as a result, 13 million people were in need of urgent food assistance in the second half of 2018. A further 27.4 million lived in stressed conditions (IPC/CH Phase 2) and were very vulnerable to shocks or stressors. The adverse conditions left 3 million people internally displaced while the country also hosted just over 530 000 refugees from neighbouring countries and absorbed 4.5 million returnees. Internally displaced people and refugees often put considerable pressure on the resources of the host communities, while returnees require support in the face of abandoned services and destroyed infrastructure, and often the loss of productive assets.

South Sudan has been affected by several years of conflict, which have disrupted agriculture, livestock production and other economic activities and led to high levels of price inflation. Approximately 6.1 million people were in need of urgent food assistance in 2018, and nearly 1.9 million were internally displaced. In September 2018, the government, opposition, and civil society signed the Revitalized-Agreement on the Resolution of the Conflict in South Sudan. While the intensity of the conflict has reduced and food prices have fallen, they remained up to three times higher than they were two years ago.

In the **Lake Chad Basin**, nine years of conflict have affected northeastern **Nigeria**, **Chad**, **Niger** (Diffa region) and **Cameroon**'s Far North province. In addition to conflict, localized dry spells and the depreciation of the Nigerian currency, which affected the cross-border livestock trade, undermined food security. While the situation has improved from 2017, there remained 3.4 million people in need of urgent food assistance, mostly in Nigeria, and 2.3 million were internally displaced, again most of whom were in Nigeria. In addition, about 230 000 refugees from Nigeria are hosted in neighbouring countries.

Somalia has experienced many years of conflict, climate and economic shocks. Poor rains in 2016/17, massive flooding in 2018 (which displaced 290 000 people), and an escalation of conflict hampered recovery and left 2.7 million people in need of urgent food assistance in 2018.

The **Central African Republic** saw conflict and insecurity disrupt farming activities and crop and livestock markets. In addition, plant and livestock disease added to the supply problems and as a result, staple food prices rose significantly. In all, 1.9 million people were in need of urgent food assistance in 2018. In addition, there were 580 000 internally displaced people and 590 000 people who fled to neighbouring countries.

Although **Ethiopia** has made significant progress since 2000 in reducing chronic hunger (as measured by the PoU), large parts of its population remain at risk from adverse weather and climatic shocks. For example, drought badly affected Ethiopia in 2016 and 2017 and continued to undermine the food security of agropastoral communities. Adding to the pressures on food security in 2018 were intercommunal violence, a currency devaluation, and high food prices which left 8.1 million people in need of urgent food assistance. Additionally, conflict, mostly in the Oromia and Somali regions, left 2.3 million people internally displaced. Despite these adverse conditions, chronic hunger continued to fall as the country invested in social protection to assist vulnerable households.

The food security situation in **Malawi** improved compared to previous years, but adverse weather conditions negatively affected maize production, which led to higher prices, and left 3.3 million people in need of urgent food assistance. The 2016/17 drought conditions continued to affect some communities in **Kenya**, particularly in the north and eastern arid and semi-arid areas. Adverse weather conditions, including flooding in April/May of 2018, left 2.6 million people in need of urgent food assistance and displaced about 310 000 people. **Mozambique** also suffered from adverse weather conditions, such as late onset of rains, dry spells and erratic rainfall, which left 1.8 million people in need of urgent food assistance in 2018. It is worth noting that this figure was an improvement over 2017.[16] In **Madagascar**, consecutive years of dry conditions and the El Niño drought of 2015/16 left many households vulnerable. Dry weather in early 2018, Fall Armyworm infestations in some

regions, and currency depreciation resulted in reduced supplies and higher prices of staple foods. In all, 1.5 million people were in need of urgent food assistance in 2018. In **Zambia**, a prolonged dry spell in 2018 and an outbreak of Fall Armyworm left cereal production down by 34 percent (albeit from a record high in 2017). The reduced harvest and currency depreciation combined to reduce food supplies and raise food prices which left 1.2 million people in need of urgent food assistance. Food security in **Uganda** continued to be negatively affected by the large number of refugees which put pressure on the resources of the host communities. About 1.1 million people were in need of urgent food assistance in the country in 2018, mostly among the refugee population and in Karamoja.

Economic shocks affected Sudan, Zimbabwe and Burundi. In **Sudan**, currency depreciation, dry spells, and floods, along with the removal of the wheat subsidy, led to the displacement of people, reduced harvests, and higher prices of staple foods. The currency was devalued twice in 2018, and in November 2018, year-on-year inflation reached nearly 70 percent. In all, 6.2 million people were in need of urgent food assistance and, although the security situation has improved, 2.1 million people continued to be displaced in Darfur. **Zimbabwe**'s economy was negatively affected by the El Niño induced drought, which also aggravated the shortage of foreign exchange, and ultimately the currency devaluation. Cereal output improved in 2018, compared to 2017, but by December 2018 some food prices were 50 percent higher than in the previous year. **Burundi** continued to feel the impact of the 2015 political crisis that led to hundreds of thousands fleeing abroad which undermined farming and marketing activities, and reduced the food import capacity of the country.[17] In 2018, approximately 72 percent of the population lived in extreme poverty, and although the country enjoyed two consecutive seasons of good agricultural performance, flooding in several provinces, limited access to land and the strain of internally displaced persons and refugees from neighbouring countries left 1.7 million people in need of urgent food assistance. This was however an improvement over the 2.6 million people in need of urgent food assistance in 2017.[18] ■

TRENDS IN MALNUTRITION

SDG TARGET 2.2

"By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons."

Good nutrition is central to the 2030 Agenda, which supports the achievements of several of the SDGs including ending poverty (SDG 1), promoting gender equality (SDG 5), ensuring quality education (SDG 4), and reducing inequalities (SDG 10).[19] Malnutrition (in all its forms) is due to a complex set of interacting factors, including the inadequate, unbalanced or excessive consumption of the macronutrients that provide dietary energy (carbohydrates, protein and fats) and micronutrients[20] (vitamins and minerals) which are essential for physical and cognitive growth and development. Nearly all countries in sub-Saharan Africa experience a multiple burden of malnutrition, mainly in the form of undernutrition and micronutrient deficiencies, but in addition, overweight and obesity are emerging as significant health concerns in a number of countries. This section reports on six nutrition indicators – three that form part of the SDG monitoring framework and the global nutrition targets agreed to by the World Health Assembly (WHA) in 2012,[21] i.e. stunting, wasting and overweight in children under the age of five, and three that are specific to the six WHA global nutrition targets, i.e. anaemia in women of reproductive age, low birthweight, and exclusive breastfeeding in the first six months.

SDG INDICATOR 2.2.1
Prevalence of stunting in children under 5 years of age

Stunting, measured using height-for-age z-scores, is due to inadequate infant and young child feeding practices, poor health conditions, infection and maternal undernutrition before, during and after pregnancy that lead to growth failure during the first 1 000 days (the period as defined from conception to a child's second birthday). Stunting causes impairment to cognitive and physical development that can lower educational attainment and reduce adult productivity and income.[22] A number of studies link malnutrition, including stunting, to poor schooling outcomes, such as higher grade-repetition. For example, evidence from Ghana and the United Republic of Tanzania indicate that parents delay initial school enrollment when their child is short for his or her age.[23]

Globally, there are 149 million stunted children under the age of five, a figure that has fallen over time (Table 5). However, in Africa, the number of stunted children has been rising steadily over time, and is now 58.8 million. Countries are making progress in reducing stunting; however, high population growth and, in some countries, a lack of coordinated and effective interventions (often due to limited resources), mean that while the proportion of stunted children is falling, overall numbers of stunted children are not reducing at the same rate. Developments in the subregions vary, with Northern Africa seeing a drop in the number of stunted children, while the numbers in Southern Africa remain unchanged. In the other subregions, the number rose and as a consequence, in 2018, 36 percent of the 149 million children in the world lived in sub-Saharan Africa, a significantly higher share than the 16 percent of 1990.

While the number of stunted children is rising in sub-Saharan Africa, the prevalence of stunting is declining, albeit at a rate slower than the global one. With a 10.6 percentage point drop between 2000 and 2018, Eastern Africa is making the most progress, but it continues to be burdened by the highest number of stunted children among Africa's subregions. On the other hand, in Southern Africa, the prevalence of stunting has fallen by only 3.6 percentage points over the same period. Despite such progress, nearly a third of children in sub-Saharan Africa are stunted.

While the average prevalence of stunting is quite similar across sub-Saharan Africa's subregions, there is considerable variation between countries

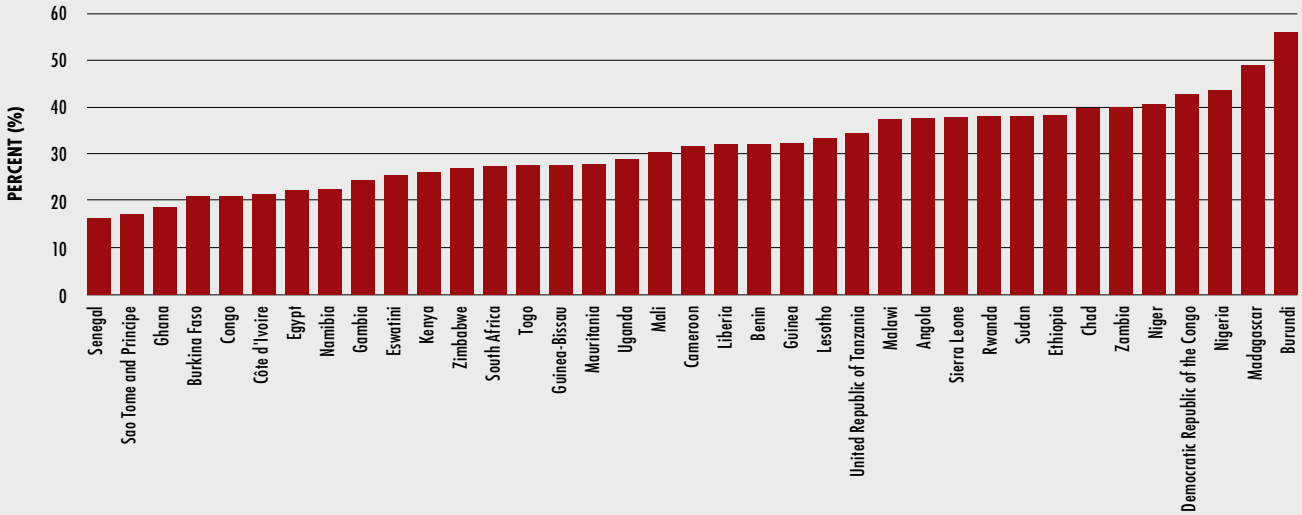
TABLE 5
NUMBER OF STUNTED CHILDREN UNDER THE AGE OF FIVE IN THE WORLD, AFRICA AND ITS SUBREGIONS, 1990–2018 (MILLION)

Regions/ subregions*	1990	2000	2010	2014	2015	2016	2017	2018
World	**252.5**	**198.2**	**170.7**	**160.0**	**157.2**	**154.4**	**151.7**	**149**
Africa	**46.4**	**50.3**	**56.0**	**58.0**	**58.3**	**58.7**	**58.8**	**58.8**
Northern Africa	6.1	4.9	4.8	5.1	5.1	5.1	5.0	4.9
Sub-Saharan Africa	40.3	45.4	51.2	52.9	53.2	53.6	53.8	53.9
Central Africa	5.9	7.0	8.6	9.1	9.2	9.3	9.4	9.4
Eastern Africa	19.2	21.5	23.5	23.8	23.9	24.0	24.0	24.0
Southern Africa	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Western Africa	13.2	14.9	17.2	18.0	18.2	18.3	18.4	18.5

SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org.

* FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

FIGURE 3
PREVALENCE OF STUNTING IN CHILDREN UNDER THE AGE OF FIVE, BY COUNTRY LATEST OBSERVATION* (%)



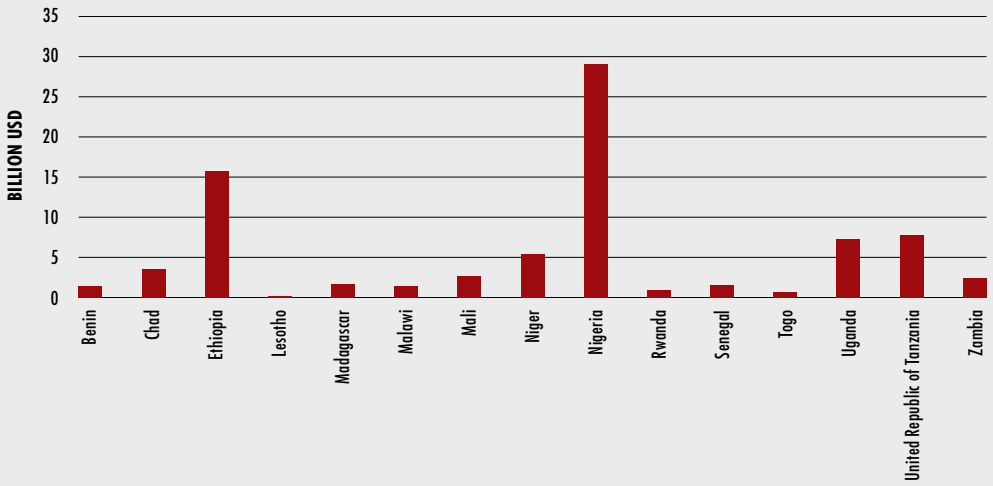
SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org
* The year of the latest observation ranges from 2013 to 2018

(Figure 3), and there is evidence that levels of stunting can vary considerably within a country.[24] In general, stunting is higher in rural areas.[25] Although the prevalence of stunting has fallen in most countries in sub-Saharan Africa, it has, on average, not fallen significantly enough to be considered on track for meeting the SDG target for stunting. While some progress is being made, very few countries are on course to meet the target. In addition, for many countries, data gaps make it impossible to determine what, if any, progress has been made.[26]

Stunting also comes with considerable economic costs including lower cognitive skills and school attainment, and impaired physical development, which can reduce productivity in adulthood. For example, estimates indicate that in Africa, productivity losses ascribed to adults, who suffered from stunting in their childhood, lowers today's per capita GDP by about 9 to 10 percent.[27]

The cost of grade repetitions in Egypt, Ethiopia, Eswatini, Uganda and Malawi has been estimated at USD 49, 8, 0.7, 9.5 and 7 million, respectively.[28,29] For Malawi, the cost of stunting (in terms of lower adult productivity) has been estimated at 1.15 percent of GDP for manual activities and 1.76 percent of GDP for non-manual activities.[30] Figure 4 shows the country level benefits, in terms of cumulative addition to GDP over the 2035–2060 period, which could be generated by meeting the WHO 2025 target for stunting for 15 countries. The total benefit for the 15 countries would amount to 83 billion USD.[31] The high estimates for Ethiopia and Nigeria are, in part, a reflection of their large populations and returns in terms of per capita range between 0.07 for Lesotho to 0.26 USD for Chand and 0.27 USD for Niger (based on 2016 population estimates). However, even without Ethiopia and Nigeria, the benefits that accrue sum to USD 39 billion.

FIGURE 4
ESTIMATED ECONOMIC RETURNS TO MEETING THE WORLD HEALTH ASSEMBLY (WHA) 2025 TARGET FOR STUNTING IN TERMS OF CUMULATIVE ADDITIONS TO GDP OVER 2035–2060, SELECTED COUNTRIES (BILLION USD)



SOURCE: Hoddinott, J. 2016. The economics of reducing malnutrition in Sub-Saharan Africa. *Global Panel on Agriculture and Food Systems for Nutrition.* Working Paper.

Economic growth and stunting

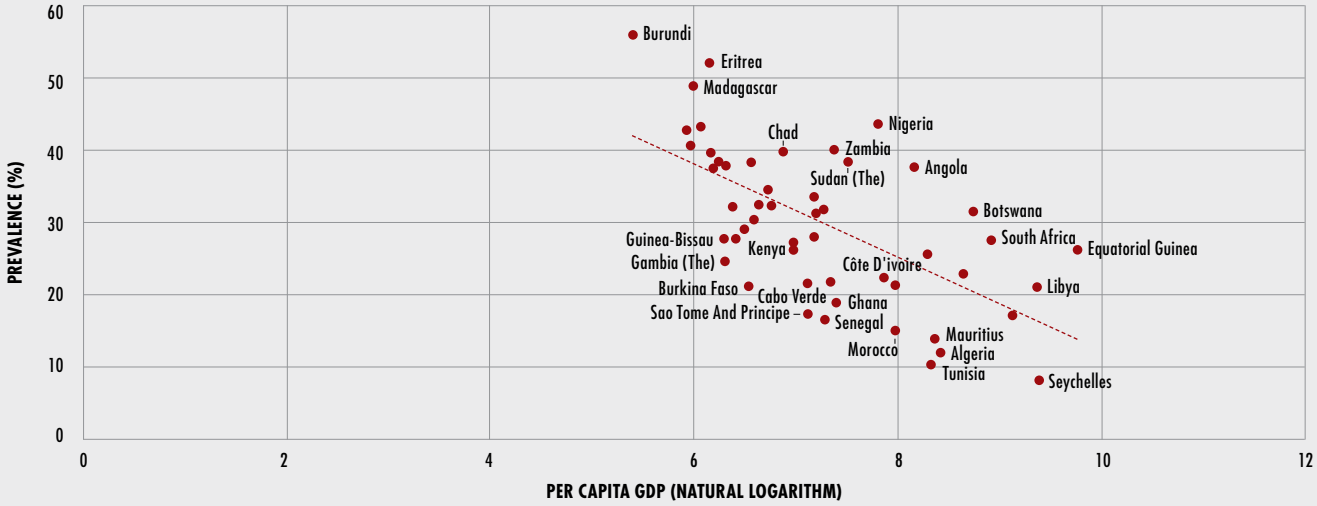
There continues to be considerable debate as to the role that economic growth plays in reducing stunting. There is evidence to show that with higher incomes, people spend more money on health care and better diets, and they are more likely to have access to better nutrition and childcare information, while women have better education and households have better access to sanitation.[32] In addition, higher per capita GDP levels results, in most cases, in greater public spending on health and education.[33] A number of studies have shown that a 10 percent rise in GDP leads to a 6 to 7 percent reduction in stunting whereas other studies have found only a very small or no link.[34] It follows that economic growth can be pro-poor; however, this is not an automatic outcome.

Some of the reason for the obscurity in the relationship between GDP growth and stunting lies in the fact that there is a large discrepancy between the levels of stunting observed even for countries at the same level of per capita GDP (Figure 5).

Countries that are located above the line in Figure 5 are doing worse, in some cases a lot worse, than other countries at the same level of GDP per capita (for example, Zambia) while some countries below the line are doing better (for example, Senegal). Clearly, several countries are doing much better, in terms of achieving lower levels of stunting, than other countries at the same level of per capita GDP. Using the examples of several better-performing countries, this section sheds light on some of the actions that explain these relative success stories.

Burkina Faso has made progress in several childhood indicators, including stunting in children under the age of five, which fell from 43 percent in 2003 to 21 percent in 2017. The country joined the Scaling Up Nutrition

FIGURE 5
THE PREVALENCE OF STUNTING FALLS WITH HIGHER PER CAPITA GDP (CONSTANT 2010 USD)



SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org
Note: For each country the latest available estimate for stunting was used together with the GDP per capita for that year.

(SUN) movement in 2011 and has continued to strengthen its nutrition governance since.[35] In 2017, the Global SUN meeting recognized that infant and young child feeding (IYCF) indicators had significantly improved, notably with regard to breastfeeding and stunting. UNICEF ascribes this success in part to the use of integrated IYCF packages which support optimal child and maternal nutrition at the community level, with a focus on the first 1 000 days. Interventions were targeted in particular at the Northern, Sahel and Eastern regions where the prevalence of stunting fell consistently.[36]

From 2008 to 2014, **Sao Tome and Principe** was able to reduce the prevalence of stunting from 30.6 percent to 17.2 percent. In part, this was due to interventions designed to improve child health and nutrition outcomes, notably through provision of vaccines, vitamin A, essential medicines and health-related equipment aimed to promote child survival. Sao Tome and Principe also introduced a programme of food fortification with multiple micronutrient powder[37] that covers all children under the age of five.[38] It is relevant that Sao Tome and Principe increased expenditures in the health sector to nearly 10 percent in 2015, up from 4.9 percent in 2008, which helped with scaling up high impact interventions on maternal and child health, as well as other health and nutrition services.[39]

Senegal has also made good progress in reducing child undernutrition. The prevalence of stunting has fallen from 34 percent in 1992 to below 17 percent in 2017, one of the lowest prevalence of stunting in Western Africa. Progress in Senegal has been achieved despite relatively low economic growth. Senegal's success in improving nutrition outcomes is based on political commitment at the highest level, reflected in the establishment of the Cellule de Lutte contre la Malnutrition (Nutrition Coordination Unit) (CLM) in the Prime Minister's Office.[40] The CLM fostered

institutional coherence and helped to effectively implement the Programme de Renforcement de la Nutrition (PRN), established maternal and child nutrition services, and promoted multisectoral policies and interventions. The recognition of the importance of a multisectoral approach is also reflected in the new National Policy for the Development of Nutrition (Politique Nationale de Développement de la Nutrition) (PNDN), which is operationalized through the Multisectoral Strategic Nutrition Plan (Plan Stratégique Multisectoriel de Nutrition) (PSMN). Senegal has also engaged international actors through platforms including SUN and REACH.[41]

Ghana has also been able to reduce stunting in children under the age of five from nearly 31 percent in 1999 to just under 19 percent in 2014.[42] Progress was also made in areas of health, sanitation, nutrition, and mother's child-caring knowledge, which are also vital to reduce stunting.[43] Interventions that target child health and nutrition outcomes include the scaling-up of Community Health Planning and Services, and adoption of the Baby-Friendly Hospital Initiative which helped focus on care and counselling for pregnant mothers, and IYCF and care practices. Ghana is also improving the capacity of service providers to manage severe acute malnutrition in children.[44] In addition, access to improved water sources, female secondary schooling and sanitation have improved steadily over the past decade.[45]

Kenya has also been able to reduce the prevalence of stunting quite significantly, from 40 percent in 2005 to 26 percent in 2014. Underlying this reduction, and Kenya's strong record on addressing malnutrition more broadly, are political commitment and leadership at the highest level. In 2012, Kenya joined the global Scaling Up Nutrition (SUN) movement which has facilitated planning and implementing nutrition specific and nutrition-sensitive interventions across sectors. This engagement helped facilitate effective implementation of the National Nutrition Action Plan (NNAP) 2012–2017 which focused, *inter alia*, on maternal and child health and nutrition, recognized and emphasized the importance of interventions in the first 1 000 days of a child's life. For example, expecting mothers were encouraged, through the free maternity services policy, to deliver their babies in health facilities, which resulted in improved care for mother and child. Between 2008 and 2014, the share of babies born in a health facility rose from 43 percent to 61 percent.[46]

Kenya has also legislated mandatory fortification of maize and wheat with iron and zinc, and vegetable oil and fats with vitamin A, alongside implementation of the WHO International Code of Marketing of Breast-milk Substitutes, which restrict promotion and sale of any food marketed or otherwise presented as a partial or total replacement for breast milk.[47]

In summary (Table 6), the experience of some of the countries that achieved a substantial reduction in the prevalence of stunting suggests that high level political commitment, effective nutrition governance, a focus on maternal and child health and nutrition, in particular the first 1 000 days have been important factors in several countries. In addition, aligning with the SUN movement and building partnerships has helped in planning and implementing nutrition- sensitive and -specific interventions using a multisectoral approach.

Economic growth is essential but not enough to reduce stunting

In summary, it is clear that the reduction of stunting requires a coordinated multisectoral approach, which includes interaction with the food system as well as health and education. This cannot happen easily without strong political commitment and leadership to facilitate coordinated and multisectoral programming, implementation and monitoring.

A recent study found that in at least four of the seven countries which saw a significant fall in stunting, this coincided with increased coverage of child immunization, deworming medication and maternal iron supplementation.[48] In general, combinations of activities are more effective than single interventions. A review of programmes considered effective in reducing stunting confirms earlier studies which ranked Infant and Young Child Feeding interventions amongst the most effective at reducing child malnutrition and mortality (see also Box 1).[49]

TABLE 6
REDUCING STUNTING: IDENTIFYING WHAT WORKS

Country	Change in the prevalence of stunting and time period considered	Key factories identified as having driven the fall in the prevalence of stunting
Burkina Faso	43.1 to 21.1 percent from 2003 to 2017	Strengthened nutrition governance and joined the SUN movement. Geographically targeted interventions to address infant and young child feeding and care.
Sao Tome and Principe	30.6 to 17.2 percent from 2008 to 2014	Focus on improving child health and nutrition through provision of vaccines, vitamin A and medical facilities to improve child survival. Introduced programmes of food fortification with multiple micronutrient powder for children under the age of five. Greater expenditure on health sector supported scaling up of interventions on maternal and child health.
Senegal	34.4 to 16.5 percent from 1992 to 2017	Political commitment at the highest level and effective nutrition governance. Recognition of multisectoral approach and engagement of international partners through SUN and REACH.
Ghana	30.6 to 18.8 percent from 1999 to 2014	Focus on improving health, sanitation, nutrition and mothers' child-caring knowledge. Initiatives to scale-up Community Health Planning and Services and improving counselling for pregnant mothers and improving infant and young child feeding and care.
Kenya	40.2 to 26.2 percent from 2005 to 2014	Political commitment at the highest level and effective nutrition governance. Joined SUN movement and focused on maternal and child health and nutrition, recognizing the importance of the first 1 000 days. Legislated fortification of key foods with essential minerals and vitamins A.

