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Africa

REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

THE FOOD SECURITY AND NUTRITION–CONFLICT NEXUS: BUILDING RESILIENCE FOR FOOD SECURITY, NUTRITION AND PEACE

COVER PHOTOGRAPH

A woman and her family
planting seeds and seedlings
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CONTENTS

FOREWORD v
ACKNOWLEDGEMENTS vii
ACRONYMS viii
KEY MESSAGES ix

PART 1
REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION 1

After a prolonged decline, hunger appears to be on the rise globally 1

The 2030 Sustainable Development Agenda and food security and nutrition targets 2

Trends in food security and nutrition in Africa 3

SDG Indicator 2.1.1: Prevalence of undernourishment (PoU) 5

Prevalence of severe food insecurity measured with the Food Insecurity Experience Scale (FIES) 10

The multiple burdens of malnutrition 11

Trends in multiple burdens of malnutrition in Africa 11

SDG Indicator 2.2.1: Prevalence of stunting 11

SDG Indicator 2.2.2: Prevalence of wasting and overweight in children 14

Progress towards the World Health Assembly targets 16

Exclusive breastfeeding 18

Anaemia in women of reproductive age 19

Low birth weight 19

Adult overweight and obesity 20

Progress has slowed, new concerns have emerged 21

PART 2
POLICIES AND PROGRAMMES TO SUPPORT FOOD SECURITY AND NUTRITION 24

The recent regional experience 25

The Malabo Declaration 26

Regional and national policies, strategies and plans to promote food security and nutrition 28

Regional and national policies for food security and improved nutrition outcomes reflect a broad, multidisciplinary approach 29

Raising agricultural production and productivity is essential for adequate food availability 30

Agricultural production and productivity and social protection – essential to improve access to food. 37

Stability of availability and access to food also important in ensuring food security 42

Food utilization also determines nutrition outcomes 43

Policies and programmes are aligned with the Malabo Declaration and achieving SDG 2 47

PART 3
CONFLICT, FOOD SECURITY AND NUTRITION 49

How does conflict affect food security and nutrition 52

Conflict and food security: some recent evidence 52

Can food insecurity and undernutrition trigger conflict? 53

Case study: Lake Chad crisis 54

International response mechanism 56

Regional response mechanism 56

National response mechanism 58

Building resilience for food security and peace 58

ANNEX 63

Regional and subregional policies and programmes 63

National policies and programmes 65

REFERENCES 89

TABLES, FIGURES AND BOXES

TABLE

Table 1: Undernourishment in sub-Saharan Africa and subregions, 2000–2016

Table 2: Undernourishment in Western Africa, 2000–2016

Table 3: Undernourishment in Middle Africa, 2000–2016

Table 4: Undernourishment in Eastern Africa, 2000–2016

Table 5: Undernourishment in Southern Africa, 2000–2016

Table 6: Prevalence of severe food insecurity (measured using the FIES) in the world and in sub-Saharan Africa, 2014–2016

Table 7: Level and growth in Dietary Energy Supply Adequacy

Table 8: Number of countries with different proportions of land equipped for irrigation

FIGURES

Figure 1: Prevalence of undernourishment in sub-Saharan Africa and subregions, in 2000–2016

Figure 2: Number of undernourished people in sub-Saharan Africa and subregions in 2000–2016

Figure 3: Proportion of stunted children under five by subregion in 2000–2015

Figure 4: Proportion of stunted children under five by countries

Figure 5: Prevalence of wasted children under five by subregion in 2015

Figure 6: Prevalence of overweight children under five by subregion in 2000–2015

Figure 7: Number of countries in each subregion and number of WHA targets they are on track for

Figure 8: Proportion of countries in each subregion that are on track to meet the WHA targets

Figure 9: Prevalence of exclusive breastfeeding in the first three months

Figure 10: Prevalence of anaemia in women of reproductive age in sub-Saharan Africa in 2005 and 2015

Figure 11: Prevalence of adult obesity in sub-Saharan Africa in 2005 and 2014

Figure 12: Prevalence of adult male and female obesity in 2014 by subregion

Figure 13: Average DESA versus PoU for sub-Saharan African countries (2000–2015)

Figure 14: Net per capita food production indices for sub-Saharan Africa by subregion, 2000–2014

Figure 15: Total Factor Productivity indices for sub-Saharan Africa by region, 1981–1990, 1991–2000, 2001–2009

Figure 16: Value of food imports for sub-Saharan Africa by subregion, 2000–2014

Figure 17: Poverty rates for sub-Saharan Africa and subregions, 1990–2013

Figure 18: Real GDP per capita growth for sub-Saharan Africa and subregions, 2009–2014

Figure 19: Domestic food price index for sub-Saharan Africa and subregions, 2000–2013

Figure 20: Prevalence of stunting in children under five versus proportion of calories derived from cereals and roots and tubers out of total calories

Figure 21: Access to improved water sources, 2004–2014

Figure 22: Access to improved sanitation facilities, 2004–2014

BOXES

Box 1: The Prevalence of Undernourishment and the Food Insecurity Experience Scale

Box 2: Ghana, food security success story

Box 3: ReSAKSS: support to evidence-based decision-making

Box 4: Climate change and civil conflict

Box 5: Options for livelihood support for fishermen in northeast Nigeria

FOREWORD

During the first decade of the century, sub-Saharan Africa made sound progress in its fight against hunger with the region witnessing a decline in the prevalence and number of undernourished people. However, in 2015 and 2016, there was a reversal of this trend as even the prevalence of undernourished increased.

This trend reversal was attributable in many countries of the region to adverse climatic conditions, often linked to the El Niño phenomenon, which resulted in poor harvests and loss of livestock. Lower commodity prices and increasingly challenging global economic conditions, coupled with the outbreak of conflicts – at times concurrently with natural calamities such as droughts or floods – further exacerbated the food security and nutrition situation across the continent.

In the light of these recent developments, it is essential that we step up our efforts if we are to achieve a world without hunger by 2030.

Sub-Saharan Africa's vision for development continues to be driven by the African Union's Agenda 2063 as well as the principles enshrined in the Comprehensive Africa Agriculture Development Programme (CAADP). The goal defined in the Agenda 2063, and further reaffirmed in the Malabo Declaration as well as in the Africa Regional Nutrition Strategy 2015–2025 of ending hunger and halving poverty by 2025, is closely aligned with the SDG 2 and the Decade of Action on Nutrition 2016–2025, the framework to implement the commitments taken at the second International Conference on Nutrition and achieve the World Health Assembly targets.

As depicted in this report, countries in sub-Saharan Africa have been developing policy frameworks and investment plans that should be conducive to the attainment of the goals set in the Malabo Declaration and the SDG 2, in conformity with the process advocated by CAADP of raising the profile of agriculture and reinforcing agricultural policies.

The report highlights the devastating effects of conflicts on food security and nutrition in many sub-Saharan African countries. Over one-third of the world's violent conflicts took place in sub-Saharan Africa and the region harbours nearly 70 percent of all conflict-affected countries in protracted crises.

Conflicts in the region have affected primarily rural areas, damaging agriculture and disrupting both food production and food systems. The resulting disruption or destruction of livelihoods constitute a major cause of acute and chronic food insecurity and malnutrition. The magnitude of the adverse impact of conflicts in this respect can be perceived in northeast Nigeria, South Sudan and Somalia, where conflict has led 15.8 million people to face severe food insecurity.

Equally noteworthy are the findings presented in the report that food insecurity and malnutrition could in turn constitute drivers of the complex interplay of grievances that spawn conflicts. The conflict and food insecurity nexus, which may be further aggravated by the climate change dimension, becomes a critical issue to focus on as we strive to decipher the complexities of the interrelationship between food security, fragility, conflict and violence in the quest of embedding sustainable development and ultimately achieving the SDG 2.

Recognition of the fact that mutually reinforcing factors link food insecurity, malnutrition, social and political instability and conflicts has led to the realization of the need to combine efforts across disciplines, supporting resilient livelihoods in conjunction with sustaining peace and conflict resolution, in order to achieve sustainable development as well as food and nutrition security.

Investing in food security and agriculture thus becomes essential if we are to help prevent conflict and achieve lasting peace. Populations affected by conflicts either as displaced persons or as host communities often require assistance, in terms of food or cash, or basic social services. In attributing greater focus on rebuilding livelihoods which are often linked to agriculture, it is important to underscore the significance of investments in infrastructure, such as irrigation, and in social protection systems so as to sustain households in times of need, thereby curbing the need to rely on destructive coping strategies and securing strengthened resilience of sub-Saharan African countries to the shocks of man-made disasters.

I trust that this report provides member countries the requisite information and insights that enable them to work effectively towards achieving the Malabo Declaration and the SDG 2. Its contents and findings are presented with the aim of providing a fresh perspective and renewed impetus towards building a peaceful and resilient continent through the pursuit of a coherent and multifaceted approach to strengthen livelihoods in agriculture, fisheries and forestry.