Nutrition-specific interventions will not be sufficient by themselves to meet the SDG and WHA targets.[50] In addition, nutrition-sensitive programmes, including agriculture programmes, are needed to reduce maternal and child malnutrition.[51] These may include interventions such as small animal husbandry, home-gardens, biofortification,[52] value chains for nutritious foods, nutrition education and counselling, growth monitoring and promotion, immunization, water, sanitation and hygiene and social safety net programmes.[53] A recent survey of impact evaluations of nutrition-sensitive agriculture programmes, including programmes from Africa and Asia, found that they improve a variety of nutrition outcomes in mothers and children. The impact is stronger when programmes include behaviour change, communication and interventions to improve the economic status and empower women.[54,55]

An example of an effective nutrition-sensitive agriculture programme is the enhanced-homestead food production (E-HFP) programme, implemented in Gourma Province in Burkina Faso. Targeted at households with women and children in the first 1 000 days, the E-HFP helped mothers establish homestead gardens, provided inputs and trainings in gardening, irrigation and small livestock rearing. In addition, the programme included a nutrition and health-behavior change communication (BCC) strategy with the goal of improving children's nutritional outcomes, as well as providing training on essential nutrition actions, including optimal IYCF practices. Over the two-year programme implementation period, the prevalence of wasting and anaemia in children 3–12 months old fell by 9 and 15 percentage points, respectively, while the prevalence of diarrhea was reduced by 10 to 16 percentage points. On the maternal side, the programme led to greater dietary diversity, improvements in several dimensions of women's empowerment, and reductions in maternal underweight. Furthermore, the programme led to increases in agricultural production, household access to and consumption of nutrient-rich foods, and dietary diversity. [56,57,58]

BOX 1
INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES CAN HELP IMPROVE CHILD MALNUTRITION

Feeding practices are recognized as very important in determining the nutritional status of infants and young children. The WHO validated eight core indicators to assess infant and child feeding practices across countries: 1) early initiation of breastfeeding, 2) exclusive breastfeeding under 6 months, 3) continued breastfeeding at 1 year, 4) introduction of solid, semi-solid or soft foods, 5) minimum dietary diversity, 6) minimum meal frequency, 7) minimum acceptable diet, 8) consumption of iron-rich or iron-fortified foods.[59] These indicators can guide analysis for effective interventions to reduce malnutrition in infants and children.[60,61]

While there is a need for more evidence on what works, why it works and what it costs, IYCF counseling and communication is already relatively widely practiced. UNICEF has developed a set of generic tools for programming and capacity development on community-based IYCF counselling adapted to low-literacy contexts.[62] Aimed for use in diverse country contexts, the package of tools guides local adaptation, design, planning and implementation of community-based IYCF counselling and support services at scale. It also contains tools to train community workers. To date, a large number of countries have adapted the materials to the local context, building capacity and rolling out community-based IYCF counseling and communication using the package.

Reviews of some of the interventions indicate that they can be effective depending on the ability of the target population to respond and incorporate a larger strategy including health care, adequate housing and access to improved water and sanitation.[63] An evaluation of one IYCF intervention found that while it impacted knowledge of infant and young child feeding, it had limited impact (among mothers and caregivers) on practice, and no impact on stunting or acute malnutrition.[64] The authors find that IYCF support group interventions should be informed by what the determinants of behaviour change are in the community, and be delivered at the intensity stipulated in the intervention plan.[65] The intervention strategy is more likely to be effective when based on knowledge of cultural barriers and enablers to optimal feeding practices. Research is needed to develop a formal theory of behaviour change and specific messages to increase the effectiveness of interventions. However, the absence of studies on these types of interventions and the absence of a research-based theory of behavior change limits program design and implementation based on sound evidence.[66,67]

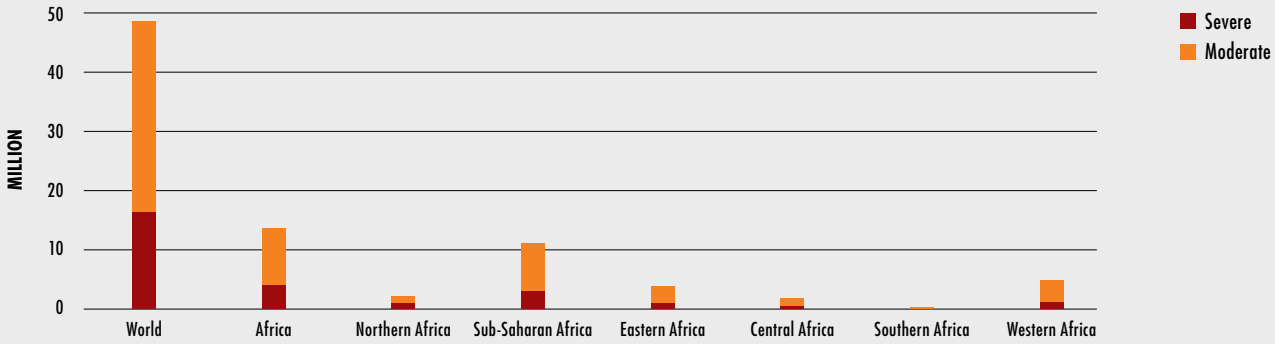
SDG INDICATOR 2.2.2
Prevalence of wasting and overweight in children under 5 years of age

Wasting (or thinness), measured by low weight-for-height for children under the age of five, indicates recent and severe weight loss.[68] The mortality risk associated with wasting is highest in the first few years of life, and evidence indicates that episodes of wasting negatively affect linear growth and undermine child growth and development.[69] The leading underlying causes of wasting include poor household food security, inadequate feeding and care practices, and/or limited access to health, water, hygiene and sanitation services. Furthermore, suboptimal breastfeeding and poor feeding practices (including complementary feeding) can lead to rapid weight loss or growth failure. Wasting raises the risk of infection, which in turn leads to more significant weight loss due to appetite loss and poor intestinal absorption.[70]

In 2018 nearly 50 million children under the age of five (7.3 percent) suffered from moderate to severe wasting worldwide (Figure 6). In Africa, the number was 14 million (7.1 percent of children on the continent) and most of these wasted children (9.2 million) were in Eastern and Western Africa. The prevalence of wasting is just slightly lower in Africa compared to the world average, and it is highest in Northern Africa and Western Africa.

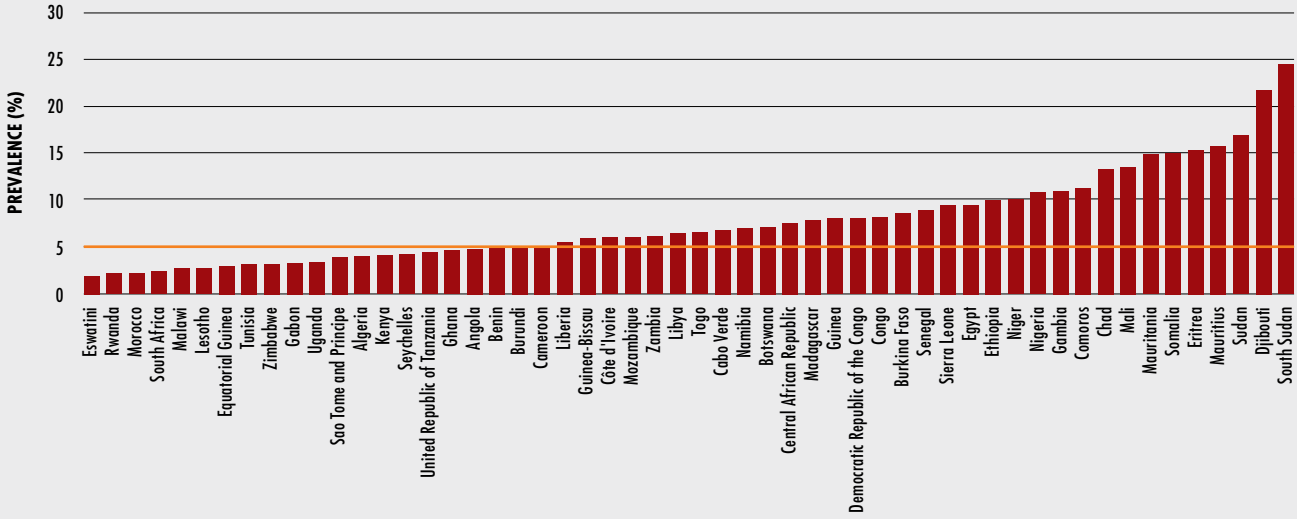
The WHA target for 2025 is to reduce and maintain childhood wasting to less than 5 percent, which is most commonly the situation in poor countries that do not face a severe food shortage.[71] As Figure 7 shows, a majority of countries are above this threshold, and progress toward the WHA wasting target has been poor. It is important to acknowledge that, similar to stunting, many data gaps exist.

FIGURE 6
NUMBER OF CHILDREN UNDER THE AGE OF FIVE WHO ARE MODERATELY OR SEVERELY WASTED IN THE WORLD AND AFRICA AND ITS SUBREGIONS (MILLION)*, 2018



SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org.
*FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

FIGURE 7
PREVALENCE OF MODERATE OR SEVERE WASTING IN CHILDREN UNDER THE AGE OF FIVE, LATEST YEAR AVAILABLE*(%)



SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org
* Range of latest year available is 1994 to 2018.

A multifaceted approach is needed to address wasting, including prevention in infancy and early childhood, early identification before children develop medical complications, and prompt (and appropriate) treatment of affected children, particularly those with severe wasting.

Prevention of wasting requires addressing the underlying causes of malnutrition (see also Box 2). Breastfeeding support and nutrition counselling for families, particularly with regard to improving the quality of complementary foods and feeding practices alongside timely care for common childhood illnesses are essential. Collaboration with water, hygiene and sanitation (WASH) programmes is needed to ensure access to safe drinking water and sanitation facilities. Furthermore, nutrition must be mainstreamed into social protection and safety net programmes to ensure access to healthy diets for disadvantaged and vulnerable children and families. Interventions found to be effective in reducing stunting, already referred to above, could also reduce the prevalence of severe wasting by 61.4 percent.[72]

Overnutrition, in the forms of overweight and obesity, is an increasing trend in children across the continent. Childhood **overweight** increases the risk of developing diabetes and other non-communicable diseases in adulthood, and prevention begins in the first 1000 days of life.

BOX 2
TREATING WASTING: EXAMPLES FROM KENYA AND CHAD

In Kenya, treatment of wasting is integrated into the health system. This was achieved through scaling up Integrated Management of Acute Malnutrition (IMAM) intervention through the Ministries of Public Health and Sanitation. From 2008, IMAM has been offered as part of routine health services through community outreach activities, outpatient and inpatient treatment. Strong partnerships and coordination between the Government and donors and NGOs helped build capacity and avoided creating parallel delivery systems.[73] In addition, the country has established social protection programmes in vulnerable areas and, with the Ending Drought Emergencies framework, is working to provide an early response to threats.[74] In Chad, a community resilience to acute malnutrition programme provides a package of integrated nutrition and health services, WASH, climate-smart agriculture and livestock management to 4 000 households and was found to have helped protect against an increase in wasting, as well as stunting.[75] Although the link between wasting and stunting is not yet well understood,[76] there are calls to avoid a silo approach to the two forms of undernutrition. To start with, data that captures multiple forms of malnutrition in children should be reported.

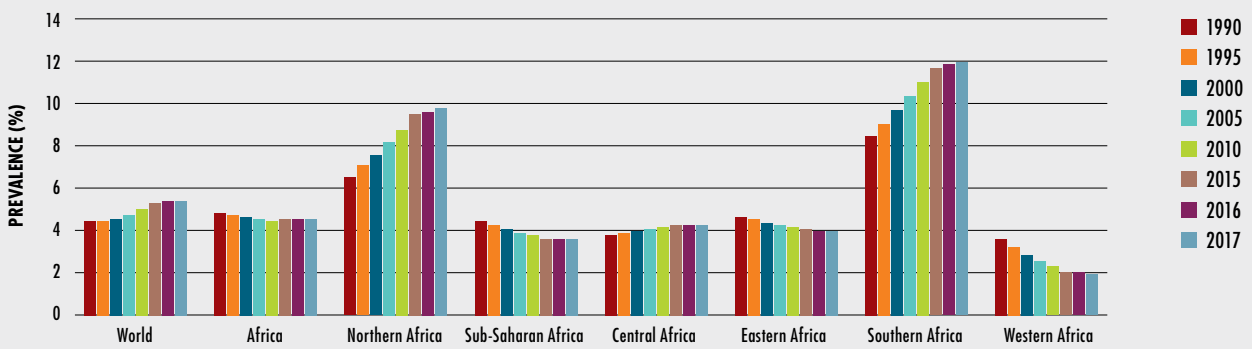
There is evidence to indicate that an infant whose growth falters in early life but "who then gains weight rapidly later in childhood, may be at particular risk of adult obesity and non-communicable diseases."[77]

It is generally accepted that the imbalance between energy intake and energy expenditure (including for physical activity) explains to a large extent the increasing levels of overweight and obesity in children and adults. The shift in diets from less-processed, more nutrient-dense foods to energy-dense foods and processed foods combined with a change in lifestyle (including physical activity) is termed the "nutrition transition." This transition is related to social and economic factors including modernization and urbanization, greater participation of women in the labour force, and the transformation of the food system.[78] Facilitating the nutrition transition is trade liberalization, which makes food, including processed foods, more available and affordable.[79] While urbanization plays a role in changing lifestyles and availability of accessible energy-dense foods, the prevalence of obesity in Africa is rising faster in rural areas for adult males (see section on adult obesity below) and therefore, only correlation is supported by available research.

Childhood obesity is a health concern as obese children may experience the following symptoms as a result: breathing difficulties, increased risk of fractures, hypertension, and early markers of cardiovascular disease, insulin resistance and psychological effects. In addition, childhood obesity is associated with a higher chance of obesity and premature death and disability in adulthood.[80]

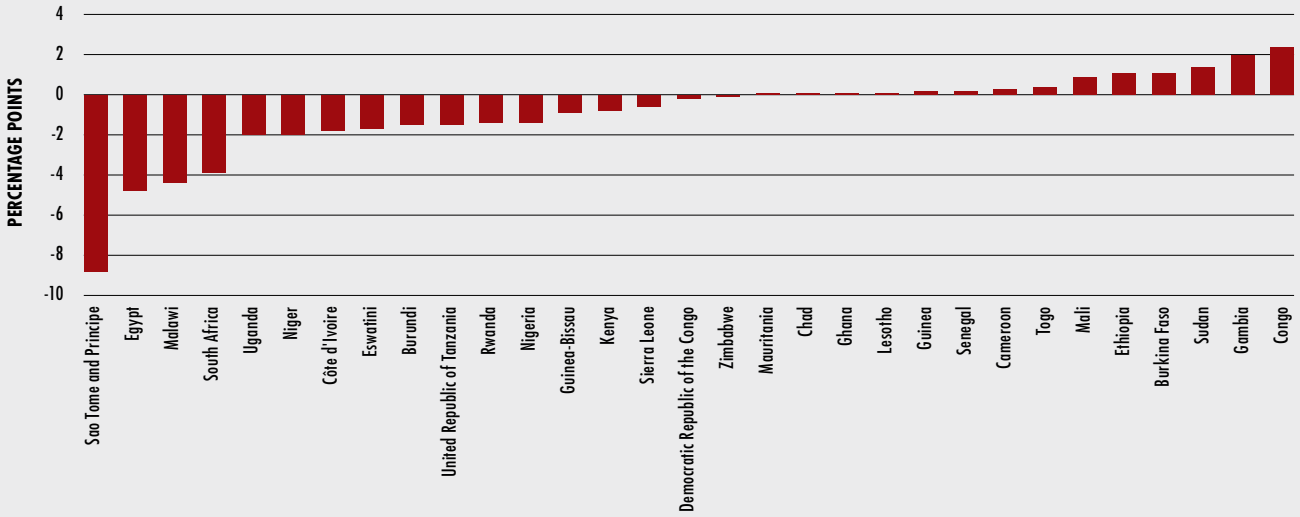
Globally, overweight[81] affected 40.1 million children under the age of five (5.9 percent) in 2018. Of these, 9.5 million children are in Africa, and the continental prevalence, at 4.9 percent, is slightly below the global one. At the subregional level, the prevalence is below the continental average in Central Africa (4.6 percent), Eastern Africa (4.3 percent), and Western Africa (2.1 percent) while it is higher than average in Northern Africa (10.6 percent)[82] and Southern Africa (13 percent). In the latter two regions, the trend is clearly upwards (Figure 8). Although the prevalence in Southern Africa is much higher than the global world average, the average reflects an exceptionally high prevalence in South Africa (13.3 percent). There is variability in the subregion as the prevalence in Namibia and Lesotho is much lower at 4 percent and 7.4 percent respectively. The highest prevalence of child overweight is in Egypt (15.7 percent), followed by Tunisia (14.2 percent).

FIGURE 8
PREVALENCE OF OVERWEIGHT IN CHILDREN UNDER THE AGE OF FIVE IN THE WORLD AND IN AFRICA AND ITS SUBREGIONS*, 2010–2017 (%)



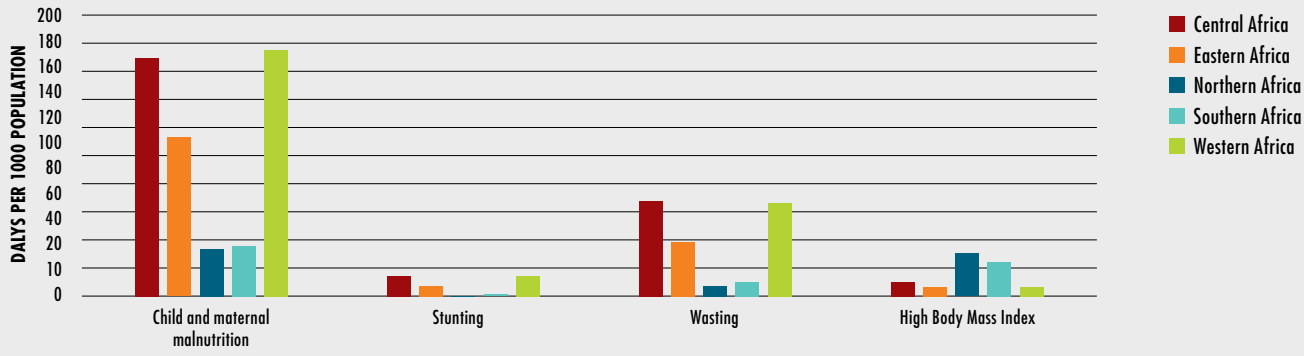
SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org.
*FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

FIGURE 9
CHANGE IN THE PREVALENCE OF OVERWEIGHT IN CHILDREN UNDER THE AGE OF FIVE, 2012–2018* (PERCENTAGE POINTS)



SOURCE: UNICEF, WHO and International Bank for Reconstruction and Development/World Bank. 2019. *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – Levels and trends* (March 2019 edition) [online]. https://data.unicef.org/topic/nutrition, www.who.int/nutgrowthdb/estimates, https://data.worldbank.org.
*Includes only countries for which both data points are available

FIGURE 10
DISABILITY ADJUSTED LIFE YEARS (DALYS)* IN 2017, BY MALNUTRITION-RELATED RISK FACTOR AND SUBREGIONS OF AFRICA** (ALL AGES)



SOURCE: Global Health Data Exchange. 2019. *Institute for Health Metrics and Evaluation* [online]. University of Washington, Seattle, USA. [Cited 3 July, 2019]. http://ghdx.healthdata.org/gbd-results-tool
*DALY (disability-adjusted life year) estimates for child and maternal malnutrition include factors such as child underweight, iron deficiency, vitamin A deficiency, zinc deficiency and suboptimal breastfeeding. They also include maternal haemorrhage and maternal sepsis and iron-deficiency anaemia among women. Estimates for overweight and obesity refer to adults aged 25 and older.
**FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

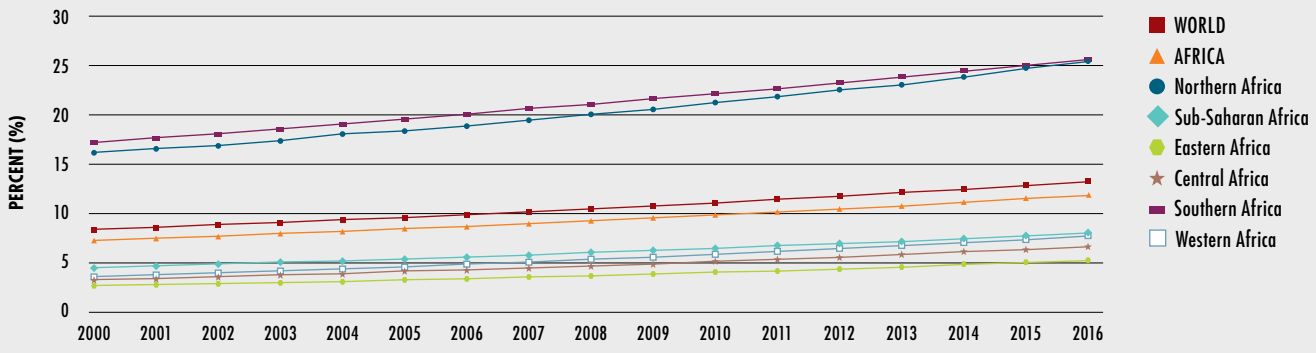
At the country level, Figure 9 shows that in most countries for which there is data, the prevalence of overweight in children under five has fallen from 2012 to 2018. For some countries, the progress appears to have been quite remarkable. A majority of countries is on track to meet the WHA target for overweight in children under the age of five, but there are many countries without data. ■

ADULT OVERWEIGHT AND OBESITY IN AFRICA

Given the growing health concern caused by the rapid rise in obesity, this year's report also presents an overview of adult overweight and obesity[83] in Africa and actions being taken to address it.[84] Overweight and obesity are significant risk factors for non-communicable diseases such as cardiovascular diseases, diabetes, musculoskeletal disorders, and some cancers.[85] It is estimated that overweight and obesity contributed to about 7 percent of all deaths and accounted for 5 percent of all healthy years of life lost.[86] Moderate obesity and severe obesity are associated with, respectively, the loss of one-in-ten, and one-in-four potential disease-free years during middle and later adulthood.[87] In terms of Disability Adjusted Life Years (DALYs), Figure 10 shows that while child and maternal undernutrition continue to impose the highest disease burden on African populations overall, in Southern and Northern Africa, the burden posed by high body mass index is nearly equivalent.

While most African countries are making efforts to reduce undernutrition and micronutrient deficiencies, many also face rising overweight and obesity in children and adults. In Africa, adult obesity has been rising in all regions and subregions (Figure 11). In 2016, nearly 12 percent of the adult population in Africa was obese, close to the global average of 13.2 percent. There are significant differences between regions and countries: in Northern and Southern Africa, a fourth of the adult population is obese and the prevalence of obesity is rising faster than the global prevalence. However, adult obesity prevalence figures are much lower in Western, Central and Eastern Africa estimated at 7.7, 6.6 and 5.2 percent, respectively. The prevalence in the latter subregions is also growing at a slower rate than the global one.

FIGURE 11
THE PREVALENCE OF ADULT OBESITY IN THE WORLD AND AFRICA AND ITS SUBREGIONS*, 2000–2016 (%)



SOURCE: WHO. 2019. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en

*FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

However, as is true elsewhere in the world, no African country is on track to meet the WHO adult obesity target, i.e. to halt the rise of adult obesity for men and women. Indeed, many countries with higher obesity prevalence figures in 2010 also experienced larger increases in the prevalence of obesity over 2010–2016 (Figure 12). This is true for both males and females. Figure 12 shows that several countries' prevalence of adult obesity is relatively more extreme in terms of its level and rise over the 2010 to 2016. These six countries are Algeria, Egypt, Libya, Morocco, South Africa and Tunisia. It is likely that relatively high incomes levels, high rates of urbanization, sedentary lifestyles and diets that include a high proportion of highly processed and energy dense food, are an important part of the explanation (see also discussion below). In addition, cultural factors that relate to diets and body shapes may also play a role. It is not clear how these factors interact or whether or not these countries would be outliers even when all the factors are accounted for, and a conclusive analysis is beyond the scope of this report.

There are also differences between countries within subregions. While the prevalence of adult obesity is very high in most Northern African countries, and rising very fast (Figure 13), the prevalence is relatively low in Sudan and rising at well below the Northern African average (for the 2010–2016 period). In Southern Africa, the prevalence is high in all countries, but for South Africa, at 27 percent, is still at least 10 percentage points higher than that of other countries in the subregion. The increase in the prevalence of adult obesity over the 2010–2016 period is much higher in South Africa and Namibia than in other countries belonging to the same subregion.

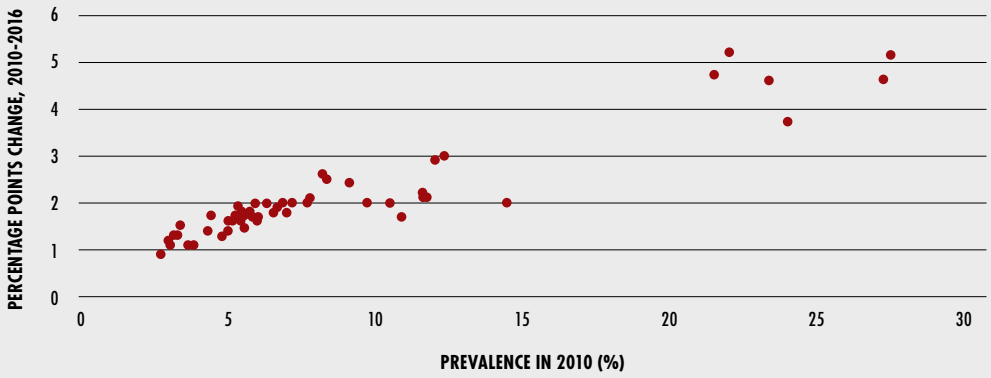
In Eastern Africa, the prevalence of adult obesity is 5.2 percent, but in the Seychelles, Djibouti and Mauritius, the prevalence is 14.6, 12.2 and 11.5 percent, respectively. In Central Africa, there is also some variation between countries. While the prevalence for this subregion is 6.6 percent, it is 13.4 percent in Gabon and 10.6 percent in Sao Tome and Principe, and nearly 10 percent in Cameroon. Similarly, in Western Africa, the prevalence is 7.7 percent, but it is 11.3 percent in Mauritania and 10.6 percent in Cabo Verde.

Differences in levels and trends is in part explained by variations in urbanization (Figure 14), in economic development and, in some countries, cultural factors that ultimately shape physical activity levels and dietary patterns.[88,89,90] Urban dwellers often have or devote less time to food acquisition and preparation. Consequently, they look for foods that save time and are easily accessible.[91] At the same time, urban consumers have a wider range of products from which to choose in part due to the economies of scale offered by agglomerations and in part due to the generally higher incomes urban dwellers often enjoy. Government policies also contribute to increasing overweight in the population. In Egypt, subsidies on bread, wheat flour, sugar and cooking oil are considered by some to have led to excessive energy intake and to be partly responsible for the country's high prevalence of overweight and obesity.[92]

Recent evidence shows that in most regions of the world, the urban-rural differences in obesity are narrowing and that the body mass index (BMI) is rising at the same rate or faster in rural areas as in urban areas, particularly in low- and middle-income countries.[93] For sub-Saharan Africa, this is true only for males, not females. The gradual convergence in rural–urban BMI is attributed to the 'urbanization of rural life,' in that rising incomes and changing agricultural technologies have changed physical activity levels also in rural areas and diets include a higher intake of calories in the form of processed foods, notably refined carbohydrates.

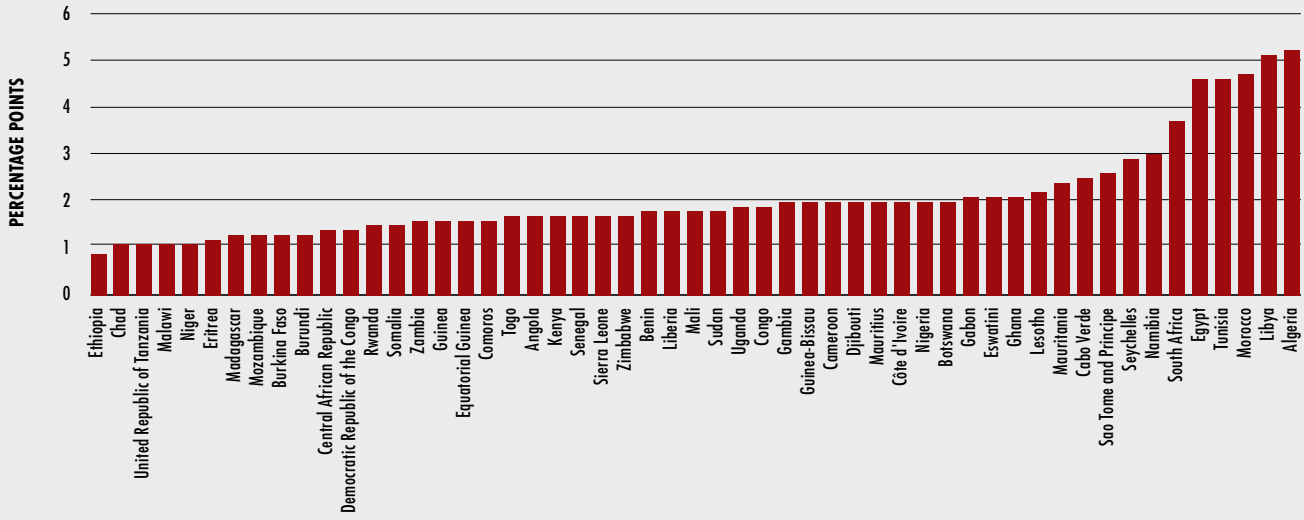
The prevalence of obesity also varies by economic development (Figure 15). For example, the average prevalence of obesity in the ten worst affected countries is 23 percent, and the average per capita GDP is USD 5 950. In comparison, the remaining 40 countries for which there is data have an average obesity prevalence of 7.6 percent and an average per capita GDP of USD 1 830.

FIGURE 12
ADULT OBESITY PREVALENCE IN AFRICA RISES FASTER IN COUNTRIES WITH HIGHER INITIAL PREVALENCES OF ADULT OBESITY



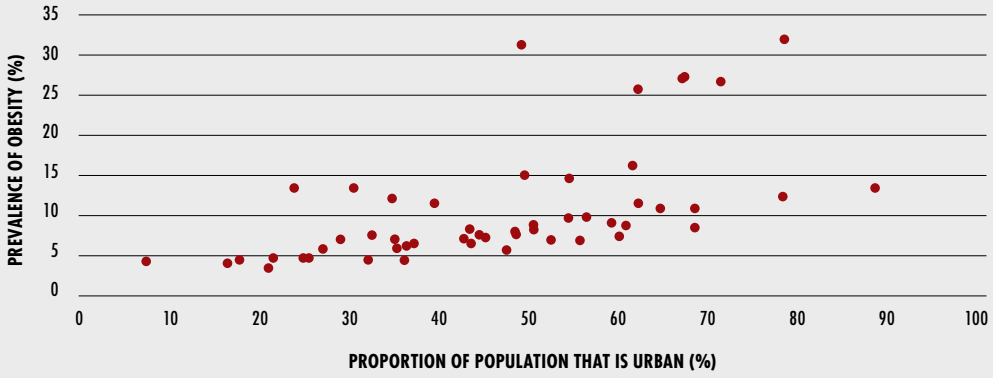
SOURCE: WHO. 2017. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en

FIGURE 13
THE PERCENTAGE POINT INCREASE IN THE PREVALENCE OF ADULT OBESITY IN AFRICAN COUNTRIES, 2010 TO 2016



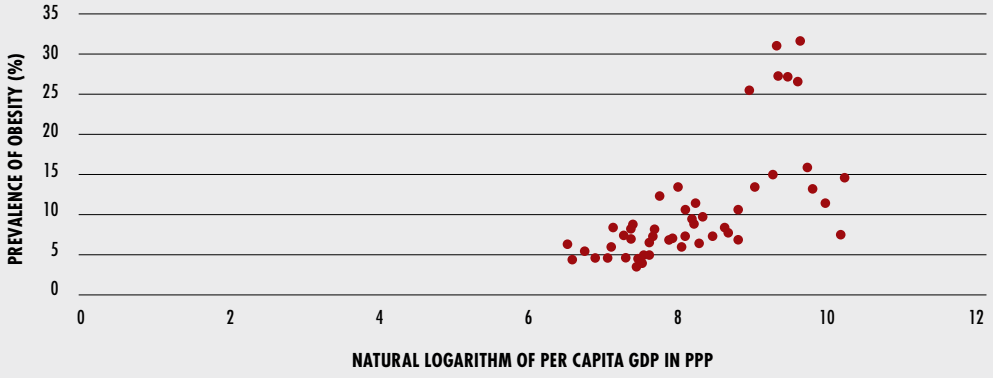
SOURCE: WHO. 2019. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en

FIGURE 14
THE PREVALENCE OF ADULT OBESITY APPEARS CORRELATED WITH URBANIZATION IN AFRICAN COUNTRIES (%)



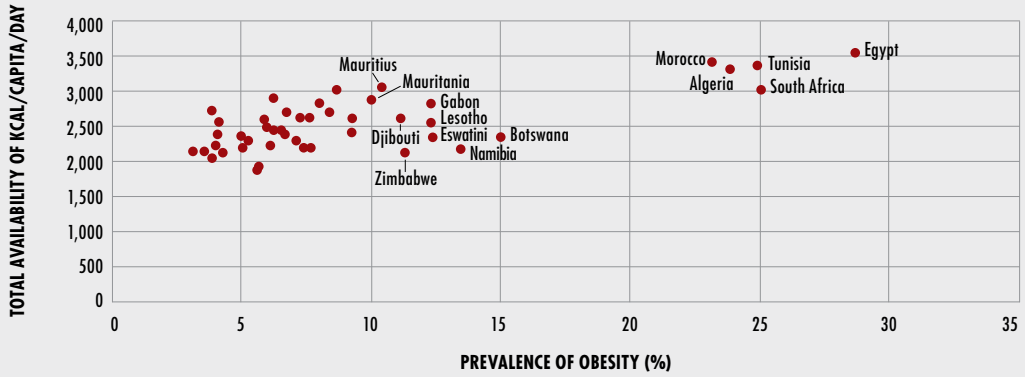
SOURCE: WHO. 2019. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en and World Bank. 2019. World Development Indicators (available at https://databank.worldbank.org/data/source/world-development-indicators)

FIGURE 15
THE PREVALENCE OF ADULT OBESITY IN AFRICAN COUNTRIES RISES WITH INCREASING PROSPERITY



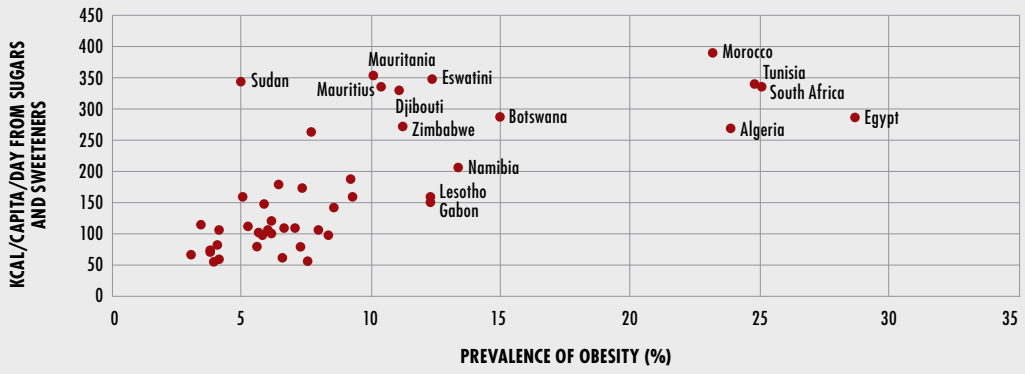
SOURCE: WHO. 2017. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en and World Bank. 2019. World Development Indicators (available at https://databank.worldbank.org/data/source/world-development-indicators)

FIGURE 16
TOTAL AVAILABILITY OF CALORIES IS POSITIVELY CORRELATED WITH A HIGHER PREVALENCE OF OBESITY



SOURCE: WHO. 2017. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en and, FAO. 2019. FAOSTAT. http://www.fao.org/faostat/en/#home

FIGURE 17
THE PREVALENCE OF OBESITY IS POSITIVELY CORRELATED WITH A RISING AVAILABILITY OF CALORIES FROM SUGAR AND SWEETENERS



SOURCE: WHO. 2017. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en and FAO. 2019. FAOSTAT. http://www.fao.org/faostat/en/#home

Higher incomes are reflected in higher calorie availability, which is correlated positively with the prevalence of obesity (Figure 16). In addition, higher incomes lead to greater dietary diversity, reflected in higher consumption of animal-source foods and fruits and vegetables. However, they are also reflected in increased consumption of processed foods, which may lead to higher intakes of fat, sugar and/or salt.[94] Rising calorie supply from sugar and sweeteners contributes to rising obesity levels (Figure 17). Aggregate data show that in the ten countries with the highest levels of obesity, animal-source products and sugars account for 12 and 10 percent of total calorie availability, respectively, while the corresponding shares for the remaining 41 countries is 8 and 6 percent.

Changes in the food system since the mid-twentieth century have also been implicated, including lower prices of food, changes in relative prices of different types of food and increased availability of highly processed, energy-dense, micronutrient-poor foods.[95,96] Other factors also play a role, and a review of studies concluded that being female, older aged, an urban resident, having a higher socio-economic status and spending more time watching TV were the key drivers of overweight and obesity.[97]

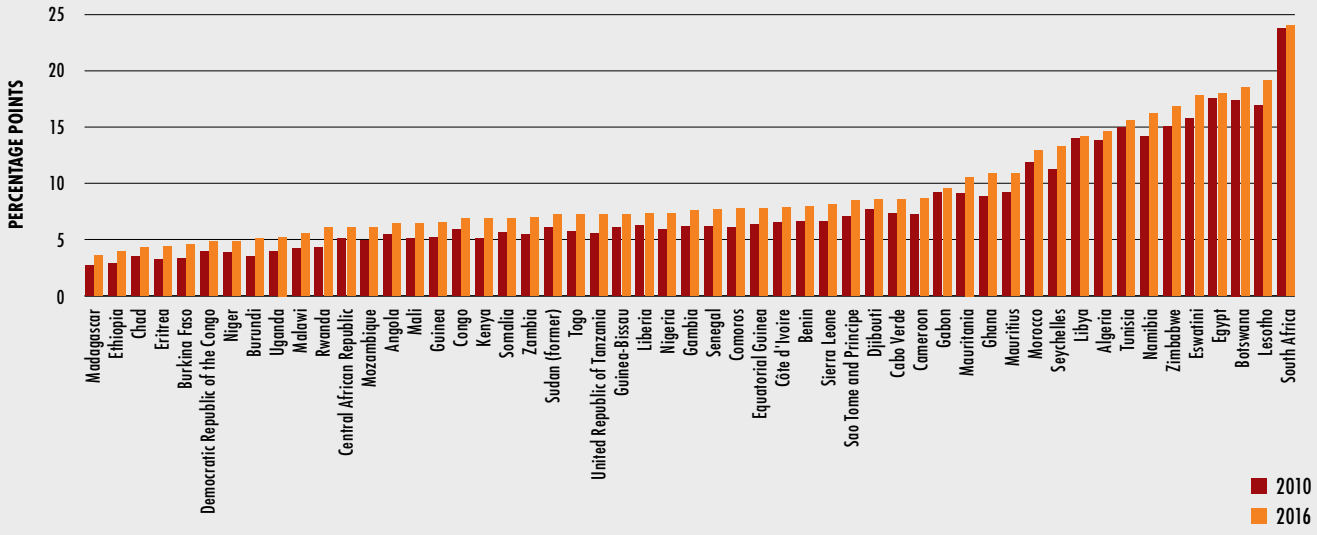
In the 2018 edition of the *Africa Regional Overview of Food Security and Nutrition*, the evidence showed that in most countries, the prevalence of overweight was higher in male children under the age of five than in females. In adolescence, conversely, the prevalence of obesity is higher in girls than in boys.[98] For adults, women have a much higher prevalence of obesity than men in all countries, particularly notable in the countries of Southern and Northern Africa. Moreover, Figure 18 suggests that this difference between women and men is rising in all countries.

In addition to the above-named factors, cultural factors, such as a preference for larger body sizes, may be a factor driving the rising trend in overweight in some countries, in particular in Southern and Western Africa.[99,100,101,102] ■

POLICY OPTIONS TO HALT THE RISE IN OVERWEIGHT AND OBESITY

Overweight and obesity are recognized as important risk factors for non-communicable diseases, which significantly increase the burden of disease in many countries. The Africa Regional Nutrition Strategy (ARNS) for 2015–2025 builds on existing global policy frameworks, *inter alia*, the two International Conferences on Nutrition (ICN), organized by FAO and the World Health

FIGURE 18
PERCENTAGE POINTS BY WHICH PREVALENCE OF OBESITY IS HIGHER IN FEMALES THAN IN MALES IN SELECTED AFRICAN COUNTRIES, 2010 AND 2016



SOURCE: WHO. 2017. Prevalence of obesity among adults, BMI ≥ 30, crude. In: *Global Health Observatory data repository* [online]. http://apps.who.int/gho/data/node.main.BMI30C?lang=en

Organization, and provides guidance within the Africa context and is aligned with the African Union's vision as laid out in the Agenda 2063. The ARNS recognizes the threat posed by "the rapid increase in over-nutrition, i.e. overweight and obesity and related problems of NCDs, especially hypertension, stroke and diabetes on the continent".[103] The United Nations Decade of Action on Nutrition 2016-2025,[104] proclaimed in 2016 as a follow-up to ICN2 in 2014, provides countries and their partners a unique, time-bound framework to advance the global nutrition agenda (i.e. WHA global nutrition targets and nutrition-related SDGs), including counteracting overweight and obesity, and keeps improved nutrition on the agenda of policy-makers at the highest international and national levels.[105]

The ARNS prescribes country-level strategies to combat overweight and obesity beginning with an assessment of the impacts of the food system, and how it operates in the country. Such an assessment should take stock of the nutrition situation and of potential future trends and identify elements of the food system that contributes to adverse nutrition outcomes, including diet-related non-communicable disease. Secondly, it is necessary to map the policy landscape to identify the main national policy instruments for food, supporting healthy diets and preventing overweight and obesity.[106]

Policy instruments within the food system related to food production, food handling, storage and processing, food trade and marketing, and consumer demand, food preparation and preferences should be explored. Examples of relevant broad areas for policy action include:[107]

- Food production: promote fruit and vegetable production, biofortification, micronutrient fertilizer, integrated farming systems that promote crop and livestock diversity, school and home gardens, and protecting traditional food and biodiversity systems.
- Food handling, storage and processing: investing in supply chain infrastructure to improve access to nutritious, perishable products, reformulation of processed foods to deliver better nutritional profiles, and mandating milling and fortification requirements.
- Food trade and marketing: using taxation or subsidies to influence consumption of less or more nutritious foods, and regulation of marketing of food products to children.
- Consumer demand, food preparation and preferences: establish a food labelling policy that includes nutrition information, develop food-based dietary guidelines, and establish school feeding programmes.

Economic (dis)incentives, such as taxes and subsidies are essential for creating consumer demand for nutritious foods and promoting healthy diets. A recent review of fiscal policies concluded that taxes and subsidies, when appropriately designed, could change the consumption of the targeted foods. [108] Taxes on energy-dense foods that are high in fat, sugar and/or salt are often advocated, but it is also recognized that while taxes on some energy-dense foods[109] could help address overweight and obesity, they raise prices of the targeted goods and thus may also exacerbate problems of undernutrition and micronutrient deficiencies for members of poor households.[110]

The WHO, reflecting the findings of a WHO Technical Meeting held in 2015, recommends the implementation of an effective tax on sugar-sweetened beverages as one of several key measures to address childhood obesity. The report concluded that taxes on sugar-sweetened beverages could reduce consumption if the retail price rose by 20 percent or more. Some countries have adopted sugar-sweetened beverage taxes in recent years, and these are proving effective, as are product reformulation policies.[111] Similarly, the report found that a subsidy for fresh fruits and vegetables that reduced prices by 10–30 percent are effective in increasing fruit and vegetable consumption (see also Box 3).[112] While subsidies are expensive, a more sustainable approach to raising availability and affordability would be to support research and extension to improve productivity and improve post-harvest handling.

BOX 3
POLICIES TO HALT THE RISE IN OBESITY IN SOUTH AFRICA

In South Africa, the country's largest health insurer started an extensive, nationwide, subsidy program in 2009. The "HealthyFood" program[113], covering about 170 000 households, provides a rebate of up to 25 percent on food purchases, considered as appropriate within a healthy diet, in designated supermarkets across South Africa. A study of the impact concluded that rebates of 10 to 25 percent for eligible foods[114] are associated with a six percent increase in the ratio of expenditure on such eligible foods to total food expenditure.[115]

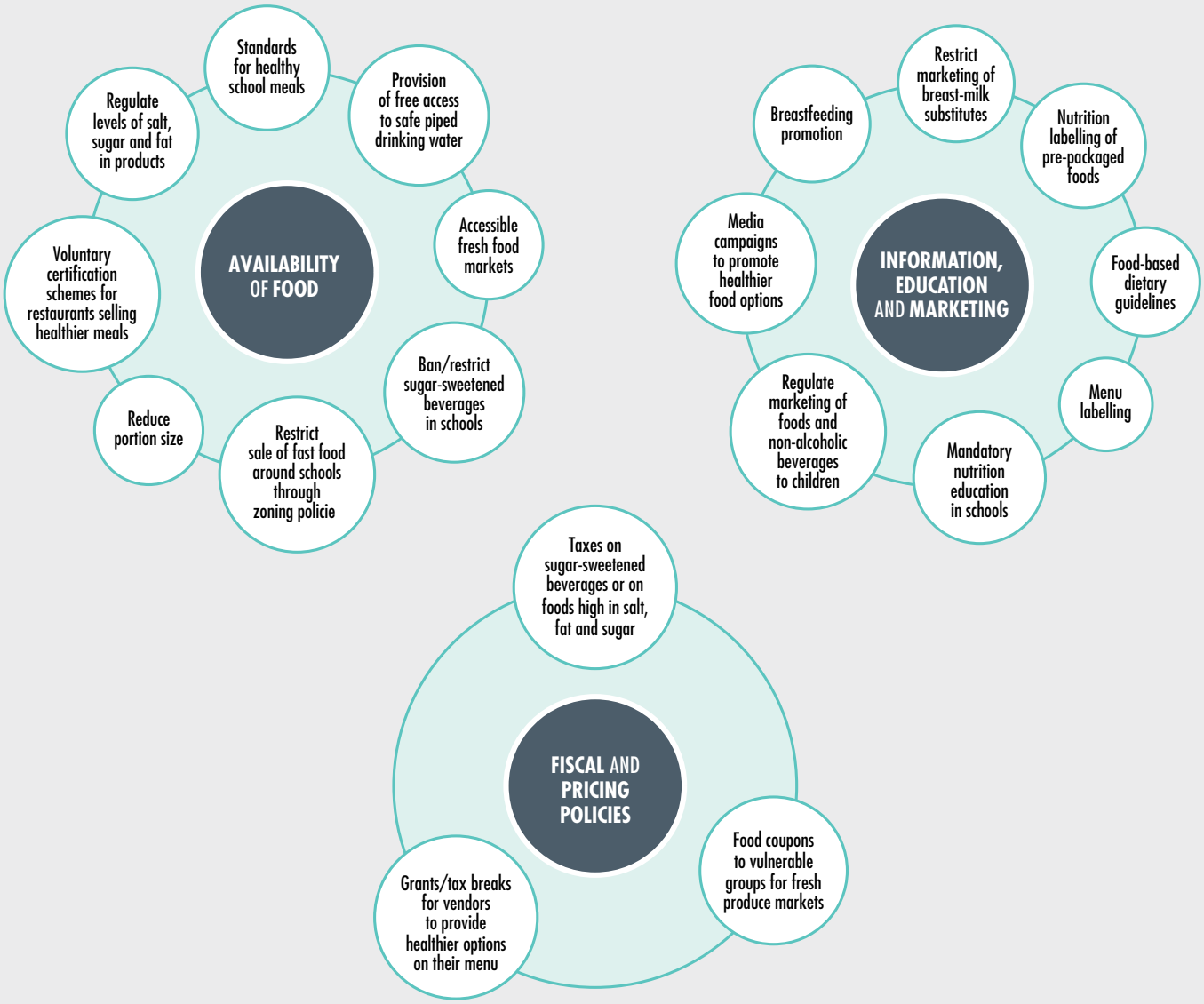
More recently (1 April 2018), the government introduced a tax on sugar-sweetened beverages, which are the top calorie source for teens. The Sugary Beverages Levy amounts to a tax of 2.1 cents per gram of sugar per 100 ml, with the first 4 grams per 100 ml being levy free (raised to 2.21 cents in February 2019). To counter the impact, many manufacturers have introduced 'low' or 'no' sugar products, reduced packaging sizes, and introduced sugar in combination with other sweeteners.

The Sugary beverages levy appears to have reduced demand for sugar by about 30 percent, according to the South African Sugar Association and South African Canegrowers Association. The result may be revenue and job losses in the beverages and the sugar-producing sector.[116] On the other hand, the sugar tax raised about US$ 164 million in government revenue. The jury on the effectiveness of the sugar tax is still out, and the South African government is making efforts to determine whether the levy will actually reduce obesity, and associated diseases.[117]

Four recommendations in the ICN2 Framework for Action[118] specifically target actions to address childhood overweight and obesity. Food and nutrition education have proven effective in improving practices and behaviours associated with overweight, obesity and non-communicable diseases, especially when combined with efforts to improve the diversity and nutritional quality of foods available. In particular, school-based nutrition education has had an impact on reducing childhood overweight and obesity when it is supported by food environmental strategies, lasts more than one year, is integrated into regular school activities and is combined with physical activity and active involvement of parents.[119,120,121]

Breast milk, apart from providing essential nutrients for infant growth and development, also reduces the risk of overweight and obesity later in childhood or adolescence.[122] Whether or not advertising by food and beverage manufacturers and retailers contributes to the rise in overweight and obesity is a matter of growing concern and debate.[123,124] Commercial advertising almost certainly influences consumers' food choices and diets. Many governments and international organizations have begun to call for regulation of food and beverage advertising, especially to children.[125] WHO Member States have already endorsed a set of recommendations on the marketing of foods and non-alcoholic beverages to children. These provide guidance to governments on the design of policies to reduce the impact on children of the marketing of foods high in saturated fats, trans-fatty acids, and sugars and salt.[126] In Africa eight countries[127] implemented the WHO recommendation on marketing of foods and non-alcoholic beverages to children, while 14 countries fully[128] (and 20 partially[129]) implemented legislation or regulation fully implementing the International Code of Marketing of Breast-milk Substitutes. In addition, seven countries fully[130] (and five partially[131]) adopted policies to reduce salt/sodium consumption while seven countries[132] adopted policies limiting saturated fatty acids and virtually eliminating industrially produced trans-fatty acids in the food supply.[133] Figure 19 provides an overview of examples of policies and programmes being implemented by countries and cities with the aim of preventing or reducing overweight and obesity. ■

FIGURE 19
EXAMPLES OF POLICIES AND PROGRAMMES AIMED AT PREVENTING OR REDUCING OVERWEIGHT AND OBESITY



SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO.

TAVETA, KENYA
FAO's Conservation Agriculture Program yielding substantial increase in crop production.
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WORLD HEALTH ASSEMBLY GLOBAL NUTRITION TARGETS

Malnutrition imposes unacceptably high costs on society. Recognizing this the WHO Member States in 2012 adopted a set of global nutrition targets for improving maternal, infant and young child nutrition. Three of these targets, stunting, wasting and overweight in children under the age of five, refer to specific SDG indicators,[134] while the overall SDG 2 goal of "ending all forms of malnutrition" is broader and refers to all forms of malnutrition in all population groups. Achieving these targets should therefore be seen as completely aligned to achieving the SDG 2 and its targets. The six interlinked WHA global nutrition targets for 2025 are:

- Achieve a 40 percent reduction in the number of children under five years who are stunted;
- Achieve a 50 percent reduction of anaemia in women of reproductive age;
- Achieve a 30 percent reduction in low birthweight;[135]
- Ensure that there is no increase in childhood overweight;
- Increase the rate of exclusive breastfeeding in the first six months up to at least 50 percent, and;
- Reduce and maintain childhood wasting to less than 5 percent.

Overall progress towards these WHA global nutrition targets remains unacceptably slow in Africa, as it has been elsewhere in the world.[136] Out of 54 African countries:

- 7 are on course to meet the target for stunting: Côte d'Ivoire, Egypt, Eswatini, Ghana, Kenya, Liberia, Sao Tome and Principe;
- 0 are on course to meet the target for anaemia in women of reproductive age;
- 20 are on course to meet the target on overweight: Burkina Faso, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Egypt, Eswatini, Ghana, Guinea-Bissau, Kenya, Lesotho, Malawi, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Uganda, United Republic of Tanzania;
- 21 are on course to meet the target on exclusive breastfeeding: Benin, Burkina Faso, Burundi, Côte d'Ivoire, Cameroon, Democratic Republic of the Congo, Eswatini, Gambia, Guinea, Guinea-Bissau, Kenya, Lesotho, Mali, Mauritania, Congo, Rwanda, Sao Tome and Principe, Sierra Leone, Sudan, Zambia, Zimbabwe;
- 13 are on course to meet the target on wasting: Angola, Benin, Eswatini, Ghana, Kenya, Lesotho, Malawi, Rwanda, Sao Tome and Principe, South Africa, Uganda, United Republic of Tanzania, Zimbabwe.

At the country level, progress has been mixed, but mostly mediocre (Figure 20). Only three countries, Kenya, Sao Tome and Principe and Eswatini, are on course to meet four of the five targets that are measured (in all cases stunting, wasting, overweight and exclusive breastfeeding).[137] A further three countries are on track to meet three targets: Côte d'Ivoire for stunting, overweight and exclusive breastfeeding; Ghana for stunting, wasting and overweight; and Lesotho for wasting, overweight and exclusive breastfeeding. However, the majority of countries are on track to meet only one or two targets. Progress toward the targets on exclusive breastfeeding, anaemia in women of reproductive age is presented below, while progress toward the targets on stunting, wasting and overweight was discussed in the preceding section.