Bukar Tijani
Assistant Director-General and
Regional Representative for Africa

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ACRONYMS

ADER	Average Dietary Energy Requirement
AfDB	African Development Bank
ARNS	African Regional Nutrition Strategy
AU	African Union
BMI	Body Mass Index
CAADP	Comprehensive Africa Agriculture Development Programme
COMESA	Common Market for Eastern and Southern Africa
DES	Dietary Energy Supply
DESA	Dietary Energy Supply Adequacy
EAC	East African Community
ECCAS	Economic Community of Central African States
ECOWAP	ECOWAS Agricultural Policy
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization of the United Nations
FAPDA	Food and Agriculture Policy Decision Analysis
FBS	Food Balance Sheet
FEWSNET	Famine Early Warning Systems Network
FIES	Food Insecurity Experience Scale
GDP	Gross Domestic Product
HGSF	Home-Grown School Feeding
HPLF	High-Level Political Forum
ICN2	Second International Conference on Nutrition
IDP	Internally Displaced People
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IGAD	Intergovernmental Authority on Development
IOC	Indian Ocean Commission
MDG	Millennium Development Goal
NAIP	National Agricultural Investment Plan
NEPAD	New Partnership for Africa's Development
NPCA	NEPAD Planning and Coordination Agency
PoU	Prevalence of Undernourishment
RAIP	Regional Agricultural Investment Plan
REC	Regional Economic Community
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
SSA	Sub-Saharan Africa
TFP	Total Factor Productivity
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
VNR	Voluntary National Review
WB	World Bank
WFP	World Food Programme
WHA	World Health Assembly
WHO	World Health Organization

KEY MESSAGES

➔ In sub-Saharan Africa, the prevalence of undernourishment appears to have risen from 20.8 to 22.7 percent between 2015 and 2016, and the number of people undernourished rose from 200 to 224 million, accounting for 25 percent of the 815 million people undernourished in the world in 2016. At the same time, the proportion of the population that has experienced severe food insecurity because of their inability to access food has risen in the region.

➔ Adverse climatic conditions and conflict, often occurring concurrently, are key factors driving the recent increase in food insecurity in the region. A difficult global economic environment, reflected in falling prices of extractive and non-extractive commodities and weak growth, also contributed to increased food insecurity in many countries.

➔ Despite a rising prevalence of undernourishment, rates of stunting continue to decline while levels of overweight and obesity continue to grow, notably in Southern Africa in terms of the latter. Progress towards the World Health Assembly global nutrition targets has been poor and a majority of countries need to step up their efforts, especially with regard to reducing anaemia in women of reproductive age as well as stunting and wasting in children.

➔ The improvements achieved by many countries manifests that cumulatively, the Comprehensive Africa Agriculture Development Programme has contributed significantly to raising agricultural public investment and growth, reducing poverty and advancing mutual accountability in sub-Saharan Africa. This momentum needs to be sustained through effective implementation and delivery on the goals of the Malabo Declaration on agriculture, integrating it with the 2030 Agenda on Sustainable Development and the Decade of Action on Nutrition.

➔ Effective implementation and delivery of policies and investment plans aligned with the Malabo Declaration requires adequate funding, setting the right priorities and strengthening institutional capacities.

➔ In sub-Saharan Africa, a majority of the population undernourished in 2016 live in countries affected by conflict. The prevalence of undernourishment is about twice as high in conflict-affected countries with a protracted crisis than in countries not affected by conflict, and nutrition outcomes are also generally worse in these countries.

➔ For all countries in sub-Saharan Africa attaining food and nutrition security while addressing climate change and the degradation of the environment is a primary challenge. A further dimension is added to this challenge in countries that are in fragile situations and have weak institutions. In these countries food insecurity may itself be a trigger for conflict, and or prolong conflicts.

➔ Conflict-sensitive and timely interventions aimed at improving food security and nutrition can contribute to building resilience and sustaining peace. A sustainable impact on peace is more likely when implemented as part of a broader set of multisectoral humanitarian, developmental and peace related interventions at country, subregional and regional level.

ETHIOPIA
A woman with her livestock, a beneficiary of FAO-sponsored programme ©FAO/ Legesse Tamiru

PART 1

REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

AFTER A PROLONGED DECLINE, HUNGER APPEARS TO BE ON THE RISE GLOBALLY

At the start of the new millennium, world leaders agreed on a set of eight Millennium Development Goals (MDGs), which provided the overarching development framework for the next 15 years. In retrospect, the MDGs are considered to have produced the most successful anti-poverty movement in history (UN, 2015). Globally, progress in fighting hunger has been steady with the prevalence of undernourishment falling from 14.7 to 10.6 percent between 2000 and 2015, while the number of undernourished declined from 900 million to 777 million over the same time period.