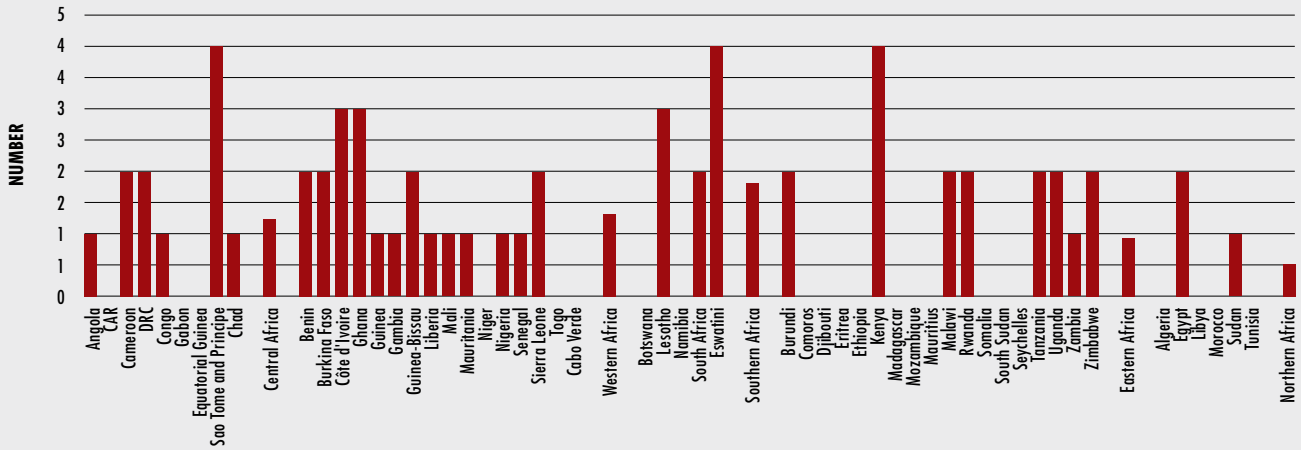
Of the countries for which there is data, a majority are on track to meet the WHA target for **exclusive breastfeeding**. Early initiation of breastfeeding within one hour of birth protects the newborn from acquiring infections and reduces newborn mortality. Exclusive breastfeeding for six months has many benefits for the mother and her infant. Breast milk is safe and contains antibodies and vitamin A, which helps protect infants from common childhood

illnesses and improves growth and cognitive development. In Africa, some progress has been made towards increasing the rate of exclusive breastfeeding in the first six months, rising from 35.6 percent (13.3 million) in 2012 to 43.7 percent (17.2 million) in 2018. The Global Breastfeeding Collective, led by UNICEF and WHO, identified seven actions needed to enable women to breastfeed: 1) adequate funding of breastfeeding programmes, 2) regulation of marketing of breast-milk substitutes, 3) maternity protection in the workplace, 4) compliance with the Baby-Friendly Hospital Initiative, 5) access to breastfeeding counselling and training, 6) availability of community support programmes, and 7) consistent monitoring. The Collective also publishes the Global Breastfeeding Scorecard, which reports on progress in implementing these seven actions.[138] The key findings indicate a lack of funding, limited adoption of good practices such as the Code of Marketing of Breast-milk Substitutes and IYCF programmes, and a lack of data collection.

Progress is possible. For example, in Burkina Faso exclusive breastfeeding rates rose from less than 10 percent in the 1990s and 2000s to about 50 percent today. This was achieved by aligning the country's Employment Code with the International Labour Organization convention on maternity protection, including maternity leave. The Government of Burkina Faso also legislated the prohibition of advertising infant formula, follow-up formula, bottles and teats, and banned samples and gifts to mothers and gifts to healthcare workers. In addition, all primary healthcare facilities now provide individual infant and young child feeding counselling.[139]

No country is on track to meet the target for reducing **anaemia in women of reproductive age**, which affects women's overall health and raises the risk of adverse maternal and neonatal outcomes. In Africa, anaemia continues to affect nearly 110 million women of reproductive age (37.7 percent), a worsening from the 99 million (37.7 percent) affected in 2012. The most common

FIGURE 20
NUMBER OF WHA GLOBAL NUTRITION TARGETS THAT A COUNTRY IS ON TRACK TO MEET BY 2025*



SOURCE: Development Initiatives. 2018. *Global Nutrition Report 2018.* Country and subregional data: Africa (available at https://globalnutritionreport.org/nutrition-profiles/)
* FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping.

cause of anaemia is iron deficiency, which affects about 50 percent of women worldwide. Inadequate dietary intake of iron or absorption, infections, increased need due to pregnancy, nutritional deficiencies and genetic conditions can lead to iron deficiency. Additionally, poor sanitation is a further driver of persistently high rates. Anaemia is common in cases of severe malaria and is a particularly important complication of malaria in pregnant women.[140]

WHO recommended actions to reduce anaemia include iron and folic acid supplementation, with adjustments for, *inter alia*, pregnancy and malaria, fortification of major staple foods with iron, folic acid and other micronutrients, and exclusive breastfeeding of infants for up to 6 months of age. In addition, it is crucial that diets containing adequate amounts of bioavailable iron should be promoted, malaria control is practiced, and deworming implemented in endemic areas.

Low birthweight estimates are included for the first time in this year's edition of the report. The latest data shows that globally 20.5 million babies were born with low birthweight in 2015. In Africa, the prevalence of low birthweight babies has fallen from 14.1 percent in 2012 to 13.7 percent in 2015, but over the same period, the number of low birthweight babies has risen from 5.6 million to 5.7 million.[141] Low birthweight babies have a higher risk of morbidity, stunting in childhood and long-term developmental and physical ill health, including adult-onset chronic conditions, including such as obesity and diabetes.[142] More than 80 percent of neonatal deaths are in low birthweight newborns.[143,144] ■

CONSIDERABLE CHALLENGES TO ENDING HUNGER AND MALNUTRITION REMAIN

The deterioration in the food security situation in Africa is stabilizing but the situation remains a challenge and the outlook is mixed. To end hunger and achieve SDG 2, the continent must address the three main drivers of food insecurity, i.e. conflict, climate extremes, and economic slowdowns and downturns. These drivers, which sometimes overlap and are often connected through their negative impact on livelihoods and exacerbated by inequality, continue to undermine food security today and pose a daunting challenge to achieving zero hunger in the future.

Although many African countries are making progress towards reducing malnutrition, progress is too slow to meet the global nutrition targets. In particular, progress is weakest for stunting and wasting in children and for anaemia in women of reproductive age. Progress towards meeting the targets in exclusive breastfeeding and reducing overweight in children is slightly better.

Country experiences show that strong political commitment and leadership, effective multisectoral programming, partnerships and effective policy implementation are essential. The effectiveness of a variety of nutrition-specific and nutrition-sensitive interventions is well documented and interventions in the first 1 000 days are essential. With strong political commitment and investment in complementary health services, safe drinking water and good sanitation, maternal and child malnutrition can be reduced significantly. Doing so is not only a moral imperative but would yield substantial economic returns in the future. ■

DAN BOUDA, NIGER

Women grinding grains in Dan Bouda village of Niger.

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PART 2

THE RECENT RISE IN FOOD INSECURITY IN AFRICA: THE ROLE OF THE ECONOMIC SLOWDOWNS AND DOWNTURNS

PART 2

THE RECENT RISE IN FOOD INSECURITY IN AFRICA: THE ROLE OF THE ECONOMIC SLOWDOWNS AND DOWNTURNS

The 2017 and 2018 editions of the *Africa Regional Overview of Food Security and Nutrition* both reported a trend of worsening food security in Africa. The number of undernourished people has been rising steadily since 2011 and the prevalence of undernourishment has followed suit since 2014. The latest data, presented in part 1, shows that the deterioration has slowed, but the prevalence of undernourishment (PoU), and in particular the number of undernourished, continues to rise. Conflict and climate extremes, the focus of the 2017 and 2018 editions of this report, respectively, were, and continue to be, key drivers of trends in undernourishment, as well as in many of the food crises experienced every year.

The analysis on conflict and climate extremes and their role in driving food insecurity also highlighted how economic activities were disrupted and how they, in turn, contributed to worsening food insecurity and malnutrition. Economic slowdowns and downturns (Box 4) can also be triggered by other factors, and several studies, discussed in the next section, show that their consequences for food security and nutrition can also be severe.

The focus on economic slowdowns and downturns is relevant not only because these have become more frequent in recent years (see next section) but also because the global economic outlook remains precarious.[146] The gloomy outlook is based on rising trade tensions, falling investments, rising public and corporate debt and increasing borrowing costs, among others.[147]

The bleak outlook is a clear threat to achieving zero hunger by 2030. The recent *State of Food Security and Nutrition in the World 2019* demonstrates – using a sample of 134 countries – a correlation between economic growth and the prevalence of undernourishment: a ten percent decrease in economic growth between 2011

BOX 4
HOW IS AN ECONOMIC SLOWDOWN AND DOWNTURN DEFINED?[145]

An **economic slowdown** refers to 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 is still positive. In the analyses and figures presented in this report, an economic slowdown is identified using the year as the period of reference, although it is usually measured in quarters of a year.

An **economic downturn** refers to 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, usually occurring over at least two consecutive quarters of decline. In the analyses and figures presented in this report, an economic downturn is identified using the year as a period of reference.

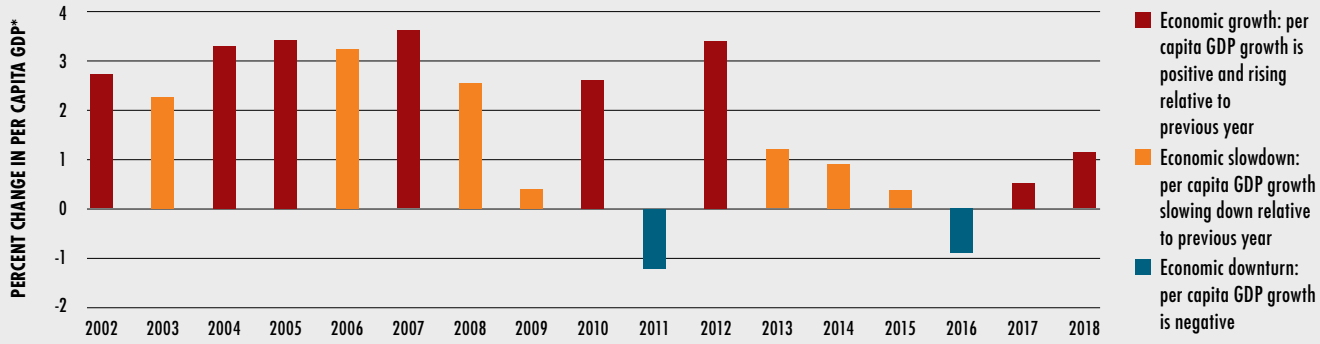
and 2017 corresponds to a 1.5 percentage point increase in the PoU over that period. Furthermore, countries that experienced an economic downturn in that period saw the PoU rise by 5.1 percentage points.[148]

Of particular concern are falling demand and weakening prices for commodities.[149] The *State of Food Security and Nutrition in the World 2019* reports that 52 out of 65 countries that experienced a rise in hunger during recent economic slowdowns and downturns are countries, many of them in Africa, whose economies are highly dependent on primary commodities for export and/or import. ■

TRENDS IN ECONOMIC SLOWDOWNS AND DOWNTURNS

In Africa, economic slowdowns and downturns have become more frequent in recent years. Figure 21 shows per capita GDP growth from 2002 to 2018, including years of growth, slowdown and downturn. The graph also highlights the relative consistency of regional economic growth in the 2002 to 2008 period in contrast to the relative volatility in per capita GDP growth of the post 2008 period when the region experienced a slowdown or downturn in six out of ten years.

FIGURE 21
ECONOMIC SLOWDOWNS AND DOWNTURNS IN AFRICA OVER 2002 TO 2018



SOURCE: World Bank. 2019. World Development Indicators. In: *World Bank DataBank* [online]. Washington, D.C. [Cited 1 July 2019] https://databank.worldbank.org/data/source/world-development-indicators
Notes: An economic slowdown refers to economic activity that is growing at a slower pace compared to the previous period. In the analyses and figures presented in this report, an economic slowdown is identified using the year as the period of reference, although it is usually measured in quarters of a year. An economic downturn refers to a period of decline in economic activity or negative growth as measured by the growth rate in real GDP. In the analyses and figures presented in this report, an economic downturn is identified using the year as a period of reference. Per capita GDP is in constant 2010 US$.

At the subregional level, a similar picture emerges (Figure 22). For Northern, Central, Southern and Western Africa, economic growth was relatively stronger in the first half of the series and experienced greater fluctuation in the second half. Economic downturns occurred post 2008, and slowdowns and downturns were much more frequent in the last four to five years. In Eastern Africa the patterns differ in the second half of the series. There was no downturn at the subregional level, and while slowdowns occurred in a number of years, per capita GDP growth never fell below 2 percent. ■

RISES IN UNDERNOURISHMENT IN PLACES WHERE THE ECONOMY SLOWED OR CONTRACTED

The rise in the prevalence of undernourishment at the regional level that started in 2011 and accelerated after 2014 coincides with the worsening economic situation. For sub-Saharan Africa, the PoU fell steadily from 2000 to 2014, with the fall tapering off after 2011, and then rising from 20.8 percent in 2014 to 22.8 percent in 2018. For Northern Africa the PoU fell from 8 percent in 2012 to 6.9 percent in 2015 after which it rose to 7.1 percent by 2018 (see also Tables 1 & 2).[150]

Estimates, based on the methodology presented in a recent FAO study[151] (see Box 5), show that between 2006 and 2017 economic slowdowns and downturns correspond to increasing change points in the PoU[152] in 34 African countries (Figure 23). The Figure also shows that the frequency of economic slowdowns and/or downturns coinciding with increasing PoU change points has increased markedly since 2014, and most of the incidences have been in Western Africa.

BOX 5
CHANGE POINT ANALYSIS

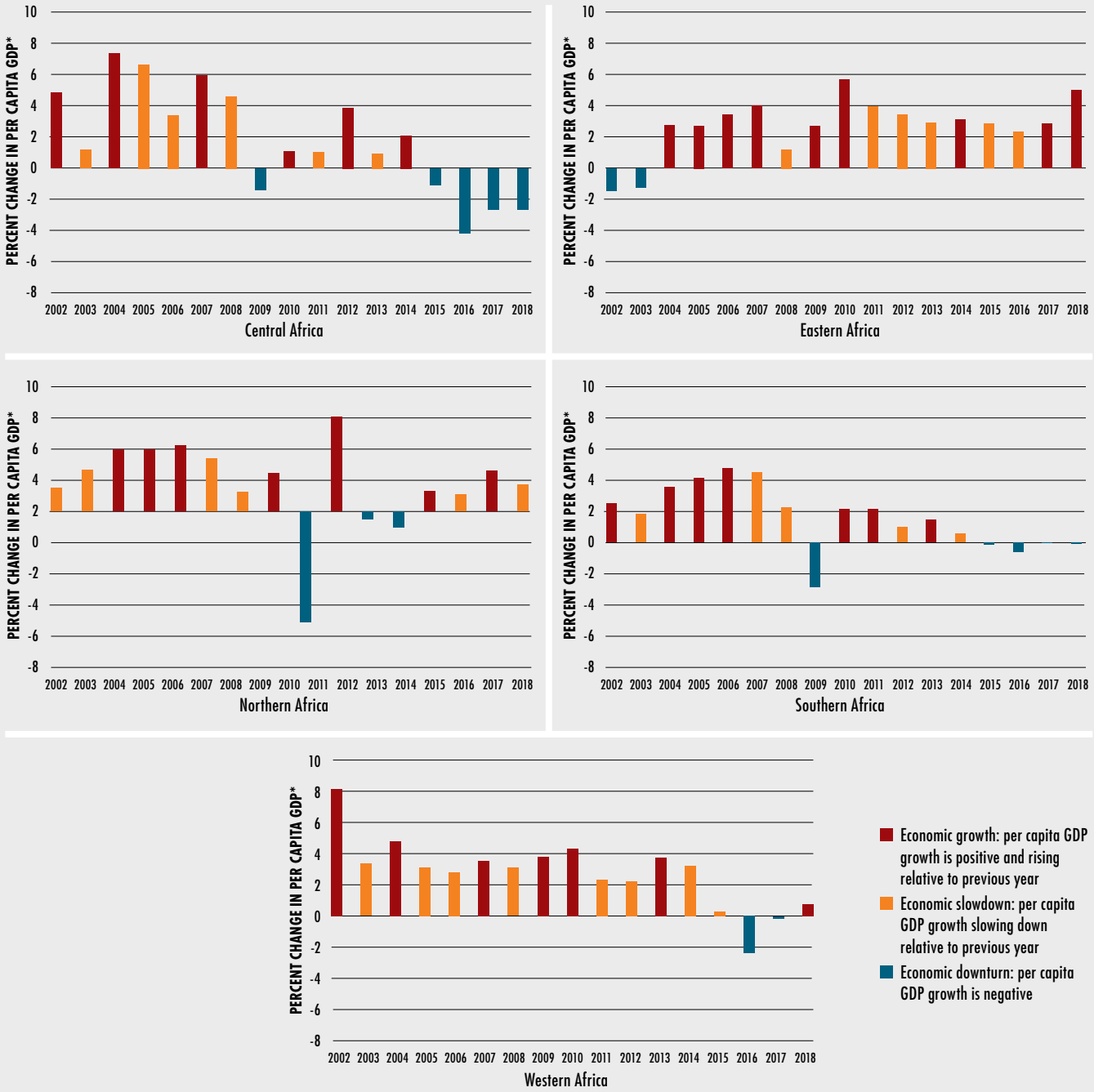
The PoU uses the three-year average of dietary energy consumption (DEC) to estimate the proportion of the population habitually not meeting the (average) minimum daily dietary-intake requirements. The method of computing and smoothing the PoU means that there is insufficient variability between years, which makes direct year-on-year regression on economic slowdowns and downturns problematic.[153]

While determining a direct causal link between economic growth and undernourishment is complicated, testing for an association between increasing change points in the PoU with real per capita GDP growth is possible.

A recent FAO study,[154] prepared to inform the "2019 State of Food Security and Nutrition in the World," identified increasing change points in the prevalence of undernourishment in the 2006 to 2017 period that correspond to the occurrence of an economic slowdown or downturn in low- and middle-income countries. Increasing change points in the PoU were selected when the positive increase was statistically significant and occurred over two consecutive years. Economic slowdowns and downturns are identified when they occur in one of the two years before the PoU change point, for instance, between 2013 and 2014 or 2014 and 2015 if the PoU change point occurs in 2015.

SOURCE: Annex 3 in FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO.

FIGURE 22
ECONOMIC SLOWDOWNS AND DOWNTURNS IN SUBREGIONS OF AFRICA OVER 2002 TO 2018

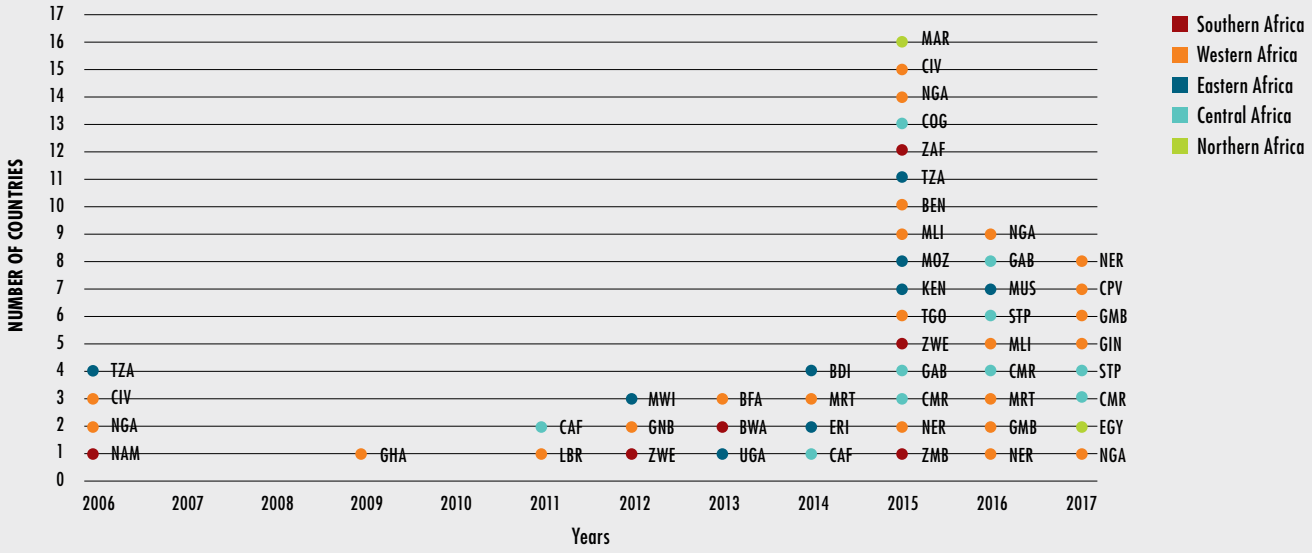


SOURCE: World Bank. 2019. World Development Indicators. In: *World Bank DataBank* [online]. Washington, D.C. [Cited 1 July 2019] https://databank.worldbank.org/data/source/world-development-indicators

Notes: An economic slowdown refers to economic activity that is growing at a slower pace compared to the previous period. In the analyses and figures presented in this report, an economic slowdown is identified using the year as the period of reference, although it is usually measured in quarters of a year. An economic downturn refers to a period of decline in economic activity or negative growth as measured by the growth rate in real GDP. In the analyses and figures presented in this report, an economic downturn is identified using the year as a period of reference. Per capita GDP is in constant 2010 US$.

*Per capita GDP is in constant 2010 US$.

FIGURE 23
COUNTRIES WHERE PoU INCREASING CHANGE POINTS COINCIDED WITH ECONOMIC SLOWDOWNS AND DOWNTURNS



SOURCES: FAO for PoU; for economic slowdowns and downturns, UN. 2019. National Accounts – Analysis of Main Aggregates. In: *UNSTATS* [online]. New York, USA. [Cited 6 May 2019]. https://unstats.un.org/unsd/snaama
Abbreviations: BEN (Benin), BWA (Botswana), BFA (Burkina Faso), BDI (Burundi), CPV (Cabo Verde), CMR (Cameroon), CAF (Central African Republic), COG (Congo), CIV (Côte d'Ivoire), EGY (Egypt), ERI (Eritrea), GAB (Gabon), GMB (Gambia), GHA (Ghana), GIN (Guinea), GNB (Guinea-Bissau), KEN (Kenya), LBR (Liberia), MWI (Malawi), MLI (Mali), MRT (Mauritania), MUS (Mauritius), MAR (Morocco), MOZ (Mozambique), NAM (Namibia), NER (Niger), NGA (Nigeria), STP (Sao Tome and Principe), ZAF (South Africa), TGO (Togo), UGA (Uganda), TZA (United Republic of Tanzania), ZMB (Zambia), ZWE (Zimbabwe).

Nearly all African countries that experienced rising undernourishment as the economy slowed or contracted between 2014 and 2017 are highly dependent on food and fuel imports and/or oil and other commodity exports for generating foreign exchange and tax revenue. However, as the country case studies show, economic slowdowns and downturns more often than not overlap with other factors that drive up food insecurity and malnutrition. ■

COMMODITY DEPENDENCE IS A KEY FACTOR DRIVING ECONOMIC SLOWDOWNS AND DOWNTURNS IN AFRICA

Economic slowdowns and downturns are typically the result of shocks, sometimes interrelated, including a sudden fall in external demand or in remittances, in aid or foreign direct investment received, or a shock to a country's terms of trade, social conflict, economic mismanagement and political instability, as well as climatic shocks. Adverse terms of trade shocks are a particular concern for developing countries as they carry the highest expected costs when compared to other shocks, estimated at an average 2.8 percent of GDP per year.[155] Moreover, large terms of trade shocks[156] affect low-income countries six times as often as they affect advanced countries.[157,158] The greater vulnerability of low-income countries to terms of trade shocks is, *inter alia*, due to their dependence on primary commodity exports and their lack of economic diversification.[159]

In Africa, a majority of countries are highly dependent on primary commodity exports and/or imports (Table 7) and are therefore vulnerable to international price and demand shocks related to these commodities. Indeed, African countries make up 65 percent of high commodity-export and low-commodity-import dependent countries (HE-LI), and 44 percent of high commodity-import and export dependent countries (HE-HI).

Figure 24 shows that the USD prices of most commodities experienced a downturn that for many commodities started around 2011 but gained pace in 2014.[160] Between 2011 and 2016, the annual average commodity price index for all commodities fell by more than 80 points. Most severe was the drop in crude oil prices starting from mid-2014. ■

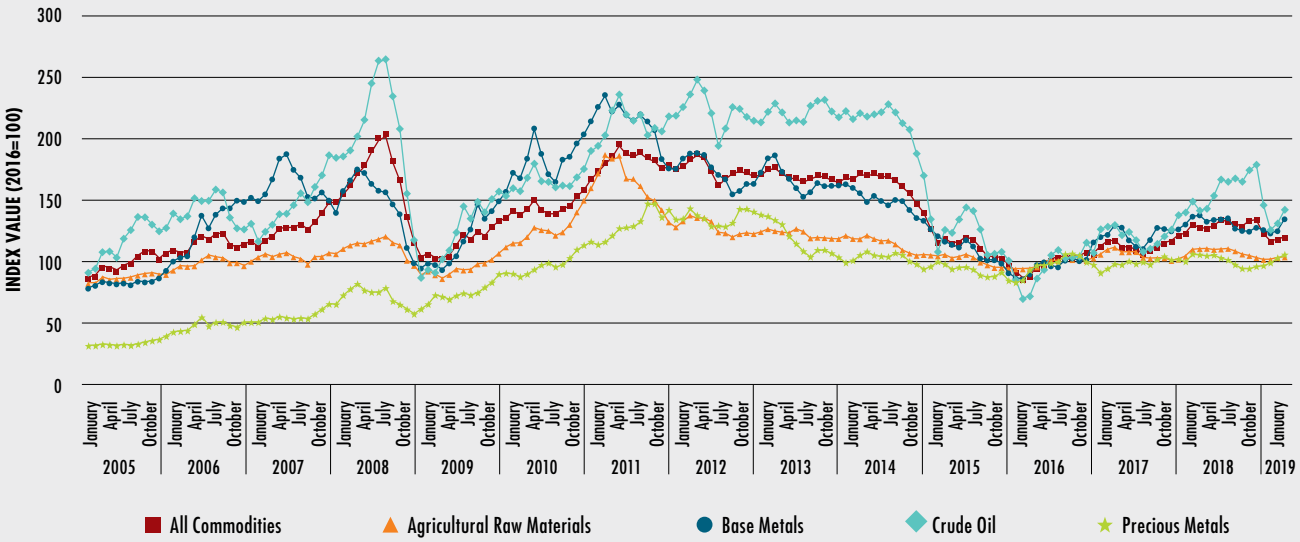
TABLE 7
COUNTRIES BY TYPOLOGY OF PRIMARY COMMODITY DEPENDENCE (1995-2017)

Low commodity-dependent (low import and low export countries)	High commodity-import and low commodity-export dependent countries	High commodity-export and low commodity-import dependent countries	High commodity-dependent (high import and high export) countries
LOW CD	**HI-LE**	**HE-LI**	**HE-HI**
Djibouti*	Cabo Verde*	Algeria*	Benin*
Egypt*	Comoros*	Angola*	Burkina Faso*
Lesotho*	Eswatini*	Botswana*	Cameroon*
Liberia*	Madagascar*	Burundi*	Central African Republic*
South Africa	Mauritius*	Chad*	Côte d'Ivoire*
Tunisia*	Morocco	Congo*	Democratic Republic of the Congo*
		Equatorial Guinea*	Eritrea*
		Ethiopia	Gambia*
		Gabon*	Guinea*
		Ghana*	Guinea-Bissau
		Kenya*	Mali*
		Libya*	Mauritania
		Malawi	Mozambique*
		Namibia	Niger*
		Nigeria*	Sao Tome and Principe*
		Rwanda*	Senegal*
		Sudan*	Sierra Leone*
		Uganda	Somalia*
		United Republic of Tanzania	Togo*
		Zambia	
		Zimbabwe*	

SOURCE: FAO, IFAD, UNICEF, WFP and WHO. *2019. The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO. Table A6.2, p. 179.

*Net food-importing country in 2014–17. For definition, see FAO, IFAD, UNICEF, WFP and WHO. *2019. The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO, 178.

FIGURE 24
COMMODITY PRICE INDICES FOR ALL AND SELECTED COMMODITIES,* 2005–2019 (BASED ON CURRENT USD)



SOURCE: International Monetary Fund. 2019. *Primary Commodity Prices*. https://www.imf.org/en/Research/commodity-prices
*The detailed legends are: **All Commodities** includes both Fuel and Non-Fuel Price Indices; **Agricultural Raw Materials** includes Timber, Cotton, Wool, Rubber, and Hides; **All Metals** includes Metal Price Index (Base Metals) and Precious Metals; **Base Metals** includes Aluminium, Cobalt, Copper, Iron Ore, Lead, Molybdenum, Nickel, Tin, Uranium and Zinc; **Precious Metals** includes Gold, Silver, Palladium and Platinum Price; **Crude Oil (petroleum)**, simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai Fateh.

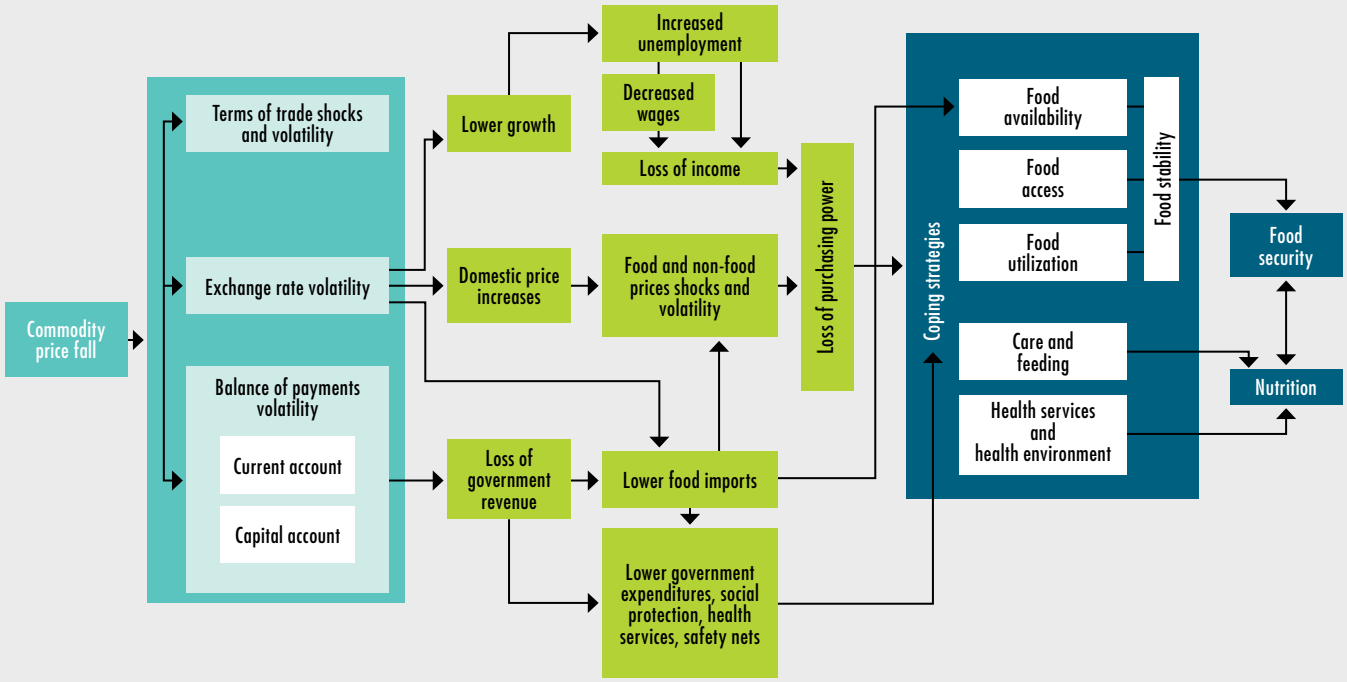
COMMODITY DEPENDENCE AND FOOD SECURITY AND NUTRITION: TRANSMISSION CHANNELS

The previous sections explained that commodity dependence is of particular relevance to many African countries, and there is evidence showing that commodity price falls have significant negative impacts for economic growth, food security and nutrition. These impacts can be mitigated by putting into place appropriate policies and interventions, and for the purpose of identifying the relevant policies and interventions it is essential to understand the transmission channels through which commodity price shocks impact food security and nutrition. Transmission channels can be grouped into direct and indirect impacts (Figure 25). ■

DIRECT IMPACTS OF FALLING COMMODITY PRICES: DECLINING TERMS OF TRADE, EXCHANGE RATE ADJUSTMENTS AND THE BALANCE OF PAYMENTS

While falling crude oil prices provided some relief for oil importing countries, for many countries the sharp fall in export commodity prices resulted in a deterioration in their terms of trade, i.e. the ratio of the export to import prices that they face. As noted earlier, terms of trade volatility are themselves serious concerns for countries dependent on commodity exports as they lower growth over the long-term. In the shorter-term, deteriorating terms of trade reduce a country's ability to import, and for the many African countries that are net food importers

FIGURE 25
COMMODITY PRICE FALLS AND THE TRANSMISSION CHANNELS BY WHICH THEY IMPACT FOOD SECURITY AND NUTRITION

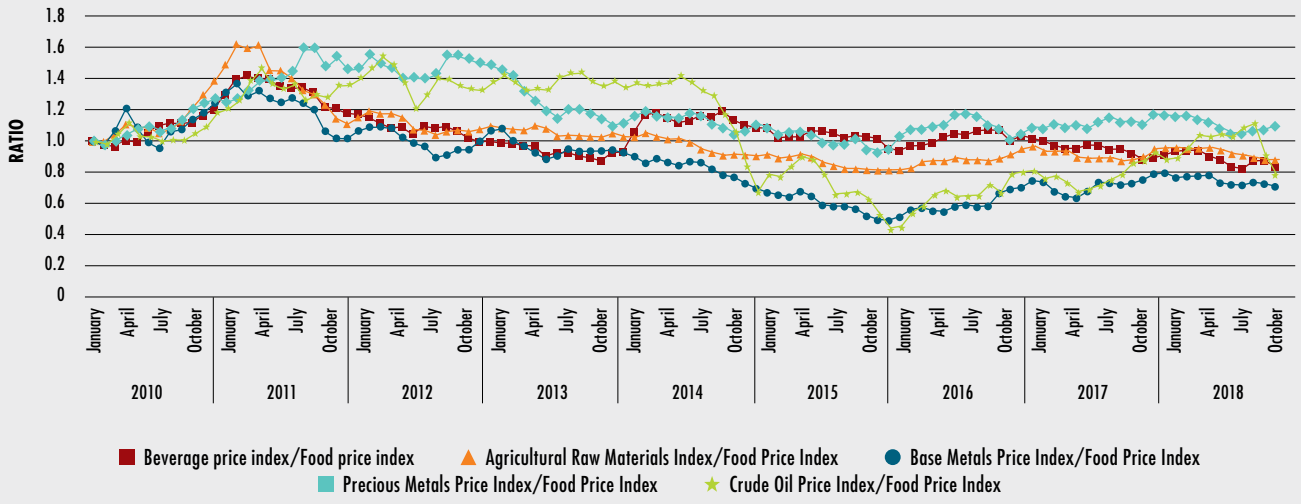


SOURCE: FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO.

this means lower food imports or maintaining food imports at the cost of lower imports of other goods. Figure 26 shows that the terms of trade of net food importers has worsened since the end of 2010 and accelerated in 2014, most markedly for oil exporting/net-food importing countries.

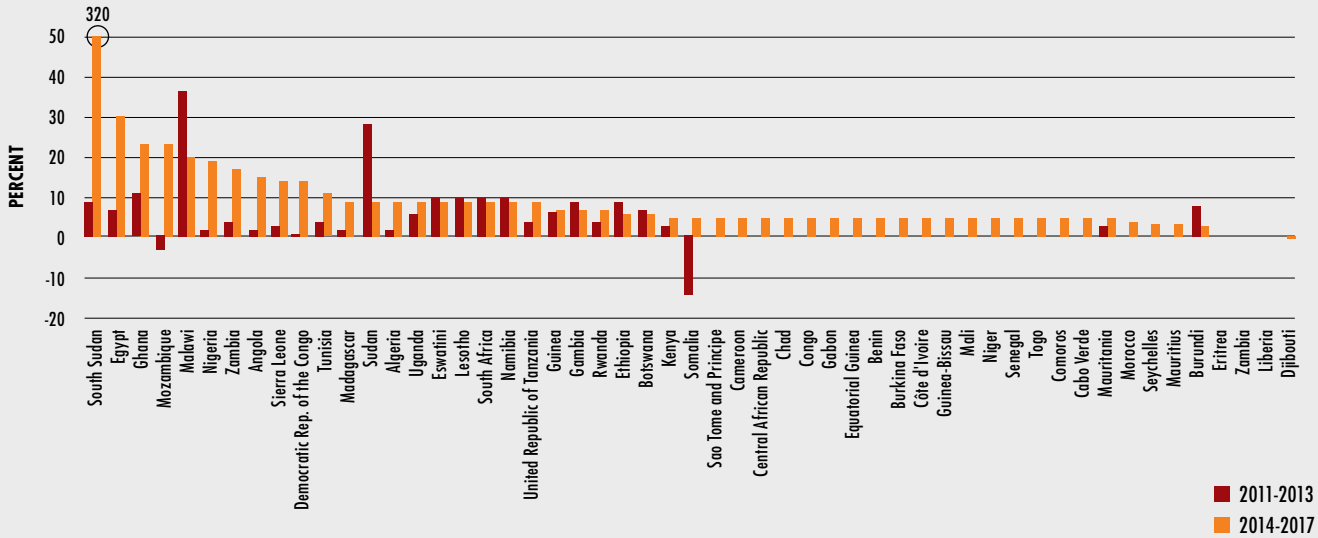
A worsening of the terms of trade leads to a deterioration in the balance of payments, i.e. the record of a country's international transactions. A negative balance of payments means that there is a deficit in the availability of foreign exchange to finance imports, and this relative scarcity of foreign exchange means importers will have to pay more in terms of domestic currency to secure the foreign exchange they need, leading to a depreciation of the domestic currency. When a country maintains a fixed or semi-fixed exchange rate, the government may decide on devaluing the currency in response to persistent balance of payments deficits. Many African countries, apart from those in the CFA zone, did experience a depreciation of their currency against the USD, or were forced to devalue it in 2014–2017 (Figure 27). On average, currencies have fallen by 20 to 40 percent since the beginning of 2015.[161] ■

FIGURE 26
RATIO OF SELECTED COMMODITY PRICES INDICES TO FAO'S FOOD PRICE INDEX, 2010–2018



SOURCE: FAO. 2019. *FAOSTAT* [online]. Rome. http://www.fao.org/faostat/en/#home and MF. 2019. *Primary Commodity Prices*. https://www.imf.org/en/Research/commodity-prices

FIGURE 27
AVERAGE PERCENTAGE CHANGE IN LOCAL CURRENCY VS USD, 2011–2013 AND 2014–2017*



SOURCE: FAO. 2019. *FAOSTAT*. [online]. Rome. http://www.fao.org/faostat/en/#home
Notes: For South Sudan, the average percentage change in the exchange rate was 320 for 2014–2017.

INDIRECT IMPACTS: INCREASING DOMESTIC PRICES, RISING UNEMPLOYMENT, LOWER WAGES AND REDUCED GOVERNMENT REVENUE

The direct impacts just outlined in turn translate into indirect economic impacts. Currency depreciation passes through the economic system by first causing inflation, as imports have become more expensive. Also, tradable staple food items will become more expensive, and this impact will be more pronounced in net-food importing countries, with direct consequences for household food expenditure patterns. Rapid currency depreciation reduces demand for imports and increases domestic prices, dampening domestic demand for goods and services. Consequently, unemployment rises as firms reduce output; there are fewer income earning opportunities, and there may be downward pressure on wages, further dampening household purchasing power.

High levels of commodity dependence not only leave countries vulnerable to commodity price shocks, but also to economic shocks affecting trading partner countries. For example, the economic slowdown that China experienced in 2015 resulted in a contraction in trade between China and the rest of the world. Exports from Africa to China fell by about 40 percent between 2014 and 2015,[162] weakening economic growth in several countries, including Benin, Burkina Faso, Sierra Leone and Zambia.

Amplifying the effects of economic slowdowns and downturns are the reduction of public services and social assistance that result as government revenues fall. For example, government revenues of commodity dependent countries in Africa fell from an average of 26 percent of GDP in 2004–07 to 21 percent in 2011–14.[163] While many resource rich countries experienced a fall in government revenues, non-resource rich countries were able to increase revenue mobilisation and did not experience a reduction in government revenues.[164] ■

HOW HOUSEHOLDS COPE AND THE CONSEQUENCES OF FAILING TO COPE IN THE FACE OF ECONOMIC SLOWDOWNS AND DOWNTURNS

Falling purchasing power, because of job losses, income falls, or price rises, means that the poor as well as many in Africa's burgeoning middle class[165] have to make trade-offs in how they spend their money. As a first response, vulnerable households may reduce expenditure on non-essential items. However, because food is a large part of household expenditures, especially for the poor,[166] many households will resort to buying cheaper, lower quality foods, reducing spending on micronutrient-dense foods, such as animal-source products and fruits and vegetables, and, ultimately, reducing the amount of food they consume.[167] Households may also be able to borrow or sell liquid assets to smooth consumption. Existing social protection mechanisms mediate household responses. These are becoming increasingly widespread, although in Africa coverage remains limited.[168]

Evidence from past shocks shows that economic downturns can have serious negative impacts on food security and nutrition in Africa. Two studies showed that the economic downturns in 1994, associated with the 50 percent devaluation of the CFA franc,[169] led to a deterioration of food security and nutrition in Congo and Côte d'Ivoire. The devaluation also led to rising food prices and in Congo, household food expenditure rose considerably from 1993 to 1995, but measured in real terms fell by nearly 40 percent.[170] Households reduced consumption of more expensive foods by, for example, substituting less energy dense local ingredients for the more energy dense and fortified imported flours to prepare gruel, and reducing the use of meat and fish for enrichment in complementary feeding. The study found that as mother's body mass index fell, infants had lower birth weights and the prevalence of stunting and wasting in young children rose. Additionally, hygienic conditions declined and demand for health care fell.[171] While other factors played a role, the deteriorating economic conditions were the most important.

In Côte d'Ivoire, the devaluation also had a negative impact on urban household food consumption as rising food prices reduced household purchasing power.[172] Urban households tried to maintain consumption levels by reducing spending on non-food items and raising the share of income going to food while at the same time reducing dietary diversity by purchasing fewer animal-source products, vegetables, fats and oils. On the other hand, imported rice remained the main source of calories, with some substitution into cassava but not into locally produced rice.[173,174]

Similarly, a currency devaluation and cuts in public sector spending by Cameroon in the late 1980s led to a rise in the prevalence of wasting in children under the age of three, from 16 to 23 percent between 1991 and 1998. Children from poorer households and those living in rural areas were worst affected.[175]

More recent evidence covering the 2007/08 global food and fuel price shocks show the severe negative impacts these have on food security and nutrition. For example, household survey data for Mozambique shows that the 2007/08 food and fuel price shocks had a very substantial negative impact on the prevalence of underweight children and possibly on the prevalence of stunting in children.[176] Evidence from Bangui in the Central African Republic shows that only 50 percent of households had two or more meals per day before the global food price crisis, i.e. in 2007, and that this number fell to 24 percent by September 2008, following staple food price increases of about 20 percent. For Freetown, Sierra Leone, the same study found that massive price inflation in 2008 led to 44 percent of survey respondents eliminated meat from their diets, while 21 and 18 percent could not afford vegetables and dairy products, respectively.[177] An assessment of the impact of high prices in 2008 in two cities in Burkina Faso found that all the respondents ate less than before the crisis and that there had been a significant reduction in the number of meals per day, a reduction in the quantities consumed per meal and a decline in the quality and diversity of food consumed.[178] In Liberia, rising food prices led to households reducing expenditure on higher quality food commodities such as meat, eggs, and vegetables, as well as on education and health. In response to the higher prices, households also substituted cheaper foods for rice, consumed fewer meals, reduced the size of meals, gave preference to children and purchased food on credit. Finally, the proportion of urban households growing food crops rose from 11 percent in 2005 to 30 percent in 2008.[179]

Evidence from across the world shows that reducing consumption and dietary diversity leads to reduced calorie, protein and micronutrient intake, increasing the risk of undernutrition and micronutrient deficiencies, which, in turn, leads to stunting and maternal undernutrition, poor foetal growth, low birthweight and poor baby growth. Undernutrition and micronutrient deficiencies are also associated with higher child and maternal morbidity as well as impaired cognitive and physical development, poor performance in school and ultimately lower productivity and wages in adulthood.[180,181,182,183,184]

Evidence from several African countries shows that households often reduce spending on health and education in response to lower incomes or purchasing power.[185] Lower household incomes also lead to poorer care for infants, children and mothers, worsening sanitary conditions and reduced use of health services. This negatively affects utilization of food, further aggravates the effects of malnutrition described above and contributes to the next generation of disadvantaged children and adults.[186,187] Available evidence indicates that these negative effects on child welfare are mitigated by higher levels of maternal education levels.[188]

Studies show that in Africa, as elsewhere, the economic impact is also likely to be worse for women, who typically have lower wages and are often the first to lose their jobs.[189] Female-headed households are often poorer than male-headed households making them less resilient to price shocks. For example, female-headed households generally have fewer resources, less education and smaller networks and as a result are more likely to suffer income losses because of a food price shock.[190,191] During economic slowdowns and downturns, women's participation in the labour force may increase substantially[192] in order to generate income.

The greater workload reduces the time they have available to engage in household work and child-care, possibly undermining the latter. Empirical evidence indicates that a fall in per capita GDP leads to greater child mortality and that in sub-Saharan Africa, girls' mortality increases more than that of boys.[193]

Also, particularly vulnerable are youth, who are often employed in casual or seasonal employment that comes with low wages. Working poverty is generally higher for youth than for adults, and in sub-Saharan Africa nearly 67 percent of all young workers live in poverty.[194] Consequently, many youths are food insecure even when they are in work.

Evidence from developing countries shows that households may also sell assets, including productive assets, use up savings, withdraw children from school, exploit natural resources in an unsustainable manner and may even beg or steal.[195] Some household members may migrate to look for employment or to return to their village. Migration is an important phenomenon in rural areas driven by rural poverty and food insecurity, lack of employment and income-generating opportunities, inequality, limited access to social protection, climate change and depletion of natural resources due to environmental degradation.[196] ■

INEQUALITY MAGNIFIES THE NEGATIVE IMPACT OF ECONOMIC SLOWDOWNS AND DOWNTURNS

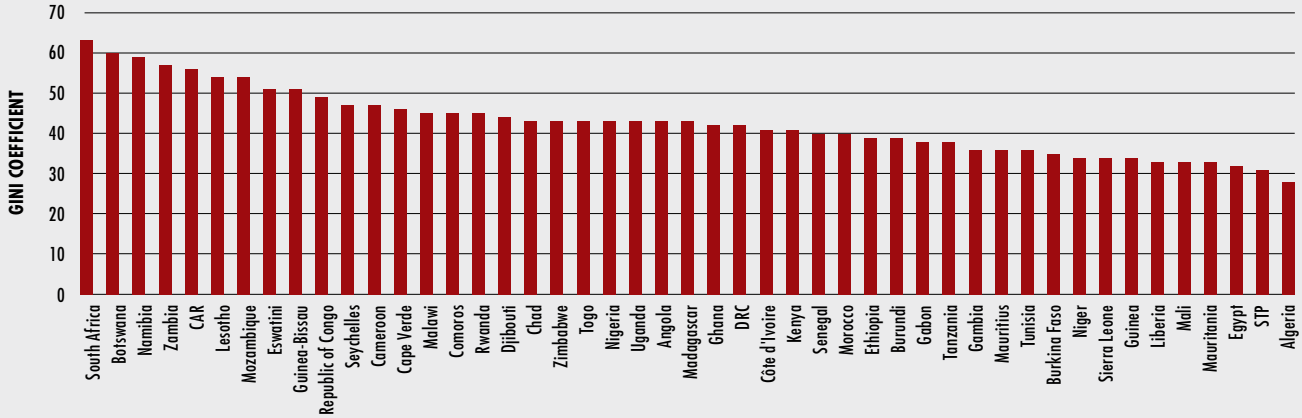
High growth does not automatically translate into higher welfare for the poorest as high inequality prevents the poor from benefiting from economic growth. This is particularly true in Africa, home to over 50 percent of the world's extreme poor,[197] where there is evidence that economic growth is much less effective at reducing poverty than it is in other regions.[198] When poor people do not benefit as much from economic growth, they are not able to build their resilience, and they remain vulnerable and face poverty and hunger with the next economic slowdown or downturn. At the same time, higher inequality means that the poorest are also more vulnerable to economic slowdowns and downturns. Inclusive growth is, of course, possible as the experiences of Ethiopia and Mali show. In Ethiopia, lower inequality was achieved through broad-based growth, investing in public services, notably for health and education, and establishing a large social protection programme (Productive Safety Net Programme - PSNP). Similarly, Mali was able to reduce inequality, reflected in a reduction of the Gini coefficient[199] by 6.9 points between 2001 and 2010, through inclusive economic growth and despite the fact that per capita GDP growth averaged a relatively low 1.5 percent over that period.[200] The country also achieved lower inequality in non-monetary measures such as a 15 percentage point reduction in the prevalence of stunting in children under the age of five, over this period.

Inequality in Africa is high compared to other regions, although there is a wide range for the Gini coefficient (Figure 28).[201] A recent report[202] finds that ten of the 19 most unequal countries are in Africa. The report also finds that urban–rural inequalities drive about 40 percent of inequality in low and lower-middle income countries. In part, this is because urban areas provide greater economic opportunities and higher average earnings, but also it is partly due to the better public services available.

Since the 2000s a majority of countries for which there is data saw the Gini coefficient fall (29 out of 48), in some cases quite significantly.[203] For example, for Zimbabwe (2000 to 2014), Gambia (2002 to 2015), Comoros (2010 to 2016) and Niger (2003 to 2011), the coefficient fell by 10 points. On the other hand, 19 countries saw inequality rise, and most countries continue to struggle with high levels of inequality.

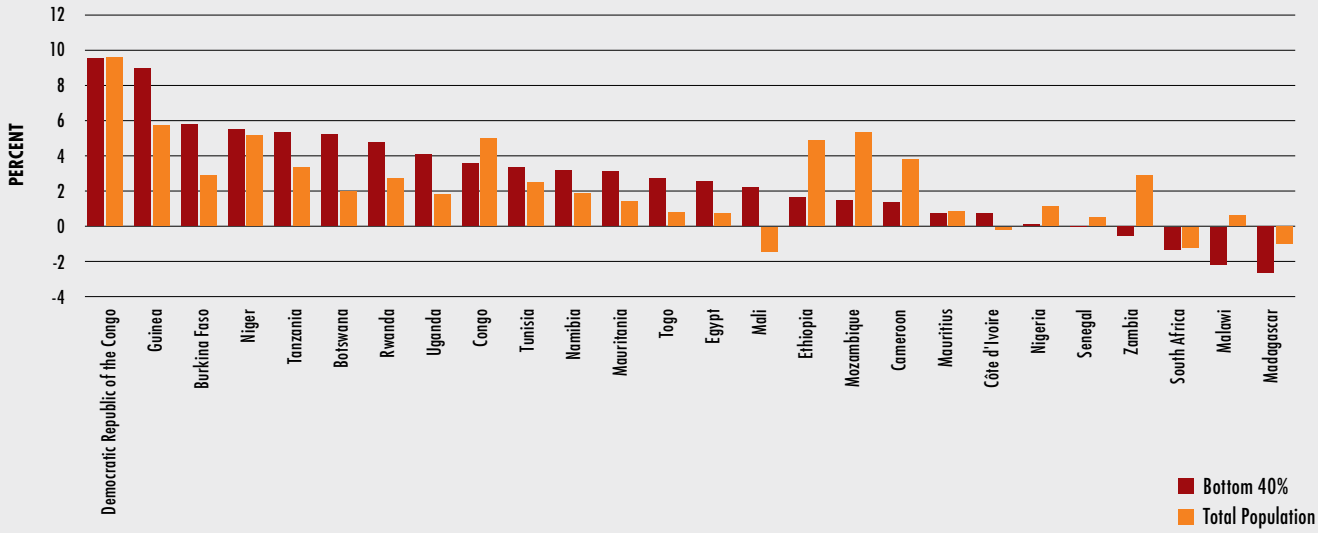
In most countries where the total mean per capita consumption/income grew by at least 2 percent between 2010 and 2015, the bottom 40 percent did as well or better (Figure 29). However, a good number of countries saw very little consumption/income growth over the period and in several, such as Mali, Côte d'Ivoire, South Africa and Madagascar, the overall growth was negative. In most countries where consumption of the bottom 40 percent rose less (or fell more) than the overall average, the PoU also rose.

FIGURE 28
GINI COEFFICIENT FOR AFRICAN COUNTRIES*, LATEST AVAILABLE**



SOURCE: WIDER. 2018. *World Income Inequality Database (WIID).* Version 4. Helsinki, United Nations University – World Institute for Development Economics.
Available at: https://www.wider.unu.edu/project/wiid-world-income-inequality-database
Notes: *CAR=Central African Republic, DRC=Democratic Republic of the Congo, STP=Sao Tome and Principe
** Range of latest year available is from 2008 to 2017.

FIGURE 29
ANNUALIZED GROWTH IN MEAN CONSUMPTION OR INCOME PER CAPITA FOR THE POOREST 40 PERCENT AND FOR THE TOTAL POPULATION, BY COUNTRY*, 2010–2015**



SOURCE: World Bank. 2018. *Global Database of Shared Prosperity, circa 2010-2015*. September 5, 2018.
Available at http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity
* For countries with data available.
** There is some variation around that range of years.