However, the decline has slowed and the most recent data show that between 2015 and 2016 the prevalence of undernourished may have risen slightly from 10.6 to 11.0 percent and the number of undernourished rose from 777 million to 815 million. While the prevalence of undernourishment remains well below the level of a decade ago, the recent possible increase should be cause for great concern given international commitments to end hunger by 2030. The food security situation appears to have worsened in particular in parts of sub-Saharan Africa, South–Eastern Asia and Western Asia, and it is most pronounced in situations of conflict and conflict combined with droughts or floods.

In sub-Saharan Africa, the proportion of undernourished declined from 28.1 percent in 2000 to 20.6 percent in 2010, and the number of undernourished fell from 178 million to 171 million over the same period. However, after 2010 the rate of undernourishment remained flat and then rose possibly up to 22.7 percent in 2016, while the number of undernourished might have reached 224 million[1]. In terms of prevalence of undernourishment, sub-Saharan Africa has the highest level of all regions in the world.

In many countries, the worsening situation in 2015 and 2016 can be attributed to adverse climatic conditions, often linked to the El Niño phenomenon, resulting in poor harvests and the loss of livestock. Conflict, sometimes in combination with drought or floods, also contributed to severe food insecurity in several countries (such as the famine declared in South Sudan as well as the crisis-level food insecurity at risk of turning into famines faced in northern Nigeria and Somalia). Lower commodity prices and a difficult global economic environment have furthermore contributed to the worsening food security situation, including for the largest regional economies, Nigeria and South Africa.

The concerning trend in undernourishment for sub-Saharan Africa is not yet reflected in the series of indicators referring to nutritional outcomes in the region. Data gathered on the different forms of malnutrition detected in the region (as further outlined in this section of the report) still show a continued decline in the prevalence of child stunting

[1]The estimates of undernourishment presented in this year's report are not directly comparable with those reported in earlier editions. The differences are due to, *inter alia*, updated information for estimates of the Dietary Energy Supply, estimates of the Coefficient of Variation, and anthropometric data. For further details on the methodology, see Cafiero (2014) and Wanner *et al.*, (2014).

and wasting. On the other hand, overweight and obesity rates for children continue to rise in most of the subregions whereas the rates for adults are soaring in all regions. Multiple forms of malnutrition coexist, with countries experiencing simultaneously high rates of child undernutrition or anaemia as well as high rates of obesity.

It may be difficult to comprehend the current situation in sub-Saharan Africa where food security in terms of energy intake may be deteriorating while child undernutrition continues dwindling and obesity is surging. The most recent upsurge in food insecurity cannot be detected at once in the malnutrition trends, since food security is just one determinant of nutritional outcomes and because nutrition outcomes reflect worsening food insecurity only with a delay, with the length of the delay depending also on the type of indicator. Other impacting factors in this respect comprise educational level, resources allocated to targeted programmes for child nutrition, lifestyle, as well as access to clean water, basic sanitation and health services. More context-specific assessments are needed to identify the underlying reasons for the apparent divergence in the most recent food security and nutritional trends.

These recent estimates nevertheless do underscore the challenging nature of the quest for a world without hunger by 2030 and the need to step up efforts if this goal is to be achieved. As we project towards the future, it is evident that the pursuit of efforts to eradicate poverty and hunger in the post-MDG era is confronted by significant challenges such as high population growth rates, climate change, gender inequality, acute social and economic imbalances and proliferation of conflicts. Recognizing the need for a more comprehensive and integrated approach to address the numerous interconnected and complex challenges, the global community has adopted a new development framework, the 2030 Sustainable Development Agenda with its 17 Sustainable Development Goals (SDGs). The present Regional Overview of Food Security and Nutrition constitutes the first FAO regional report on Sustainable Development Goal 2 (SDG 2) in Africa. The report outlines the current situation and trends on hunger and malnutrition, presenting an overview of policy initiatives in the region as well as an analysis of one of the most pressing issues the region is facing, namely, the correlation between conflict and food security.

THE 2030 SUSTAINABLE DEVELOPMENT AGENDA AND FOOD SECURITY AND NUTRITION TARGETS

The 2030 Agenda for Sustainable Development, adopted by the United Nations General Assembly on 25 September 2015, aims to eradicate poverty in all its forms and dimensions. It establishes 17 SDGs upon which international development efforts should focus in the aim of ending poverty, promoting prosperity and people's wellbeing while protecting the environment for the next 15 years. It builds upon the eight Millennium Development Goals by advocating the application of SDGs to all countries, securing lateral linkages between goals, and ensuring ownership of the SDG process by member countries committed to the global objectives of the 2030 Agenda.

Integral to achieving the 2030 Agenda for Sustainable Development are the Addis–Ababa Action Agenda, a framework for mobilising financial and non-financial means of implementation, and the Paris Climate

Agreement, a global treaty seeking to curb the impact of climate change. Alignment of regional and national policy processes is key to policy coherence and effective planning and implementation.

In Africa, food security and nutrition constitute an essential focus of the continent's development agenda. The 2014 Malabo commitment – calling for ending hunger and reducing stunting to below 10 percent and underweight to below 5 percent by 2025 – embodies the goals driving the continent's policy agenda with respect to these two sectors. The African Union's (AU) Agenda 2063 sets the vision and action plan for the development of the continent over the next 50 years. The first ten-year implementation plan (2014–2023) underpinning the Agenda (AU, 2015a) was adopted in 2014 and covers seven priority areas aligned with the SDGs. These priorities are defined in the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods.

The 2030 Agenda for Sustainable Development establishes a global reporting structure which gathers inputs at local, national and regional levels and culminates in the UN High-Level Political Forum (HPLF). Progress on the 17 goals is assessed against 169 targets, evaluated through 231 indicators. The goals came into effect on 1 January 2016 and the global indicator framework for the SGDs was established in March of that year.

As part of its follow-up and review mechanisms, countries are encouraged to prepare reviews of progress at national and subnational level, which will serve as a basis for the regular reviews by the HLPF. These Voluntary National Reviews (VNRs) aim to facilitate the sharing of experiences, including successes, challenges and lessons learned, with a view to accelerating the implementation of the 2030 Agenda. In sub-Saharan Africa, Benin, Botswana, Ethiopia, Kenya, Nigeria, Togo and Zimbabwe, are preparing VNRs for 2017.[2]

Food and agriculture are key to the vision of sustainable development as laid out in the 2030 Agenda and as reflected in SDG 2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture". The present Regional Overview for Africa report discloses the progress being realised towards SDG 2 target 2.1, which focuses on ensuring access to food for all and target 2.2, which calls for putting an end to all forms of malnutrition. In addition, this report also presents the indicators that measure progress towards the six global nutrition targets for 2025 that were unanimously agreed to in 2012 by the World Health Assembly (WHA).[3]

TRENDS IN FOOD SECURITY AND NUTRITION IN AFRICA

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."

Two indicators of food access were endorsed by countries represented at the UN Statistical Commission to monitor target 2.1: the prevalence of undernourishment (PoU) and the prevalence of moderate and severe food insecurity in the population based on the Food Insecurity Experience Scale (FIES). These indicators provide complementary information on food access based on different methods and data sources (see Box 1).

[2]From the Sustainable Development Knowledge Platform, available at: https://sustainabledevelopment.un.org/hlpf#vnrs.
[3]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.

BOX 1

THE PREVALENCE OF UNDERNOURISHMENT AND THE FOOD INSECURITY EXPERIENCE SCALE

The FAO **Prevalence of Undernourishment (PoU)** indicator is an estimate of the proportion of the population whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life. This indicator is published by FAO since 1974, and from 1999 onwards FAO has reported it in the annual State of Food Insecurity in the World (SOFI) report for almost all the countries in the world. The PoU has been used to monitor both the World Food Summit Target, which called for a 50 percent reduction in the number of undernourished people by 2015, and the Millennium Developments Goals' target 1C of "halving, between 1990 and 2015, the proportion of people who suffer from hunger."

The PoU estimates are derived from official country data on food supply, food consumption and energy needs (taking into consideration demographic characteristics such as age, sex and levels of physical activity). FAO strives to always improve the reliability of the PoU estimates and for the estimates presented in this report, the most important updates are:

- Updated estimates of the dietary energy supply (DES) for 2014 and 2015, based on food balance sheets (FBS) available for those years;
- More accurate annual estimates of the DES for a number of countries, resulting from thorough revisions of the methodology used to compile the FBS;
- Updated estimates of the distribution of habitual food consumption within national populations (measured through the coefficient of variation), using microdata from national household surveys for 51 countries;
- Updated estimates of the range of normal requirements for the average individual in a country, based on new data on the median height in each sex and age group of the population, derived from demographic and health surveys.