As already mentioned, women often fare worse in economic slowdowns and downturns (and indeed upturns) because of gender-based inequality both in and outside of the home. For example, 37 percent of employed women in Africa were poor in 2018, compared to 30 percent of employed men.[204] Fewer women find wage employment, and they are more likely to find part-time, seasonal and/or low-paying jobs. For example, in Malawi, 90 percent of women and 66 percent of men work part-time, and more than 60 percent of women are in low-wage jobs compared to fewer than 40 percent of men.[205] In Ghana, 4 percent of women find wage employment as compared to 15 percent of men. In addition, men's wages in Ghana are 31 percent higher than women's wages in urban areas and 58 percent higher in rural areas.[206] The available evidence shows that women generally have significantly lower access to land, lower livestock assets and have less access to productive resources and financial services, as well as having less control over income earned.[207] This gender inequality is particularly relevant because women, who are often the primary care givers, play a key role in the food security and welfare of their children and families. Finally, the currently available indicators do not capture some of the existing inequality. For example, 75 percent of underweight women and children do not live in the poorest 20 percent of households, in part due to intra-household inequality.[208] ■

ECONOMIC SLOWDOWNS AND DOWNTURNS COMBINED WITH CLIMATE SHOCKS AND/OR CONFLICT WORSEN UNDERNOURISHMENT

This section reviews the experience of some of the countries identified in Figure 23 that have witnessed an economic slowdown and/or downturn coinciding with an increasing PoU change point. Countries were selected if they experienced an increasing PoU change point coinciding with economic slowdown and/or downturn in the 2014-2017 period. In addition, Botswana, Burkina Faso and Guinea-Bissau, which experienced the change point in 2012/2013, are included.[209] Table 8 summarizes the key drivers of the rise in the PoU for 2014 to 2018.[210] First, falling commodity prices and/or falling demand for commodities were by far the most common type of economic shock driving or contributing to the economic slowdown and/or downturn. Second, the most common scenario for the 2014 to 2018 period was a combination of economic and climate shocks driving the rise in undernourishment. In most cases, climate shocks were related to the El Niño phenomenon. Conflict played a key role in several countries, and inevitably contributed to the economic slowdown and/or downturn by disrupting economic activities.

TABLE 8
SUMMARY OF KEY DRIVERS OF THE RISE IN UNDERNOURISHMENT FOR AFRICAN COUNTRIES IN 2014–2018*

Country	Economic shocks	Conflict	Climate shocks	Other factors
Benin	Falling cotton prices, economic downturn in Nigeria and fall in demand from China in 2015		Irregular rainfall in 2015	
Botswana	Fall in demand for diamonds in 2015, electricity shortages		Drought conditions in 2015/16	
Burkina Faso	Falling gold and cotton prices, falling demand from China	Rising defence costs puts additional strain on government budget	Drought in 2014 affected 4 000 000 people	
Burundi	Insecurity led to disruption of economic activities	Political instability		Limited access to land and the strain of internally displaced persons and refugees from neighbouring countries worsened food insecurity

TABLE 8
(CONTINUED)

Country	Economic shocks	Conflict	Climate shocks	Other factors
Cameroon	Falling oil prices, Nigerian devaluation	Insecurity and conflict in northern regions (related to the conflict in the Lake Chad Basin) and in the Northwest and Southwest regions from late 2016		The country has had to support refugees from neighbouring countries and large numbers of internally displaced people
Central African Republic	Conflict led to massive contraction in economic activity	Civil conflict and insecurity		The large number of internally displaced people disrupts agricultural activities and strains government resources
Congo	Falling oil prices	Insecurity in one department		Refugees from neighbouring countries
Gabon	Falling oil prices			
Gambia	Reduced income from tourism, currency depreciation		Drought conditions in 2011	Ebola virus disease in neighbouring countries negatively impacted tourism
Guinea	Weakening commodity prices			Ebola virus disease outbreak disrupted agricultural activities and marketing of goods
Guinea-Bissau	Fall in cashew nut prices	Political instability, military coup d'état of 2012 caused substantial economic disruption	Drought conditions in 2014	
Mauritania	Falling price of iron ore		Drought and dry spells regularly affect the country	Refugees from neighbouring country
Mozambique	Reduced demand for some of the country's commodity exports, discovery of hidden debt undermined investor confidence and contributed to currency depreciation		Drought conditions in southern parts, flooding in other parts	
Niger	Depreciation of Nigerian currency	Insecurity in some areas	Recurrent drought	
Nigeria	Falling oil prices, inconsistent economic policy management	Conflict and insecurity in north-eastern states		
South Africa	Fall in price of key commodity exports		Drought conditions in 2015/16	Major power shortages
Zambia	Weak copper prices		Dry conditions in 2015/16	
Zimbabwe	Protracted fiscal imbalances, foreign exchange and credit constraints		Drought conditions in 2015/16	

NOTES: * The countries included are a subset of the countries presented in Figure 23, identified on the basis of the change point methodology as outlined in Box 5. The countries included all experienced an increasing PoU change point coinciding with economic slowdown and/or downturn in the 2014-2017 period. In addition, Botswana, Burkina Faso and Guinea-Bissau, which experienced the change point in 2012/2013, are included. Assessment of key drivers is based on the review of data (EMDAT, FAO and World Bank data) and documents (ECA, FAO, IMF and World Bank) for each country.

Economic slowdowns and/or downturns were the main drivers of the rise in the prevalence of undernourishment in the Republic of Congo and Gabon

Congo and Gabon experienced increasing PoU change points coinciding with economic slowdowns and downturns in 2014/15.[211] Falling oil prices contributed to the economic downturn in **Congo**, where the oil sector accounts for 40 percent of GDP and 78 percent of exports.[212] The resulting reduction in government revenues affected economic activity by reducing government expenditures, including delays in the payment of public sector pensions and salaries, as well as delayed payment to contractors. The food security situation was further stressed by an influx of between 30 000 to 50 000 refugees, over the 2015 to 2018 period, from the Central African Republic and from the Democratic Republic of the Congo. In addition, conflict disrupted economic activities and transport in the Pool Department in 2016 and 2017 as well as displacing many families.

The precipitous drop in crude oil prices after July 2014 also drove the economic downturn in **Gabon**, where oil accounts for a quarter of GDP.[213] Exports fell by 10.3 percent in 2014 due to lower oil prices as well as falling manganese prices. In particular falling oil revenues (down by nearly 42 percent in 2015),[214] led to a steep fall in government revenue from USD 5.3 billion (just under 30 percent of GDP) in 2014 to USD 3.2 billion (17 percent of GDP) in 2016 and falling further in 2017, respectively.[215] Government expenditure as a percent of GDP fell less dramatically, with a consequent rise in public debt as a percentage of GDP.

Climate shocks and economic slowdowns and/or downturns were the main drivers of the rise in the prevalence of undernourishment in Benin, Botswana, Burkina Faso, Gambia, Mauritania, Mozambique, Niger, South Africa, Zambia and Zimbabwe

In **Benin**, falling cotton prices led to a decline in the value of cotton exports and ultimately also of cotton production. However, other factors played a role too. Irregular rainfall led to a 9 percent decline in cereal production in 2015 compared to 2014.[216] The recession in neighbouring Nigeria further contributed to Benin's economic downturn/slowdown, as informal trade (re-export and transit) with its neighbour accounts for 20 percent of Benin's GDP.[217] In addition, a drop in demand from China negatively impacted Benin, with exports to China falling from USD 95.4 million in 2014 to USD 32.9 million in 2015.[218]

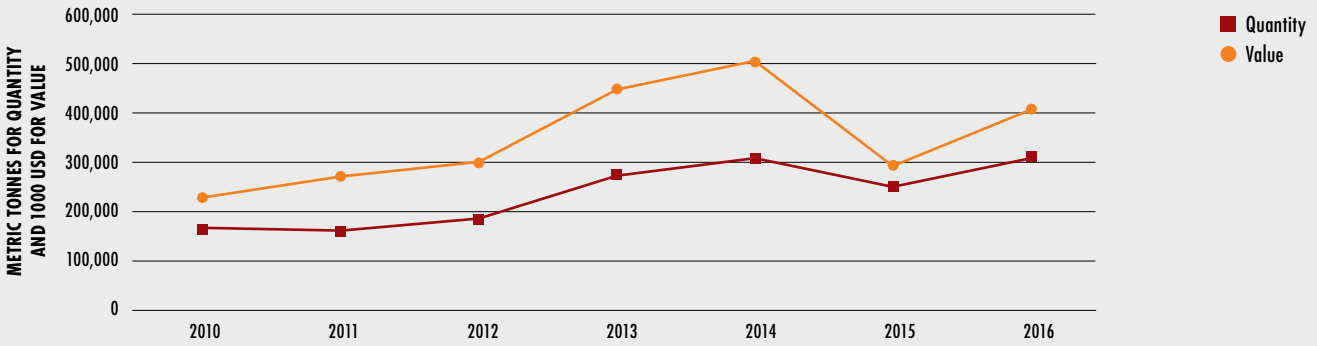
Botswana experienced a contraction in demand for diamonds in 2015. Botswana's economic growth was also weakened by persistent electricity and water supply shortages.[219] An additional factor were drought conditions in 2015/16, leading to substantially reduced crop production and higher livestock mortality rates of around 20 percent. An estimated 1.1 million people required urgent humanitarian assistance.[220]

Burkina Faso experienced an economic slowdown due to falling gold and cotton prices, which caused a large drop in export earnings from 2014 to 2015 (Figure 30). In addition, in 2015, falling demand from China and rising defence costs affected Burkina Faso negatively. Finally, in 2014 drought affected 4 000 000 people, and refugees from Mali have been putting a strain on the resources of host communities.

The **Gambia** suffered a severe economic downturn in 2011 as well as in 2014, 2016 and 2018. The downturn in 2011 was due to drought conditions causing a significant drop in crop production and a 7.3 percent contraction in per capita GDP. Tighter food supplies resulted in higher food prices. The drought conditions also undermined the balance of payment situation leading to a currency depreciation and contributing to price inflation well into 2012.[221] In 2014, economic growth was hurt by the EVD outbreak, which negatively impacted tourism in the region, as well as in the Gambia. Weak policy implementation, which also contributed to large fiscal imbalances, also undermined economic performance.[222]

In **Mauritania**, the fall in the price of iron ore, the country's main export commodity, fell considerably, leading to negative per capita GDP growth in 2015 and 2016 with 2017 seeing

FIGURE 30
QUANTITY AND VALUE OF COTTON EXPORTS FOR BURKINA FASO, 2010–2016



SOURCE: FAO. 2019. *FAOSTAT*. [online]. Rome. *http://www.fao.org/faostat/en/#home*

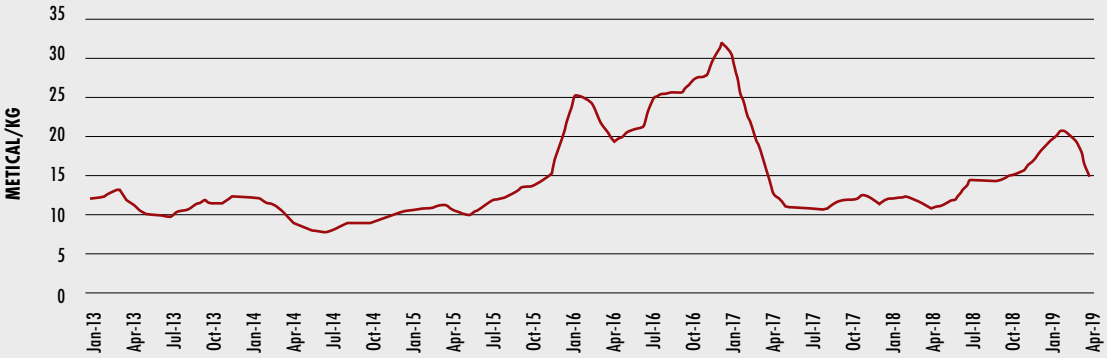
a slight recovery. The economic slowdown/downturn was worsened by climate extremes, which are a regular occurrence in the country. Drought affected between 350 000 and nearly 3.9 million people in 2010, 2011, 2017 and 2018.[223] Regular dry spells put stress on pastoral communities, which in turn drive their livestock into crop areas when pastureland is exhausted. In addition, the country hosts nearly 60 000 refugees, mostly from Mali, putting additional pressure on host communities.

Mozambique enjoyed robust per capita GDP growth between 2011 and 2013, but while economic growth was strong, it was also capital intensive, with aluminium, coal and gas constituting key growth sectors, and therefore had a limited impact on employment growth. In addition, the nature of the economic growth probably helped increase inequality, with the Gini coefficient rising from 47 in 2003 to 54 in 2015. In the 2008 to 2014 period the annual mean growth in consumption growth of the bottom 40 percent was only 1.5 percent, compared to 5.4 percent for the total population.

From 2016 onwards, there was an economic slowdown to between 0.3 and 0.8 percent per capita GDP growth. Growth slowed due to the discovery of hidden debt, which undermined investor confidence, reducing foreign investment and aid, and leading to a higher fiscal deficit. In addition, the country faced a weakening in demand for its traditional exports and in some parts insecurity. A rapidly depreciating currency contributed to high levels of inflation.[224] In 2016, drought conditions in southern provinces and parts of the central provinces, and flooding in other parts, affected about 35 percent of the total cultivated area and led to reduced food production, especially for maize, pulses and root crops, in turn leading to higher food prices (Figure 31). Nearly 2 million people required humanitarian assistance.[225] The situation improved in 2017, when about 314 000 people were food insecure and required humanitarian assistance.[226] Dry conditions and pest infestations continued to cause production shortfalls in some regions, leaving about 1.8 million people food insecure in 2018.[227]

Niger experienced regular episodes of late rains and prolonged periods of drought: in 2005, 2009, 2011, 2015 and 2017 drought affected between 1.1 and 7.9 million people each time. In addition, flooding affects hundreds of thousands of people nearly every year.[228] The impact of these natural disasters is reflected

FIGURE 31
AVERAGE MAIZE RETAIL PRICE* FOR MOZAMBIQUE, 2013–2019



SOURCE: FAO. 2019. *Global Information and Early Warning System, Food Price Monitoring and Analysis Tool*, http://www.fao.org/giews/food-prices/tool/public/#/home
*The cities are Angonia, Chokwe, Gorongosa, Manica, Maputo, Maxixe, Montepuez, Nampula and Ribaue.

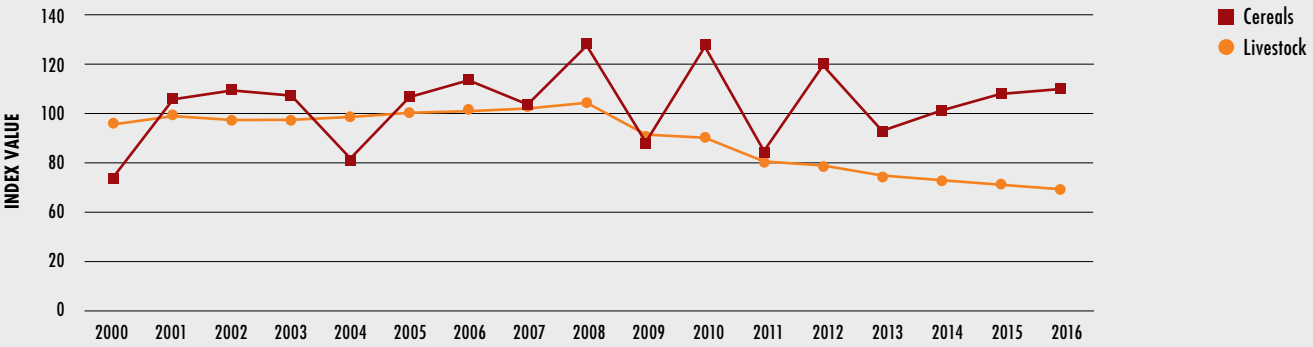
in fluctuating cereal production and a steadily declining livestock production as pasturelands are degraded (Figure 32). Per capita GDP growth slowed substantially in 2015 and remained weak in 2016 and 2017. The economic slowdown was the result of adverse weather causing a drop in agricultural production, a slowdown in mining due to temporary stoppages and weaker uranium prices.[229] In addition, the economic downturn and depreciation of the Nigerian currency over the 2014 to 2017 period, and lower prices reflecting the poor condition of livestock, combined to reduce incomes for Nigeriens selling livestock in Nigeria.[230]

High population growth, low levels of household income, lack of dietary diversity, with more than 58 percent of daily caloric availability coming from cereals, poor child care and feeding habits and a lack of access to healthcare services are reflected in high levels of poverty and persistently high rates of stunting (40.6 percent in 2016), acutely malnourished children (15 percent in 2018) and widespread micronutrient deficiencies.[231,232] In recent years, in addition to recurring natural disasters, insecurity in some regions has compromised agricultural production and disrupted markets. The Boko Haram insurgency caused considerable disruption in the southeastern Diffa region, but insecurity also affected other areas, such as Tahou and Tillaberi. Because of these recurrent crises, many households have experienced asset and income losses and incurred debts,[233] undermining household resilience, in particular that of pastoralists and agro-pastoralists, and causing the fragile food security situation to deteriorate.

In **South Africa**, a rise in the PoU coincided with an economic slowdown and downturn that started in 2012 because of power shortages and commodity price falls. The prices of key exports – iron ore, copper, nickel, platinum and coal – fell by an average of 60 percent between 2011 and 2016, reducing GDP by a total of 1.5 points over that period.[234] Major power shortages contributed to a 20 percent reduction in manufacturing goods production. In addition, the country saw rising debt levels and suffered a currency depreciation of 40 percent from 2011 to 2016 that contributed to a doubling of inflation over the same period.[235]

The country also experienced severe drought conditions, with the 2015/16 season the driest

FIGURE 32
NET PER CAPITA CEREAL AND LIVESTOCK PRODUCTION INDICES FOR NIGER, 2000–2016

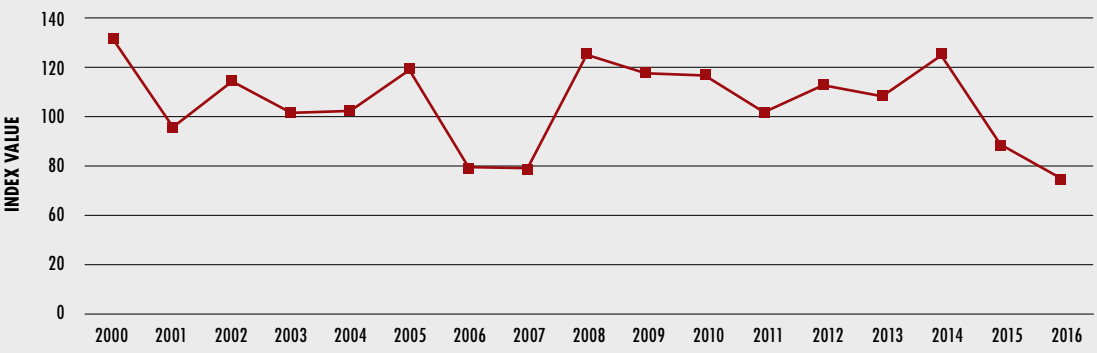


SOURCE: FAO. 2019. *FAOSTAT*. [online]. Rome. http://www.fao.org/faostat/en/#home

in 35 years, leading to a precipitous drop in cereal production (Figure 33). Eight out of nine provinces, accounting for 90 percent of maize production, were declared disaster drought areas. Many of the 227 000 farming households have been forced into selling their productive assets to avoid liquidation.[236] The tightening supplies helped drive staple food prices to record levels, threatening the food security of the poor, which make up 25 percent of the urban population and 65 percent of the rural population.[237]

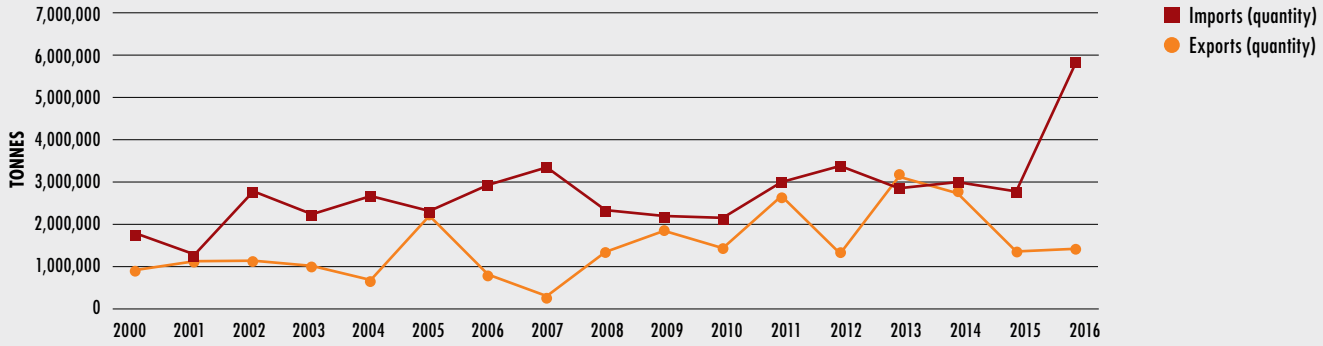
South Africa supplies nearly all maize requirements in the subregion, mainly to

FIGURE 33
NET PER CAPITA CEREAL PRODUCTION INDEX FOR SOUTH AFRICA, 2000–2016



SOURCE: FAO. 2019. *FAOSTAT*. [online]. Rome http://www.fao.org/faostat/en/#home

FIGURE 34
IMPORTS AND EXPORTS OF CEREALS, SOUTH AFRICA, 2000–2016



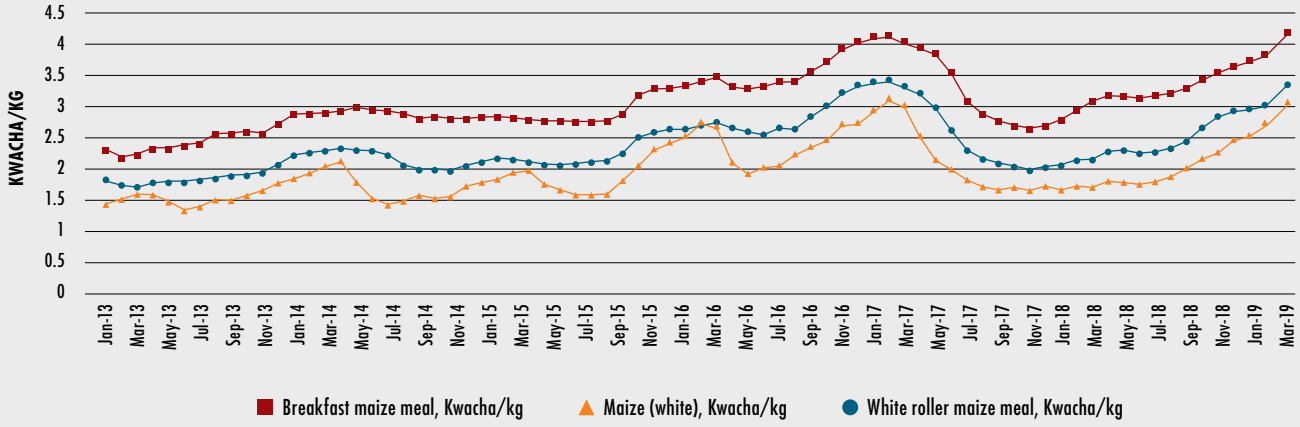
SOURCE: FAO. 2019. *FAOSTAT*. [online]. Rome. http://www.fao.org/faostat/en/#home

Zimbabwe, Botswana, Lesotho, Namibia and Eswatini, and the reduced production has meant lower exports of maize (and a massive increase in imports) which has negatively affected food-import dependant countries in the region (Figure 34).

Zambia's economic slowdown and downturn was driven by weakening copper prices, which contributed to the rapid depreciation of the currency by 14, 40 and 19 percent in 2014, 2015 and 2016, respectively. In turn, this contributed to rising staple food price inflation, which was particularly pronounced in 2016–2017 (Figure 35). Furthermore, demand for copper from China, which in previous years accounted for about a quarter of Zambia's production, fell between 2014 and 2015 and led to the loss of up to 6 000 jobs.[238] The country was also affected by El-Niño related dry conditions in 2015–2016. Maize production fell 22 percent in 2015, albeit from a high in 2014, but then increased strongly in subsequent years.[239] Zambia also experienced considerably worsening inequality, with the Gini coefficient rising from 42 in 2001 to 57 in 2011. In addition, the consumption/income growth of the bottom 40 percent was -0.6 from 2010 to 2015, while the total mean per capita consumption/income grew by 2.9 percent over the same period.

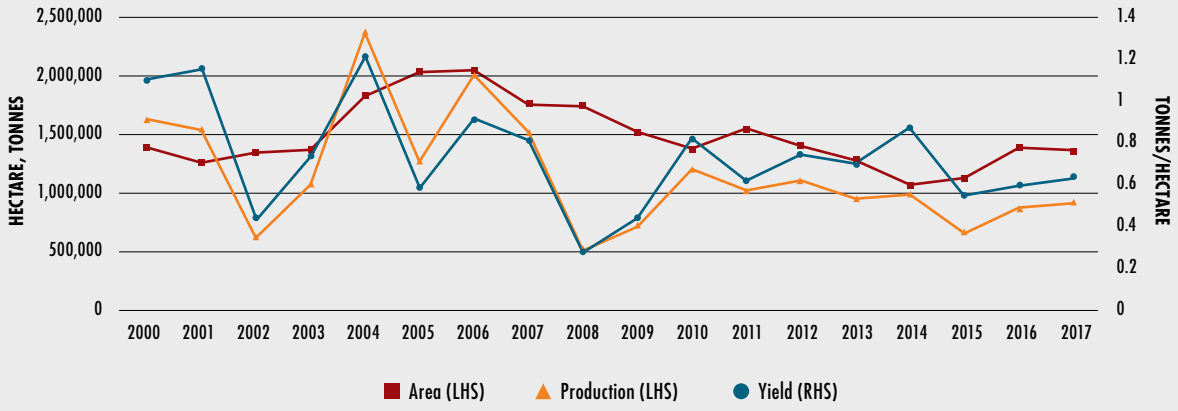
After many years of contraction, **Zimbabwe** experienced strong per capita GDP growth in 2009–2012, a considerable slowdown in 2013 and negative or zero per capita GDP growth between 2013 and 2016. A number of factors contributed to this decline, including, *inter alia*, macroeconomic imbalances, adverse weather conditions, power shortages and falling commodity prices.[240] Export revenues declined since 2011 due to weaker gold, platinum and other commodity prices. In addition, Zimbabwe's competitiveness was weakened by the depreciation of the South African Rand against the USD. This was partly offset by lower oil prices (although higher oil imports absorbed some of that lower import bill) and higher remittances. In 2015/16 El-Niño related drought conditions negatively impacted crop production. Production of maize, a key crop providing about 35 percent of Zimbabwean's daily caloric supply fell from 1.1 million tonnes in 2012 to 0.6 million tonnes in 2015 (Figure 36). In correspondence to the steep fall, the country's maize imports rose from nearly 290 thousand tonnes in 2014 to 822 thousand tonnes in 2016. Production of tobacco and other export crops also fell during that period. The high public debt burden and a restructuring of the banking sector led to a high cost of borrowing and a reduction in bank lending, which fell from 10 percent

FIGURE 35
AVERAGE NATIONAL RETAIL PRICES FOR SELECTED FOOD COMMODITIES IN ZAMBIA, KWACHA PER KG, 2013–2019



SOURCE: FAO. 2019. *Global Information and Early Warning System, Food Price Monitoring and Analysis Tool,* http://www.fao.org/giews/food-prices/tool/public/#/home

FIGURE 36
AREA, YIELD AND PRODUCTION FOR MAIZE, ZIMBABWE, 2000–2017



SOURCE: FAO. 2019. *FAOSTAT*. [online]. Rome. http://www.fao.org/faostat/en/#home

of GDP in 2010-2011 to 0.7 percent of GDP in 2013-2014.[241] This limited access to credit also in the agriculture sector, where investments were financed largely from retained earnings.