These updates and revisions allow for reliable annualized PoU estimates at the global and regional level, replacing the three-year averages of previous publications. A lack of more recent FBS data requires estimating the PoU for 2016 through a projection model. These projections were performed for global, regional and subregional aggregates only, as doing so at the country-level would be subject to larger margins of error. For this reason, this report does not present single year estimates for the PoU at the country level.[4]

Despite some limitations, the PoU indicator is an invaluable tool for monitoring progress towards reducing global hunger because it is consistently calculated and available across countries. Designed to capture a state of energy deprivation lasting over a year, it does not reflect short-lived effects of temporary crises or inadequate intake of other essential nutrients; nor does it capture the effects of other sacrifices that individuals or households may make to maintain their consumption of dietary energy (FAO, IFAD and WFP, 2015).

FAO has recently developed a new tool to complement the information provided by the PoU: the Food Insecurity Experience Scale (FIES). Based on data collected directly from representative samples of individuals, this tool measures people's ability to obtain adequate food and is used to estimate the prevalence of experienced food insecurity. When defined at severe levels, this measure approximates the PoU, as both indicators reflect the extent of severe food deprivation; however, they are based on different sources of data and methodologies. The FIES-based estimates presented in this report, based on data collected by FAO through the Gallup World Poll, are more up-to-date – with the latest observed estimates available for 2016 – while the PoU is derived from data typically available only after a delay of several years.

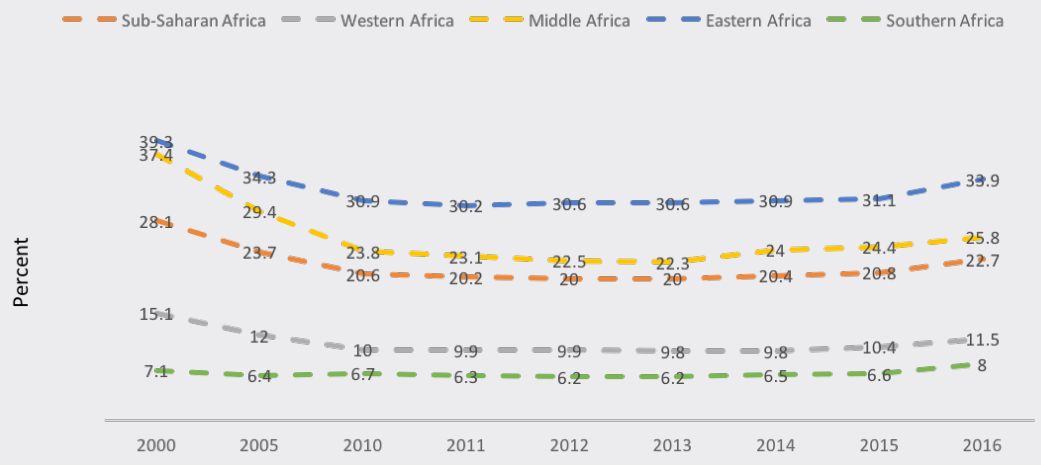
[4]For more detail see FAO (2017a).

"SDG Indicator 2.1.1: Prevalence of undernourishment (PoU)"

Between 2000 and 2010, sub-Saharan Africa made sound progress in the fight against hunger, with the prevalence of undernourishment falling from 28.1 percent to 20.6 percent (Figure 1 and Table 1). The fall was steepest in Middle Africa but Eastern and Western Africa also saw a reduction in undernourishment.[5] However, since 2010, the prevalence of undernourishment in all regions of the continent has remained flat and from 2015 to 2016 rose from 20.8 to 22.7 percent.

Figure 1 and Table 1 also show large subregional differences, not in the trends, but in the level of undernourishment. While the prevalence of undernourishment in Southern and Western Africa is considerably lower than the regional average, it is above average in Middle Africa and much higher in Eastern Africa.