These adverse conditions worsened food security and, at least temporarily, poverty in Zimbabwe. Two-thirds of Zimbabwe's population resides in rural areas, and agriculture is an important part of their livelihoods. Most of the poor – 79 percent – were also rural and poverty worsened, at least temporarily, by an estimated 1.5 percentage points, due to adverse weather conditions in 2015–2016.[242]

The difficult conditions left nearly 1.5 million persons requiring assistance during the peak lean period between January and March 2016, up from a low of 560 000 in 2014.[243] In 2016, the drought situation worsened further, leaving about 3 million people food insecure, a figure that may have reached 4.1 million during the peak lean season.[244] The high level of food insecurity continued into 2017 but dropped in 2018 when a reported 2.4 million people were food insecure.[245]

Conflict and/or insecurity and economic slowdowns and/or downturns were interrelated factors driving the rise in the prevalence of undernourishment in Burundi, Cameroon, the Central African Republic and Nigeria

As noted in Part 1 of this report, in **Burundi** in the aftermath of the 2015 political crisis, insecurity disrupted farming and marketing activities, and the food import capacity of the country fell.[246] The economic downturn lasted for three years and led to a reduction in government spending and in public services.[247] In subsequent years, the country continued to feel the strain of the many internally displaced people and refugees from neighbouring countries, which placed more pressure on the already limited availability of farm land.

Cameroon experienced a period of relatively weak per capita GDP growth of, on average, 0.5 percent in 2008–2011, followed by several years of stronger growth. With the fall in the oil price, the regional security crisis in the far north of the country and the devaluations of the Nigerian currency, growth weakened after 2014. While economic growth helped reduce the proportion of the poor population between 2007 and 2014, rapid population growth meant that the number of poor people is rising. In addition, after reducing the Gini coefficient of inequality from a high of about 61 in 1996 to 32 in 2007, the coefficient has since risen to nearly 47 in 2014. The World Bank's shared prosperity measure shows that over the 2007–2014 period, the consumption or income per capita of the bottom 40 percent rose by 1.4 percent annually while that of the total production grew by 3.8 percent.[248] Moreover, significant spatial inequalities mark the country.

Poverty is largely a rural phenomenon and concentrated in the northern regions. Indeed, the worsening food security situation is partly driven by insecurity and conflict that engulfed the Lake Chad Basin and, later, by the insecurity in the northern region of the country. By early 2014, the northern areas had to absorb refugees from Nigeria and the Central African Republic while being affected by climatic shocks. About 615 000 people were estimated to be affected by undernutrition.[249] The situation in 2014 deteriorated with escalating violence in the region and recurrent droughts and floods. By early 2016, the number of food insecure reached 2.4 million people, twice the level of June 2015, with the Far North region being the most affected region.[250] In addition, civil strife in the Northwest and Southwest regions started in October 2016 and has displaced hundreds of thousands of people and disrupted agricultural activities.[251]

In the **Central African Republic**, the deterioration of the food security situation was due to the civil conflict and insecurity, which gripped the country in December 2012 and led to an economic downturn with per capita GDP dropping by nearly 37 percent in 2013. The steep decline in the GDP in 2013 and 2014 was a reflection of a significant contraction in the agriculture sector, as the conflict and insecurity disrupted farming and marketing activities. Maize and rice production fell sharply in 2012–2013 and stabilized at a much lower level thereafter.[252] In addition, imports from

neighbouring countries declined by nearly 26 percent in 2013 because of conflict and insecurity restricting movement of goods.

The situation worsened in 2013 and by the middle of that year about 2 million people were food insecure and in need of humanitarian assistance.[253] Conflict and displacement of people continued to disrupt agricultural activities and a large proportion of the population suffered from food insecurity, despite efforts to provide humanitarian assistance. Also badly affected were trade and transport activities, which in turn negatively affected the availability of food commodities. Prices of most agricultural commodities are currently lower than their pre-crisis levels due to depressed local demand, which more than compensated for the sharply reduced supply. By contrast, prices of meat and fish are well above their levels of early 2013.[254]

The crisis continued to constrain economic recovery through widespread insecurity and frequent episodes of violence. While an improvement over 2014, when compared to the pre-crisis average, cereal production was 70 percent down in 2015, fish supply was down 40 percent, and cattle and small ruminant numbers have declined by 46 and 57 percent. In addition, the production of coffee and cotton, the main cash crops grown in the country, were severely affected by the crisis.

The agricultural situation started to improve in 2016, with crop production close to the pre-crisis 2008–2012 average. The improvement was due to favorable climatic conditions, localized improvements in the security situation and assistance to farming households by the international community.

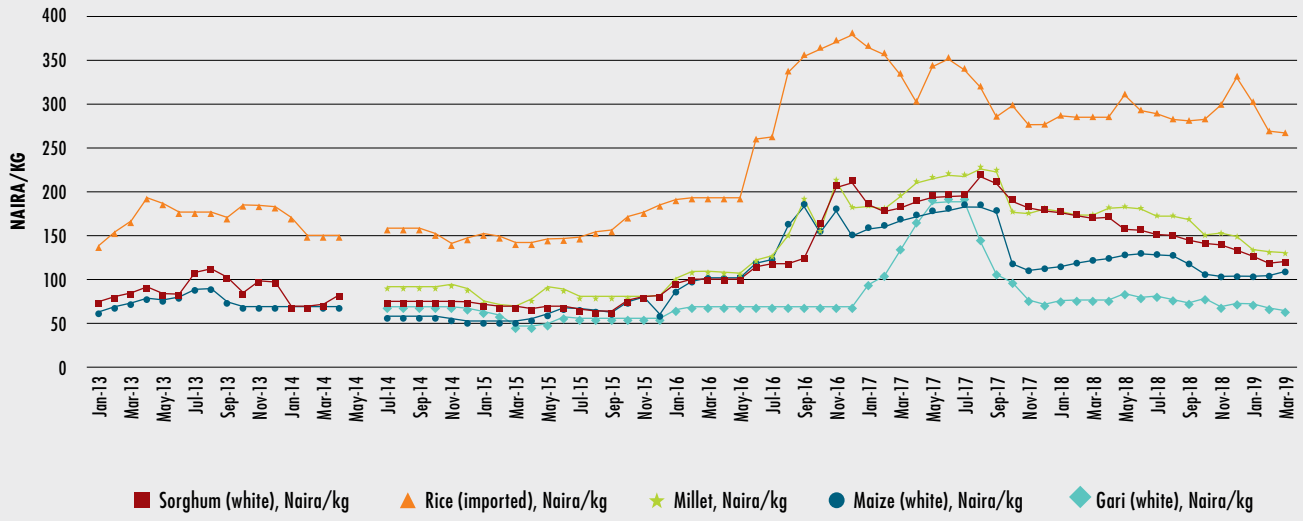
The insecurity and conflict also fueled massive displacements that further undermined food security in the country. About 2.1 million people were food insecure, with more than 320 000 people considered severely food insecure.[255] By December 2018, the caseload for internally displaced people was estimated at about 641 000, a slight decrease since October 2018. Food availability continues to be constrained by widespread insecurity, several consecutive years of reduced agricultural production and poorly functioning markets, especially for displaced persons, host families and returnees.[256] In early 2019, a political agreement for peace and reconciliation was formally signed in Bangui between the Government and 14-armed groups. However, significant security constraints continue to hamper crop production and disrupt food-marketing channels.[257]

Nigeria saw the prevalence of undernourishment fall from 9.3 percent in 2000 to 6 percent in 2008. After that year, the PoU started rising, at first gradually but after 2012 more rapidly, to reach 13.4 percent in 2017. Per capita GDP growth was about 3.8 percent over the 2000–2012 period (excluding 2002 when per capita GDP growth was 12.5 percent), with only one year seeing growth of below 2 percent. However, per capita growth then fell and averaged -0.6 percent for 2014–2017. The downturn started with falling oil prices in July 2014, leading to recession from 2014 to 2018. The oil sector accounts for about 80 percent of foreign exchange earnings and a significant part of government revenue. Falling oil prices led to government revenue falling from 18 percent of GDP in 2011 to 11 percent in 2014 and 6 percent in 2016.[258] Structural issues, insecurity in some regions, oil infrastructure sabotage and policy inconsistencies, in particular with regard to exchange rate policies, exacerbated the effect of low oil prices.

The fall in oil revenues explained part of the decline, but non-oil sectors, which make up nearly 90 percent of GDP, also slowed considerably.[259] Compared to other sub-Saharan African oil exporters, the oil price shock had a relatively large impact on the Nigerian economy because Nigerian macroeconomic fundamentals, i.e. the exchange rate management and the size of the fiscal deficit, were weaker. Policy inconsistencies and delays in the wake of the shock further aggravated the economic downturn. Particularly significant were the depreciation of the currency that started in 2014 and contributed to staple food price inflation in Nigeria as well as disrupting cross-border trade (Figure 37).

Adding to the economic difficulties are insecurity in some parts of Nigeria, in particular the northeastern states. Here the Boko Haram uprising, which began in 2009, has grown

FIGURE 37
WHOLESALE PRICES FOR SELECTED FOOD ITEMS IN LAGOS, 2013–2019



SOURCE: FAO.2019. *Global Information and Early Warning System, Food Price Monitoring and Analysis Tool*, http://www.fao.org/giews/food-prices/tool/public/#/home

in intensity and led to large population displacements in northern states. In 2016, despite two consecutive years of above average cereal harvests, high prices due to the depreciation and disruption to agriculture in the northeast left about 8 million people food insecure.[260]

Conflict and/or insecurity, economic slowdowns and/or downturns and climate shocks were interrelated factors driving the rise in the prevalence of undernourishment in Guinea-Bissau

In **Guinea-Bissau**, the rise in food insecurity was due to political and social instability, which, combined with a 40 percent drop in the price of cashew nuts in 2012/13,[261] led to an economic downturn in 2012 and weak growth in 2013.[262] The military coup d'état of 2012 substantially disrupted economic activities, reduced government revenues and provision of basic services, and curbed donor support. The diplomatic, economic and financial sanctions imposed by ECOWAS in the aftermath of the coup further contributed to the economic downturn. In 2014, the country experienced adverse weather conditions and cereal production fell by nearly 40 percent. In that year about 190 000 people were in need of food assistance (ICP/CH 3 or above).[263] Guinea-Bissau returned to constitutional order in 2014 and economic performance strengthened in 2015–2017. Recovery has been gradual in a delicate social and political climate and with very limited resources available to the government.

In Guinea the rise in the prevalence of undernourishment was due to economic slowdowns and/or downturns exacerbated by Ebola Virus Disease

Guinea's per capita GDP growth was relatively robust over the 2010 to 2012 period, but then slowed between 2013, 2014 and 2015. The country has also been able to reduce inequality, with the Gini coefficient falling from 0.43 in 2003 to just under 0.33 in 2012. Per capita income growth for the bottom 40 percent has been a relatively high 9 percent over the 2007 to 2012 period, while it was 5.8 percent over all the population.

The relative economic slowdown in 2013-2015 was due to weak prices for some of the country's key commodity exports. This coincided with the outbreak in Ebola Virus Disease (EVD), which started in 2013, peaking in 2014 and 2015 and tapering off at the end of 2015. The EVD disrupted agricultural activities, mainly in affected areas, as well as the marketing of goods due to border closures (until 2016), quarantine measures and mother restrictions. Although the EVD did not cause a large drop in food production at the national scale, it did so in highly affected areas. However, fighting the disease, keeping up surveillance and prevention came at an enormous cost, taking resources away from other public activities. An estimated additional 450 000 people were food insecure due to EVD in March 2015.[264] ■

POLICY IMPLICATIONS

The overview of the situation and trends of food insecurity presented in this report shows that conflict, climate extremes and economic slowdowns and/or downturns, often occurring in combination, are key drivers behind the worsening food security trend in Africa.

Conflict and insecurity are and continue to be two of the leading causes of hunger, food insecurity, poverty in Africa. They not only lead to food insecurity, but food insecurity and malnutrition can also become conflict multipliers and vectors for other grievances, especially in fragile, post-conflict situations, and indeed often contributing to fragility by weakening institutions.[265] The link between conflict and food security is recognized by the 2030 Agenda, and SDG 16 specifically aims to reduce significantly all forms of violence, provide access to justice for all and build effective, accountable and inclusive institutions at all levels, and build lasting solutions to conflict and insecurity.

Building resilience to conflict and sustaining peace is a complex challenge that must include livelihood support to address the root causes of conflicts and conflict stressors and to promote re-engagement in productive economic activities, including social protection programmes; facilitated community-based approaches to help build relationships and social cohesion and; interventions that contribute to building the capacity of institutions and local actors to strengthen governance and delivery of equitable services.[266]

Climate shocks played a major role in reducing availability and access to food for large parts of the population of, in particular, Eastern and Southern Africa in the 2014-2017 period. They undermine or destroy livelihoods, reduce incomes and lead to lower food availability. The threat of climate shocks also leads households to adopt low risk-low return livelihood strategies with negative implications for longer-term household welfare. Households respond to shocks by adopting negative coping strategies, which may be difficult to reverse, further undermining livelihoods, trapping many households in chronic poverty, and contributing to food insecurity and poor nutrition for generations to come. Such shocks not only worsen food security and nutrition, but they also undermine the socio-economic fabric of communities and households. It is therefore essential to strengthen the resilience of agricultural livelihoods, food systems and nutrition through climate resilience strategies, programmes and investments which address the direct impacts but also the underlying vulnerabilities.

Governments and international agencies must strengthen climate risk monitoring and early warning systems to assist timely and accurate decision making. Another important set of tools relate to emergency preparedness and response. Also important are shock responsive social protection programmes to protect household food consumption and to avoid negative coping strategies. They can also shift agricultural households' approaches to investment decisions by helping them to manage risk, cope and invest.[267]

Economic slowdowns and/or downturns, by causing unemployment and depressing wages and incomes and weakening household purchasing power, are also key drivers of food insecurity, often in combination with conflict

and climate shocks. For policy makers, the immediate problem is to alleviate the suffering through interventions to stabilize prices and boost incomes, while in the longer-term it is just as important to stimulate agricultural output. It is imperative to recognize that the effects of economic slowdowns and downturns cannot be separated from the root causes of hunger, i.e. poverty, inequality and marginalization and that policies must be designed accordingly.

Common short-run measures that help stabilize prices are tariff and value added tax reductions or eliminations, export restrictions or bans, release of food from strategic reserves, broad subsidies, price controls, and social protection programmes such as cash and/or food transfers, public works programmes, school-feeding. Social protection programmes, when appropriately designed, are also effective at promoting longer term goals through helping poor households expand their farm and non-farm activities (see also below).

For example, following the 2008 or 2010 rise in food prices, Cameroon, Ethiopia, Madagascar, Mali, Mauritania, Sierra Leone and the Democratic Republic of the Congo introduced value added tax exemptions. Mali introduced a six-month value added tax exemption for rice and released food from stocks. In Burundi, the government introduced a temporary exemption of transaction taxes and import duties of some staple foods. Several countries reduced or eliminated import tariffs for food products. Guinea reduced custom duties and from 2007 banned agricultural exports, later adapted to cover only rice exports, and Sierra Leone temporarily reduced import duties on some staple foods.

Some countries, like Ethiopia, Kenya, Senegal and Zambia, introduced temporary subsidies. Other countries, such as Burkina Faso, Cameroon, Chad and Malawi, resorted to price controls, sometimes, time limited. Several countries, including Mauritania, Cameroon, Chad, Senegal, Togo, Burkina Faso, Ghana, Mali, Nigeria, Lesotho, Malawi, United Republic of Tanzania, Zimbabwe, Ethiopia and Kenya opted for free food distribution to vulnerable people. School feeding programmes were expanded in several countries, such as Cameroon, Ghana, Kenya, Madagascar, Rwanda and South Africa.[268]

During the 2010–2011 food price shock, many countries adopted similar trade policies to dampen the impact on domestic prices. However, because many countries adopted similar policies, these policies themselves accounted for 40 and 25 percent of the world price increase of wheat and maize, respectively.[269]

While many policy tools are available in theory, and there is concrete evidence they work, in practice their adoption will depend on the availability of fiscal space to effect the desired policy action.[270] Implementing policies and programmes that bolster food security and nutrition during an economic slowdown or downturn requires additional funding if they are to achieve the necessary scale and effectiveness. This is a particular challenge because economic slowdowns and downturns generally lead to a fall in government revenues.

The counter-cyclical fiscal policies needed during economic slowdowns or downturns will only be possible if spending was lowered and savings increased when commodity prices were high, and the economy grew. To increase savings through tax revenues will also demand a diversification of the tax base and improving tax collection (or reducing evasion). Responsible economic policy behaviour during good economic times also sends strong signals to foreign lenders and donors who may be more willing to help rescue economies during difficult economic times. Governments should aim to build up contingency funds to meet unexpected expenditures, to prioritize social spending in government budgets during times of economic slowdowns or downturns and to mobilize resources from partners and donors to maintain social spending levels. Avoiding macroeconomic imbalances, brought on, for example, by terms of trade shocks, and the negative economic impacts these have, such as exchange rate fluctuations, should also receive attention. Prudent macroeconomic policies, automatic fiscal stabilizers and stabilization funds can help maintain government spending on social services and interventions to support food security and nutrition during economic

downturns.[271] Government's fiscal policies are important tools to redistribute income and wealth, but some of these policies are poorly targeted and inefficient. Reforming redistributive fiscal policies may also serve to generate additional fiscal space as well as promoting more equal access to services.

In the long term, to strengthen supply response, reduce import dependence and curb rising food prices, it is important to provide incentives to stimulate and to diversify agricultural production by investing in research and development, rural infrastructure, irrigation, provide input subsidies and strengthen post farm-gate supply chains to reduce postharvest losses.[272] In 2007–2012, many countries introduced or widened input subsidies for fertilizer and several expanded provision of credit or subsidized the use of credit. For example, the Rwandan government launched the Girinka programme, providing credit to very poor families to buy a cow.

Especially in Africa, with its high population growth rates and high levels of youth un- and underemployment, the focus must be on promoting and investing in sectors that create employment. Governments must aim to promote broad-based, labour-intensive growth while investing in human capital to achieve a diversification of the economy into productive sectors to achieve a structural transformation that is pro-poor and inclusive. The recently ratified (May 2019) African Continental Free Trade Area Agreement (AfCFTA) is an important initiative towards creating a single market of up to 1.2 billion people and a GDP of nearly USD 2.2 trillion in 2016. The agreement has considerable potential not only to boost trade by, *inter alia*, removing tariffs on 90 percent of goods and progressively liberalizing trade in services, but also to promote diversification. Manufactured goods make up a much higher proportion of regional exports (41.9 percent) than those leaving the continent (14.8 percent).[273] Greater export diversification will strengthen countries' resilience to terms of trade shocks. The Agreement is supported by the Boosting Intra-African Trade (BIAT) initiative that addresses key constraints to intra-African trade and diversification.

It is also essential to maintain the ability of public services to provide support to households that are poor and marginalized. Reducing inequality, including gender inequality and social exclusion, is important for achieving inclusivity as well as strengthen the resilience of the more vulnerable and the poor.

Social Protection

Households adopt a wide variety of livelihood strategies to manage and cope with risk. But there is extensive evidence showing that such informal arrangements are more effective for idiosyncratic shocks, such as illness, that affect individual households than covariate shocks, price shocks or drought, that affect entire communities.[274,275] Without public assistance, many of the poor and vulnerable will suffer unnecessary hardship and lasting deprivation, perpetuating poverty for future generations.

There is a growing body of evidence showing that social protection programmes[276] are effective in helping reduce poverty and food insecurity, in improving nutrition and human capital, as well as in reducing social, economic and political inequality.[277] Social assistance programmes are the most common form of social protection in the developing world and evaluations have shown that such programmes can effectively increase household consumption as well as the frequency of meals and the dietary diversity.[278] A recent meta-analysis found that for each dollar transferred, household consumption expenditure increased by 74 cents.[279]

A review of programmes from Latin America and the Caribbean, sub-Saharan Africa, Middle East and North Africa, South Asia and East Asia and the Pacific, found that the average social protection programme increased the value of food consumption by 13 percent and calorie acquisition by 8 percent.[280] For African programmes, impact evaluations found that cash transfer programmes increased food expenditure of participating households by between 10 and 30 percent in Kenya, Malawi, Zambia and Zimbabwe.[281] In many cases, households increased expenditures on animal-source foods, especially meat and dairy. In addition,

beneficiary households invested in farm-activities leading to higher outputs and improving food consumption from home production.[282]

Social protection programmes not only reduce poverty and food insecurity but also address their causes. For example, impact evaluations found positive effects of cash transfer programmes on beneficiary households in terms of school enrollment, attendance and completion, especially for girls and for secondary school age children. In many cases, programmes have positive effects on child health and immunization, and consistently reduce morbidity. Programmes strengthened beneficiary household resilience by allowing them to build up productive assets such as livestock, diversifying their livelihoods, and paying off debt and saving. Cash transfers also allowed many households to re-enter social networks by enabling them to contribute to funerals and other important social events.

While social assistance in the form of long-term institutional programmes is now becoming quite common, the value of such programmes in addressing emergency and crisis situations is also increasingly recognized. Social assistance programmes that protect populations affected by a disaster, such as extreme weather, are referred to as shock-responsive social assistance programmes. Such programmes are also valuable in assisting populations affected by an economic shock.

Shock-responsive social assistance programmes typically have to cover large populations, they have to cover them very rapidly, and it must be possible to scale them down rapidly after the crisis has passed. The Ethiopian Productive Safety Net Programme (PSNP) covers about 8 million beneficiaries during a year but is regularly scaled-up to respond to droughts, and then scaled down again. For example, during the Horn of Africa drought of 2011 the programme expanded to include an additional 3.1 million beneficiaries for three months.[283] The PSNP included food security and Disaster Risk Reduction in its design since its inception. It is considered a reference for other African countries with regard to shock responsive social protection programming.[284] The PSNP includes a contingency budget of about 20 percent of the base programme cost as well as a Risk Financing Mechanism, which together allow the PSNP to be scaled up in times of crisis, significantly shortening response times.

The Kenyan Hunger Safety Net Programme (HSNP) was also designed to allow expansion and is part of the national Ending Drought Emergency (EDE) framework. Some beneficiaries receive support on a regular basis while others, who are already registered with the programme, receive support when adverse weather conditions place them at risk.[285] The programme has the capacity to provide emergency payments to an additional 172 000 households.[286]

Shock-responsive social assistance programmes need to be based on an already existing structure, have clear triggers, strong institutional capacity, and registries of vulnerable groups that allow for a targeted, rapid expansion. Equally important are the integration of early warning information systems that provide accurate information triggering the response mechanism.

Very little evidence indicates any impact on nutrition outcomes, although it was found that programmes in Zambia and South Africa reduced stunting when mothers were better educated. Nevertheless, programmes did increase food consumption, had greater dietary diversity, and participated in health and nutrition activities, all of which contribute to achieving better nutrition outcomes.[287] Social assistance should not be seen as a panacea for addressing malnutrition as other, nutrition-sensitive and -specific interventions must be included, especially to avoid malnutrition in the first 1 000 days (*in utero* and the first two years of life). Nutrition interventions should also be more broadly targeted at vulnerable groups, in particular women and children, rather than only the poor.

Nutrition-sensitive and -specific interventions[288]

Nutrition-sensitive and -specific interventions will require capacity to assess and monitor – ideally with specific indicators and objectives

– local food security and nutrition conditions in a regular manner, allowing the putting in place of appropriate activities to respond to worsening nutrition outcomes, such as acute undernutrition and deficiencies in vital vitamins and minerals, as a crisis unfolds. Many nutrition-sensitive actions, such as increasing agricultural productivity, improving food storage, improving women's status and control over resources and incomes, can reduce the impact of economic shocks on nutrition outcomes, but are not short-term responses. Similarly, improving nutrition knowledge and education can help reduce malnutrition among children, as caregivers are more sensitive to reducing dietary diversity as a coping strategy. Again, the relevant activities are not crisis specific but can protect nutrition outcomes during crises. Importantly, these activities must be part of ongoing, longer-term nutrition strategies and programmes to improve nutrition outcomes.

Agriculture-specific interventions such as home gardens, small animal husbandry and fish production diversify incomes and dietary diversity in general but can also strengthen household resilience, and hence help safeguard nutrition, in times of crisis. Governments may also use crop-specific food vouchers to promote dietary diversity, creating demand for the crop and thus promoting its production.[289] Interventions are more effective when bundled and when they are coordinated with actions in other relevant sectors, such as health and sanitation.

A focus on the first 1 000 days should guide nutrition policy at all times, but especially during periods of crisis because the period from conception to 24 months of age is the critical window for adequate child growth and cognitive development. Developmental damage that results from undernutrition during this period is irreversible. Interventions should emphasize care and feeding practices, such as improved hygiene and de-worming, exclusive breastfeeding for infants during the first six months, as well as vitamin and mineral supplements.[290] A focus on maternal nutrition and caring and feeding knowledge is equally essential. Nutrition education and counselling play a central role in promoting good prenatal and postnatal care and diets for the mother and child. Gender roles are directly relevant for child and maternal malnutrition. Increasing women's control over resources and incomes has been shown to benefit their children's health, nutrition and education, as well as their own health and nutritional status.[291]

Women in most countries also undertake most of the work related to childcare, food preparation and other household responsibilities such as collecting fuel and water. Women thus face multiple tradeoffs in the allocation of their time that directly impinge on their own and their children's health and nutritional status, and these trade-offs are exacerbated during times of crises. Policies, interventions and investment in labour-saving farming technologies and rural infrastructure, targeted safety nets, and services such as on-site childcare can contribute significantly to health and nutritional outcomes for women, infants and young children.