FIGURE 1
PREVALENCE OF UNDERNOURISHMENT IN SUB-SAHARAN AFRICA AND SUBREGIONS, IN 2000–2016

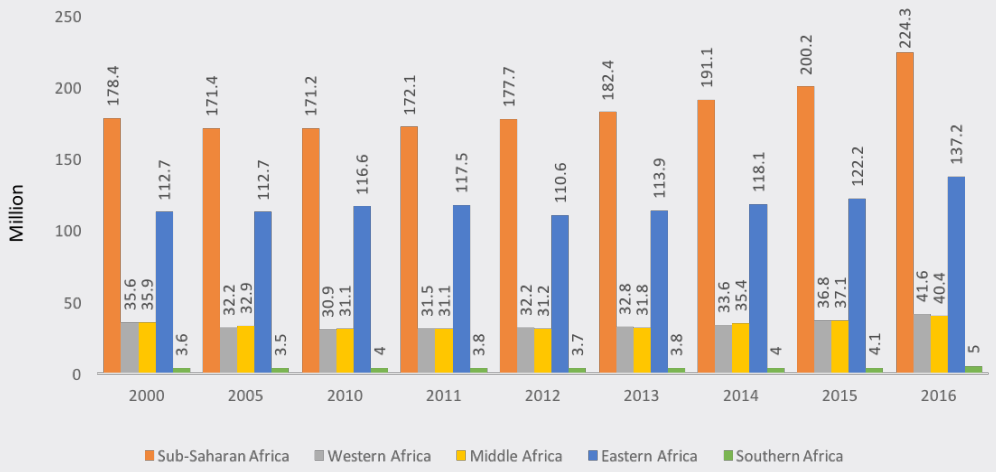


Source: FAO

In terms of number of people that are undernourished, a similar pattern is seen: a drop between 2000 and 2010, followed by a gradual rise that accelerates from 2013 (Figure 2 and Table 1). In 2016, there were about 224 million undernourished people in sub-Saharan Africa, which is 53.1 million more than in 2010. Figure 2 and Table 1 also show that the bulk of the undernourished live in Eastern Africa while only a relatively small proportion live in Southern Africa. Of the increase in total numbers since 2010, Eastern Africa accounted for 39 percent, Western and Middle Africa accounted for 20 and 18 percent, respectively, and Southern Africa accounted for under two percent. The high number of undernourished also reflects the fact that population growth in sub-Saharan Africa averaged about 2.8 percent over the past ten years (World Bank, 2017a).

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

FIGURE 2
NUMBER OF UNDERNOURISHED PEOPLE IN SUB-SAHARAN AFRICA AND SUBREGIONS IN 2000–2016



Source: FAO

TABLE 1
UNDERNOURISHMENT IN SUB-SAHARAN AFRICA AND SUBREGIONS, 2000–2016

	Prevalence (%)				Number (millions)				
Region/Year	2000	2005	2010	2016	2000	2005	2010	2015	2016
Sub-Saharan Africa	28.1	23.7	20.6	22.7	178.4	171.4	171.2	200.2	224.3
Western Africa	15.1	12.0	10.0	11.5	35.6	32.2	30.9	36.8	41.6
Middle Africa	37.4	29.4	23.8	25.8	35.9	32.9	31.1	37.1	40.4
Eastern Africa	39.3	34.3	30.9	33.9	112.7	112.7	116.6	122.2	137.2
Southern Africa	7.1	6.4	6.7	8.0	3.6	3.5	4.0	4.1	5.0

Source: FAO

In Western Africa, nearly all countries experienced a fall in the prevalence as well as the number of undernourished people between 1999–2001 and 2009–2011, but in the following years, from 2014–2016, a majority of countries saw the prevalence of undernourishment rise (Table 2). The rise in percentage point terms over the 2009–2011 to 2014–2016 period was most pronounced in Guinea-Bissau, Liberia and Sierra Leone. On the other hand, Mali, Mauritania and Togo achieved reductions that significantly exceeded the regional average over the same period.

TABLE 2
UNDERNOURISHMENT IN WESTERN AFRICA, 2000–2016

	Prevalence (%)				Number (millions)			
Region/Country	1999-2001	2004-2006	2009-2011	2014–2016	1999–2001	2004–2006	2009–2011	2014–2016
Sub-Saharan Africa	28.2	23.7	20.7	21.3	179.1	171.9	171.8	205.2
Western Africa	15.4	12.0	10.0	10.6	36.2	32.4	30.9	37.3
Benin	22.6	15.4	12.1	10.3	1.6	1.3	1.2	1.1
Burkina Faso	25.4	24.9	21.2	20.2	2.9	3.3	3.3	3.7
Cabo Verde	17.8	14.4	15.8	13.7	<0.1	<0.1	<0.1	<0.1
Côte d'Ivoire	17.6	16.2	16.5	15.4	2.9	2.9	3.3	3.5
Gambia	13.1	15.1	9.2	10.9	0.2	0.2	0.2	0.2
Ghana	15.9	9.3	5.4	7.6	3	2	1.3	2.1
Guinea	26.3	21.4	17.7	17.5	2.3	2.1	2	2.2
Guinea– Bissau	26.4	24.9	22.8	28.3	0.3	0.4	0.4	0.5
Liberia	38.4	39.4	36.5	42.8	1.1	1.3	1.4	1.9
Mali	14.6	11.2	7.1	4	1.6	1.4	1.1	0.7
Mauritania	11.7	12.2	8.3	5.3	0.3	0.4	0.3	0.2
Niger	21.8	15.2	11.3	11.3	2.4	2.1	1.8	2.2
Nigeria	9.4	6.6	6.3	7.9	11.5	9.2	10.1	14.3
Saint Helena, Ascension and Tristan da Cunha	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Senegal	28.5	21.3	13	11.3	2.8	2.4	1.7	1.7
Sierra Leone	39.9	37.2	27.2	30.9	1.6	1.9	1.6	2
Togo	30.4	25.6	20.8	11.5	1.5	1.4	1.3	0.8