Broadly speaking, trade is good for food security and potentially for nutrition as it allows the movement of food from surplus to deficit areas and potentially enhances dietary diversity. Trade policies are important in terms of determining prices, availability, quality and ultimately food security and, with appropriate polices to ensure food safety and other standards, can improve nutrition outcomes. The establishment of the African Continental Free Trade Area Agreement (AfCFTA) provides very considerable opportunities for expanded agriculture and food trade in Africa and envisages a tripling of trade in agricultural goods by 2023.[292] It can also play a role in stabilizing prices, promoting domestic production and enhancing diversity. However, all trade comes with challenges in terms of food safety and achieving desirable nutrition outcomes, and policy makers must also ensure that trade policies are nutrition sensitive. Achieving nutrition-sensitive trade policies requires different actors working together to provide policy coherence. ■

CONCLUSION

Food insecurity has been rising in Africa in recent years and conflict, climate extremes and economic slowdowns and downturns are the key drivers. The continent is not on track to eliminate hunger by 2030, and action is urgently required to address these key underlying determinants of food security and nutrition. Commodity dependent countries suffer frequent terms of trade shocks that threaten the food security and nutrition of large parts of the population. In most cases, the economic slowdowns and downturns that contributed to rising undernourishment in 2014–2018 were the result of commodity price falls. The experience of the food price shock of 2010–2011 shows that effective policy tools are available and that countries use them. Increasingly countries are adopting social protection programmes to address poverty and food insecurity. The experience of Ethiopia and Kenya shows that such programmes, when adequately designed, are also effective instruments to respond to shocks.

In the longer-term, countries must develop policies and invest to achieve a more diversified economy and achieve an inclusive structural transformation. The recently ratified African Continental Free Trade Area Agreement (AfCFTA) provides new opportunities for trade and investment and is of particular importance in this regard. However, sustained economic growth is not enough. Inequalities in income and in access to basic services and assets, as well as social exclusion, prevent many from benefiting from economic growth. At the same time, they worsen the impact of a slowdown and/or downturn for large parts of the population. Reducing inequalities is essential to strengthen household resilience, laying the path to inclusive growth and reducing food insecurity and tackling the multiple forms of malnutrition. Furthermore, addressing food insecurity, through building human capital and strengthening access to the use of basic services also helps to reduce inequality.

Finally, addressing acute and chronic malnutrition also requires both nutrition-specific and nutrition-sensitive approaches that are multisectoral in nature. Policies and interventions must focus on promoting nutrition-sensitive food systems (which encompass the entire range of actors and their interlinked activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products) that can promote and sustain healthy and diverse diets. Policy makers should put particular emphasis on maternal and child malnutrition and health in the first 1 000 days, both as a moral imperative but also as a high return investment.

The key drivers of the rise in undernourishment in 2014–2018, conflict, climate shocks and economic slowdowns and/or downturns often overlap. In some cases, they are directly interlinked, and in all cases, they worsen poverty, food insecurity and nutrition outcomes. Central to addressing the threat from these shocks are building and strengthening household and national-level resilience and some policy instruments, and interventions and programmes are relevant across the three drivers. For example, trade policies affect availability and prices and are important instruments at all times. Social protection is important to address chronic poverty and food insecurity, but when made shock-responsive, can play an important role in mitigating some of the impacts of the negative impacts of all three drivers. Finally, policies that reduce inequalities are central to achieving sustainable solutions for resilient households and communities. Many different sectors and actors are involved, and successfully addressing the food security and nutrition challenges countries, communities and households face requires policy coherence and integrated, cross-sectoral planning and implementation of policies and actions. ■

ANNEX

ANNEX TABLE 1
PREVALENCE OF UNDERNOURISHMENT (%)*

Region/subregions/countries	2005	2010	2014	2015	2016	2017	2018
World	**14.5**	**11.8**	**10.8**	**10.6**	**10.7**	**10.8**	**10.8**
Africa	**21.2**	**19.1**	**18.2**	**18.3**	**19.2**	**19.8**	**19.9**
Northern Africa	**6.2**	**5.0**	**7.2**	**6.9**	**7.0**	**7.0**	**7.1**
Algeria	8.8	6.3	4.2	4.0	3.9	3.9	n.a.
Egypt	5.4	4.5	4.4	4.4	4.4	4.5	n.a.
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Morocco	5.7	5.2	3.8	3.5	3.4	3.4	n.a.
Tunisia	5.6	4.8	4.4	4.4	4.3	4.3	n.a.
Sudan	--	--	21.0	20.1	19.9	20.1	n.a.
Sub-Saharan Africa	**24.3**	**21.7**	**20.8**	**20.9**	**22.0**	**22.7**	**22.8**
Central Africa	32.4	27.8	24.6	24.7	25.9	26.4	26.5
Angola	54.8	40.4	28.1	26.4	25.6	25.0	n.a.
Cameroon	20.3	11.5	7.3	7.7	8.7	9.9	n.a.
Central African Republic	39.5	32.0	52.2	57.8	59.8	59.6	n.a.
Chad	39.2	40.0	36.5	36.5	36.8	37.5	n.a.
Congo	40.2	40.5	38.2	37.7	38.5	40.3	n.a.
Democratic Republic of the Congo	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gabon	10.9	10.8	8.5	8.9	9.8	10.5	n.a.
Sao Tome and Principe	9.4	14.6	9.0	7.1	6.7	7.0	n.a.
Eastern Africa	**34.3**	**31.2**	**30.0**	**29.9**	**31.0**	**30.8**	**30.8**
Burundi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Comoros	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Djibouti	32.2	22.3	19.0	19.0	19.0	18.9	n.a.
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	39.7	32.1	24.5	22.7	21.4	20.6	n.a.
Kenya	28.2	23.5	22.8	25.0	27.4	29.4	n.a.
Madagascar	35.0	31.8	38.4	41.1	43.0	44.4	n.a.
Malawi	26.1	21.8	18.1	17.7	17.7	17.5	n.a.
Mauritius	5.2	4.8	5.6	5.8	6.1	6.5	n.a.
Mozambique	37.0	28.5	26.8	27.2	27.5	27.9	n.a.
Rwanda	44.5	34.0	33.9	35.1	36.0	36.8	n.a.
Seychelles	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

ANNEX TABLE 1 (CONTINUED)

Region/subregions/countries	2005	2010	2014	2015	2016	2017	2018
Somalia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Sudan	--	--	n.a.	n.a.	n.a.	n.a.	n.a.
Uganda	24.1	30.9	35.1	37.5	39.7	41.0	n.a.
United Republic of Tanzania	34.4	34.6	31.9	31.5	30.9	30.7	n.a.
Zambia	51.1	50.0	45.0	44.8	45.6	46.7	n.a.
Zimbabwe	42.2	41.9	46.9	49.5	50.9	51.3	n.a.
Southern Africa	**6.5**	**7.1**	**7.5**	**7.8**	**8.5**	**8.3**	**8.0**
Botswana	31.9	28.5	25.3	26.1	26.4	26.4	n.a.
Lesotho	11.7	12.7	13.1	13.2	13.4	13.1	n.a.
Eswatini	17.0	23.2	23.0	22.4	21.7	20.6	n.a.
Namibia	25.1	37.4	30.9	29.7	28.5	27.3	n.a.
South Africa	4.4	4.4	5.2	5.7	6.1	6.2	n.a.
Western Africa	**12.3**	**10.4**	**11.3**	**11.4**	**12.4**	**14.4**	**14.7**
Benin	15.4	11.8	9.5	9.9	10.1	10.1	n.a.
Burkina Faso	24.9	21.2	20.0	20.0	20.0	20.0	n.a.
Cabo Verde	14.0	15.3	13.6	13.0	12.7	12.6	n.a.
Côte d'Ivoire	20.0	21.9	21.0	20.4	19.6	19.0	n.a.
Gambia	15.1	9.3	10.1	10.2	10.2	10.2	n.a.
Ghana	9.3	5.3	6.3	6.2	5.9	5.5	n.a.
Guinea	21.3	17.6	14.9	14.8	15.5	16.5	n.a.
Guinea-Bissau	24.4	22.2	25.3	26.6	27.4	28.0	n.a.
Liberia	39.4	36.5	39.2	38.8	38.1	37.2	n.a.
Mali	11.1	6.9	5.6	5.7	6.0	6.3	n.a.
Mauritania	12.1	8.2	7.4	8.6	9.6	10.4	n.a.
Niger	15.1	11.3	10.3	11.6	14.1	16.5	n.a.
Nigeria	6.5	6.2	8.6	9.6	11.5	13.4	n.a.
Senegal	21.6	13.1	13.4	13.0	12.0	11.3	n.a.
Sierra Leone	37.0	27.0	22.0	23.0	24.4	25.6	n.a.
Togo	26.0	21.0	17.5	17.1	16.6	16.1	n.a.

SOURCE: FAO

*FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping. For subregions or higher aggregates, the estimates are based on annual data while for countries the estimates are based on three-year averages.

ANNEX TABLE 2
NUMBER OF UNDERNOURISHED (MILLIONS)*

Regions/subregions/countries	2004-06	2009-11	2013-15	2014-16	2015-17	2016-18
Africa	**196.4**	**200.5**	**212.4**	**221.5**	**233.7**	**246.4**
Northern Africa	**9.6**	**8.6**	**16.0**	**15.8**	**16.0**	**16.5**
Algeria	2.9	2.3	1.6	1.6	1.6	1.6
Egypt	4.2	3.8	4.0	4.1	4.2	4.4
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Morocco	1.7	1.7	1.3	1.2	1.2	1.2
Tunisia	0.6	0.5	0.5	0.5	0.5	0.5
Sudan	--	--	7.9	7.8	7.9	8.2
Sub-Saharan Africa	**177.3**	**181.2**	**196.4**	**205.7**	**217.7**	**229.9**
Eastern Africa	113.7	119.1	116.4	120.8	125.3	129.9
Burundi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Comoros	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Djibouti	0.3	0.2	0.2	0.2	0.2	0.2
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	30.5	28.1	23.8	22.7	21.9	21.6
Kenya	10.2	9.7	10.5	11.8	13.3	14.6
Madagascar	6.4	6.7	9.1	10.0	10.7	11.4
Malawi	3.4	3.3	3.1	3.1	3.2	3.3
Mauritius	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mozambique	7.8	6.9	7.3	7.6	7.9	8.3
Rwanda	4.0	3.5	3.8	4.1	4.3	4.5
Seychelles	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Somalia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Sudan	--	--	n.a.	n.a.	n.a.	n.a.
Uganda	6.9	10.5	13.6	15.1	16.5	17.6
United Republic of Tanzania	13.6	16.0	16.7	17.0	17.2	17.6
Zambia	6.2	6.9	7.0	7.2	7.6	8.0
Zimbabwe	5.5	5.9	7.2	7.8	8.2	8.5
Central Africa	**36.3**	**36.6**	**37.0**	**38.6**	**40.8**	**43.0**
Angola	10.7	9.5	7.6	7.4	7.4	7.4
Cameroon	3.5	2.3	1.6	1.8	2.0	2.4
Central African Republic	1.6	1.4	2.4	2.6	2.8	2.8
Chad	3.9	4.8	5.0	5.1	5.3	5.6
Congo	1.5	1.8	1.9	1.9	2.0	2.1
Democratic Republic of the Congo	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

ANNEX TABLE 2 (CONTINUED)

Regions/subregions/countries	2004-06	2009-11	2013-15	2014-16	2015-17	2016-18
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gabon	0.2	0.2	0.2	0.2	0.2	0.2
Sao Tome and Principe	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Southern Africa	**3.6**	**4.2**	**4.7**	**5.0**	**5.3**	**5.4**
Botswana	0.6	0.6	0.5	0.6	0.6	0.6
Lesotho	0.2	0.3	0.3	0.3	0.3	0.3
Eswatini	0.2	0.3	0.3	0.3	0.3	0.3
Namibia	0.5	0.8	0.7	0.7	0.7	0.7
South Africa	2.1	2.3	2.8	3.2	3.4	3.5
Western Africa	**33.2**	**32.0**	**38.3**	**41.3**	**46.3**	**51.6**
Benin	1.2	1.1	1.0	1.0	1.1	1.1
Burkina Faso	3.3	3.3	3.5	3.6	3.7	3.8
Cabo Verde	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Côte d'Ivoire	3.7	4.5	4.7	4.7	4.7	4.6
Gambia	0.2	0.2	0.2	0.2	0.2	0.2
Ghana	2.0	1.3	1.7	1.7	1.7	1.6
Guinea	2.1	1.9	1.8	1.8	1.9	2.1
Guinea-Bissau	0.3	0.3	0.4	0.5	0.5	0.5
Liberia	1.3	1.4	1.7	1.7	1.8	1.8
Mali	1.4	1.0	1.0	1.0	1.1	1.2
Mauritania	0.4	0.3	0.3	0.4	0.4	0.5
Niger	2.1	1.8	2.0	2.3	2.9	3.6
Nigeria	9.1	9.9	15.2	17.4	21.4	25.6
Senegal	2.4	1.7	1.9	1.9	1.9	1.8
Sierra Leone	2.1	1.7	1.6	1.7	1.8	1.9
Togo	1.5	1.4	1.3	1.3	1.3	1.3

SOURCE: FAO

*FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping. For subregions or higher aggregates, the estimates are based on annual data while for countries the estimates are based on three-year averages.

ANNEX TABLE 3
PREVALENCE OF SEVERE AND MODERATE OR SEVERE FOOD INSECURITY (%)*

Countries/subregions/countries	Prevalence of severe food insecurity in the total population		Prevalence of moderate or severe food insecurity in the total population	
	2014-2016	2016-2018	2014-2016	2016-2018
World	**7.9**	**8.7**	**23.5**	**25.4**
Africa	**19.7**	**22.1**	**49.5**	**53.1**
Northern Africa	**8.4**	**9.1**	**25.9**	**30.8**
Algeria	n.a.	n.a.	n.a.	n.a.
Egypt	9.4	10.1	27.6	36.0
Libya	n.a.	n.a.	n.a.	n.a.
Morocco	n.a.	n.a.	n.a.	n.a.
Sudan	n.a.	n.a.	n.a.	n.a.
Tunisia	n.a.	n.a.	n.a.	n.a.
Sub-Saharan Africa	**22.3**	**25.1**	**55.0**	**58.2**
Eastern Africa	**25.7**	**27.5**	**60.9**	**64.3**
Burundi	n.a.	n.a.	n.a.	n.a.
Comoros	n.a.	n.a.	n.a.	n.a.
Djibouti	n.a.	n.a.	n.a.	n.a.
Eritrea	n.a.	n.a.	n.a.	n.a.
Ethiopia	n.a.	n.a.	n.a.	n.a.
Kenya	19.1	19.1	56.5	56.5
Madagascar	n.a.	n.a.	n.a.	n.a.
Malawi	51.7	51.7	81.9	81.9
Mauritius	5.2	6.2	13.0	18.5
Mozambique	39.5	42.5	63.7	68.6
Rwanda	n.a.	n.a.	n.a.	n.a.
Seychelles	3.2	3.2	14.3	14.3
Somalia	n.a.	n.a.	n.a.	n.a.
South Sudan	n.a.	n.a.	n.a.	n.a.
Uganda	n.a.	n.a.	n.a.	n.a.
United Republic of Tanzania	n.a.	n.a.	n.a.	n.a.
Zambia	n.a.	n.a.	n.a.	n.a.
Zimbabwe	n.a.	n.a.	n.a.	n.a.
Central Africa	**n.a.**	**n.a.**	**n.a.**	**n.a.**
Angola	22.2	n.a.	64.6	n.a.
Cameroon	35.6	44.2	62.2	71.2
Central African Republic	n.a.	n.a.	n.a.	n.a.
Chad	n.a.	n.a.	n.a.	n.a.

ANNEX TABLE 3 (CONTINUED)

Countries/subregions/countries	Prevalence of severe food insecurity in the total population		Prevalence of moderate or severe food insecurity in the total population	
	2014-2016	2016-2018	2014-2016	2016-2018
Congo	n.a.	n.a.	n.a.	n.a.
Democratic Republic of the Congo	n.a.	n.a.	n.a.	n.a.
Equatorial Guinea	n.a.	n.a.	n.a.	n.a.
Gabon	n.a.	n.a.	n.a.	n.a.
Sao Tome and Principe	n.a.	n.a.	n.a.	n.a.
Southern Africa	**24.3**	**30.7**	**48.3**	**53.6**
Botswana	35.0	41.3	62.3	70.0
Eswatini	n.a.	29.5	n.a.	63.5
Lesotho	50.1	50.0	78.6	77.8
Namibia	41.4	39.0	66.0	67.9
South Africa	22.0	29.2	45.4	51.1
Western Africa	**14.6**	**17.3**	**45.4**	**47.6**
Benin	n.a.	n.a.	n.a.	n.a.
Burkina Faso	9.1	n.a.	40.7	n.a.
Cabo Verde	n.a.	9.6	n.a.	37.7
Côte d'Ivoire	n.a.	n.a.	n.a.	n.a.
Gambia	n.a.	31.3	n.a.	54.1
Ghana	7.9	7.9	49.6	49.6
Guinea	41.3	46.5	72.8	74.1
Guinea-Bissau	n.a.	n.a.	n.a.	n.a.
Liberia	62.4	62.2	85.0	86.2
Mali	n.a.	n.a.	n.a.	n.a.
Mauritania	n.a.	n.a.	n.a.	n.a.
Niger	31.0	51.7	66.4	83.0
Nigeria	6.5	n.a.	36.4	n.a.
Senegal	n.a.	n.a.	n.a.	n.a.
Sierra Leone	62.2	72.7	83.0	90.8
Togo	34.3	32.2	66.9	68.1

SOURCE: FAO

*FAO uses the M49 country and regional groupings, available at https://unstats.un.org/unsd/methodology/m49. In this report, "Central Africa" refers to the M49 "Middle Africa" grouping. Estimates are based on three-year averages. Regional estimates are included when more than 50 percent of the population is covered.

NOTES

NOTES TO PART 1

1 Comparison of the estimates between different editions of the report is not possible as each year the series are revised with updated information for the food balance sheets, the population and for the coefficient of variation. For more details on how the PoU is estimated see Cafiero, C. 2014. *Advances in hunger measurement: traditional FAO methods and recent innovations.* ESS Working Paper No. 14-04. Rome, FAO, and; Wanner, N., Cafiero, C., Troubat, N., and Conforti, P. 2014. *Refinements to FAO's methodology for estimating the prevalence of undernourishment indicator.* Working Paper Series ESS No. 14-05. Rome, FAO.

2 The PoU and the FIES are produced by the Statistics Division of FAO.

3 In addition, the prevalence of severe food insecurity (based on FIES) is presented, although it is not an SDG indicator.

4 The World Health Assembly is the forum that governs the World Health Organization (WHO). It is the world's highest health policy-setting body and is composed of health Ministers from WHO Member States.

5 Country level estimates of the prevalence of undernourishment, the number of undernourished and the FIES indicators are given in the Annex.

6 The series for Northern Africa experienced a jump in 2012 due to the inclusion of the Sudan from that year onwards.

7 The series for Northern Africa experienced a jump in 2012 due to the inclusion of the Sudan from that year onwards.

8 Acute food security refers to food deprivation that threatens lives or livelihoods, regardless of the causes, context or duration, while chronic food insecurity refers to the persistent or seasonal inability to consume adequate diets for a healthy and active life, mainly due to structural causes. See IPC Global Partners. 2019. *Integrated Food Security Phase Classification Technical Manual Version 3.0. Evidence and Standards for Better Food Security and Nutrition Decisions.* Rome.

9 The FIES measure is based on survey data where individuals are asked eight direct questions regarding their inability to access food due to lack of money or other resources. The questions have been carefully selected, tested and proven effective in measuring the severity of the food insecurity situation of respondents in different cultural, linguistic and development contexts. For greater detail on the FIES see also, and in particular Box 1 and 3, FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns.* Rome, FAO. 212 pp. (also available at www.fao.org/3/ca5162en/ca5162en.pdf).

10 See also part two.

11 See footnote 8 for a definition of acute versus chronic food insecurity. The condition that lead to acute food security can also contribute to throwing people into long-term undernourishment.

12 FSIN. 2019. *2019 Global Report on Food Crises. Joint Analysis for Better Decisions.* Rome.

13 The IPC/CH categories for acute food insecurity are: 1 = minimal/none, 2 = stressed, 3 = crisis, 4 = emergency, 5 = catastrophe/famine. People experiencing IPC/CH Phase 3 or above are considered as needing urgent food, nutrition and livelihoods assistance. IPC Global Partners. 2019. *Integrated Food Security Phase Classification Technical Manual Version 3.0. Evidence and Standards for Better Food Security and Nutrition Decisions.* Rome.

14 FSIN. 2019. *2019 Global Report on Food Crises. Joint Analysis for Better Decisions.* Rome.

15 Ibid.

16 Two consecutive cyclones hit Southern Africa in March and April 2019, causing widespread damage in the Comoros, Malawi, Mozambique and Zimbabwe. Worst affected was Mozambique, where 2.2 million people were left in need of urgent assistance. See OCHA. 2019. *Cyclones Idai and Kenneth.* Available at https://www.unocha.org/southern-and-eastern-africa-rosea/cyclones-idai-and-kenneth

17 FAO. 2016. *Crops Prospects and Food Situation.* No. 4 December 2016. Rome.

18 FAO. 2017. *Crop Prospects and Food Situation.* No. 4 December 2017. Rome.

19 Development Initiatives. 2017. *Global Nutrition Report 2017: Nourishing the SDGs.* Bristol, UK, Development Initiatives.

20 Micronutrient deficiency is technically a form of undernutrition but is often referred to separately because it can coexist with adequate or excessive consumption of macronutrients and carries health consequences that are distinct from those associated with stunting. See UNSCN. 2010. *Sixth report on the world nutrition situation: progress in nutrition.* United Nations Standing Committee on Nutrition. Geneva, Switzerland.

21 When the Sustainable Development Goal (SDG) agenda was developed, with a 2030 horizon, the 2025 targets for the relevant indicators, i.e. stunting, wasting and overweight, were retained, but an aspirational target of "ending" all forms of malnutrition for 2030 was also adopted. See WHO and UNICEF. 2017. *The extension of the 2025 Maternal, Infant and Young Child nutrition targets to 2030*. Discussion paper. Geneva, World Health Organization and United Nations Children's Fund.

22 While impairment was for a long-time considered permanent, studies indicate that some catch-up in terms of height, improved cognition and reduced risk of non-communicable disease may be possible in adolescence. See Development Initiatives. 2018. *2018 Global Nutrition Report: Shining a light to spur action on nutrition*. Bristol, UK, Development Initiatives.

23 See The Partnership for Child Development. 1999. Short stature and the age of enrolment in primary school: studies in two African countries. *Social Science & Medicine*, 48: 675–682; Fentiman, A., Hall, A. and Bundy, D. 2001. Health and cultural factors associated with enrolment in basic education: a study in rural Ghana. *Social Science & Medicine*, 52: 429–439; Glewwe, P., Jacoby, H. G. and King, E. M. 2001. Early childhood nutrition and academic achievement: a longitudinal analysis. *Journal of Public Economics*, 81: 345–368.

24 Development Initiatives. 2018. *Global Nutrition Report 2018*. Country and subregional data: Africa (available at https://globalnutritionreport.org/nutrition-profiles/)

25 Average (unweighted) prevalences, are 19.2 and 26.8 percent for urban and rural areas, respectively. See Development Initiatives. 2018. *2018 Global Nutrition Report: Shining a light to spur action on nutrition*. Bristol, UK, Development Initiatives, p. 35.

26 Ibid.

27 Galasso, E., & Wagstaff, A. 2018. *The Aggregate Income Losses from Childhood Stunting and the Returns to a Nutrition Intervention Aimed at Reducing Stunting*. Policy Research Working Paper 8536. Washington, DC, World Bank.

28 African Union Commission, NEPAD Planning and Coordinating Agency, UN Economic Commission for Africa, and UN World Food Programme. *The Cost of Hunger in Africa: Social and Economic Impact of Child Undernutrition in Egypt, Ethiopia, Swaziland and Uganda*. Report. Addis Ababa, UNECA, 2014.

29 African Union Commission, New Economic Partnership for Africa, UN Economic Commission for Africa and UN World Food Programme. 2015. *The Cost of Hunger in Malawi: Social and Economic Impact of Child Undernutrition in Malawi. Implications on National Development and Vision 2020*. Report.

30 Ibid.

31 Calculating these costs requires that assumptions are made as to how quickly countries will meet the WHA target for 2025; estimating how many fewer children would be stunted if governments and their partners made the investments needed to achieve the WHA target for 2025; estimating the increase in the incomes that would occur if individuals were not stunted from the time they enter the labour force to an end year (assumed to be early middle age); applying a discount rate to calculate their net present value in 2016 US dollars (Hoddinott (2016) notes that a relatively conservative discount rate was used). The interventions that can effectively reduce stunting are based on Bhutta *et al.,* (2013) (Bhutta, Z.A., Das, J.K, Rizvi, A., Gaffey, M.F., Walker, N., Horton, S., Webb, P., Lartey, A., and Black, R.E. 2013. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *The Lancet*, 382(9890): 452–477) who identify 10 interventions that, when scaled up at 90 percent coverage would reduce severe acute undernutrition by 61 percent, stunting by 20 percent and, globally, would save nearly one million deaths per year. A package including these interventions is costed at USD 118. In addition, the benefits of implementing the interventions must be estimated, and finally one can derive the benefit to cost ratios. For greater detail see Hoddinott, J. 2016. The economics of reducing malnutrition in Sub-Saharan Africa. *Global Panel on Agriculture and Food Systems for Nutrition*. Working Paper.

32 See for example: Smith, L.C. and Haddad, L. 2015. Reducing Child Undernutrition: Past Drivers and Priorities for the Post-MDG Era. *World Development*, 68: 180-204.

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2019

AFRICA

REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

CONTAINING THE DAMAGE OF ECONOMIC SLOWDOWNS AND DOWNTURNS TO FOOD INSECURITY IN AFRICA

In the 2017 and 2018 editions of the *Africa Regional Overview of Food Security and Nutrition*, FAO reported that the prevalence of undernourishment was rising in the region. The latest data shows that the deterioration has slowed, but there remain 256 million hungry people in Africa today. The report further documents that although many African countries are making progress towards reducing malnutrition, progress is too slow to meet six key nutrition targets, which form part of the Sustainable Development Goals (SDGs) monitoring framework and the World Health Assembly global nutrition targets.

Food insecurity has been rising in Africa in recent years and the continent is not on track to eliminate hunger by 2030. The 2017, 2018 and this year's report identify and report in detail on conflict, climate extremes and economic slowdowns and downturns as the key drivers of the rise in food insecurity. In most cases, the economic slowdowns and downturns that contributed to rising undernourishment in 2014–2018 were the result of commodity price falls.

Many effective policy tools are available, but their adoption will depend on the availability of fiscal space to effect the desired policy action. In the longer-term, countries must develop policies and invest to achieve a more diversified economy and achieve an inclusive structural transformation. However, sustained economic growth is not enough: reducing inequalities, including gender-based and spatial inequalities, is essential to strengthening household resilience, laying the path to inclusive growth and reducing food insecurity and tackling the multiple forms of malnutrition.

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