Source: FAO

*The subregional estimates reported in Table 1 differ from those in Tables 2-5 as in the former single year estimates are reported while in the latter, to be consistent with the country level estimates, three-year averages are reported.

Middle Africa saw a large drop in the rate of undernourishment between 1999–2001 and 2009–2011, and the situation improved in nearly all countries for which there is data. Angola, Cameroon and the Central African Republic achieved the largest reductions in the prevalence of undernourishment over the 1999–2001 to 2009–2011 period (Table 3). While fewer countries achieved reductions in the 2009–2011 to 2014–2016 period, Chad and Angola reduced undernourishment by 7.4 and 5.4 percentage points, respectively. However, in the Central African Republic conflict caused widespread disruption to livelihoods, and undernourishment rose by 25.3 percentage points between 2009–2011 and 2014–2016, soaring to 58.6 percent.

TABLE 3
UNDERNOURISHMENT IN MIDDLE AFRICA, 2000–2016

	Prevalence (%)				Number (millions)			
Region/Country	1999–2001	2004–2006	2009–2011	2014–2016	1999–2001	2004–2006	2009–2011	2014–2016
Sub-Saharan Africa	28.2	23.7	20.7	21.3	179.1	17194	171.8	205.2
Middle Africa	37.2	29.4	23.9	24.8	35.8	32.9	31.1	37.6
Angola	50	32.1	19.4	14	7.5	5.8	4.1	3.5
Cameroon	30.6	20.2	11.6	7.9	4.9	3.7	2.4	1.9
Central African Republic	42.6	39.9	33.3	58.6	1.6	1.6	1.5	2.9
Chad	40.1	39.2	39.9	32.5	3.3	3.9	4.8	4.6
Congo	32.5	33.4	30.8	28.2	1	1.2	1.3	1.3
Democratic Republic of the Congo	n.a.	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.	n.a.
Gabon	9.4	9.7	9.4	7	0.1	0.1	0.1	0.1
Sao Tome and Principe	18.1	9.6	15	13.5	<0.1	<0.1	<0.1	<0.1

Source: FAO

The rate of undernourishment in Eastern Africa fell substantially between 1999–2001 and 2009–2011, but has since remained flat and rose in 2014–2016 to 32 percent (Table 4). Many countries in the region experienced reductions in food production and increases in food prices due to the effects of El Niño/La Niña-related phenomena. Between 1999–2001 and 2009–2011, Djibouti, Rwanda and Ethiopia saw the largest falls while Uganda and Zambia experienced a slight increase. Kenya has seen the rates of undernourishment fall consistently over the 1999–2001 to 2014–2016 period, although the reduction has slowed somewhat in the last five years. Overall, between 2009–2011 and 2014–2016, fewer countries achieved reductions in undernourishment and several experienced quite large increases, notably Zimbabwe, Madagascar and Rwanda.

TABLE 4
UNDERNOURISHMENT IN EASTERN AFRICA, 2000–2016

	Prevalence (%)				Number (millions)			
Region/Country	1999-2001	2004-2006	2009-2011	2014–2016	1999–2001	2004–2006	2009–2011	2014–2016
Sub-Saharan Africa	28.2	23.7	20.7	21.3	179.1	171.9	171.8	205.2
Eastern Africa	39.4	34.3	31.0	32.0	112.8	112.9	117.1	125.8
Burundi	n.a.	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.	n.a.
Djibouti	48.1	32.5	22.3	12.8	0.3	0.3	0.2	0.1
Eritrea	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	51.9	39.7	32.1	28.8	34.5	30.4	28.1	28.6
Kenya	32.2	28.7	23.7	19.1	10	10.2	9.5	8.8
Madagascar	34.2	35.1	31.9	42.3	5.4	6.4	6.7	10.3
Malawi	27.1	26.2	21.7	25.9	3	3.3	3.2	4.5
Mauritius	6.6	5.2	4.8	5.2	<0.1	<0.1	<0.1	<0.1
Mayotte	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mozambique	40.3	37	30	26.6	7.4	7.8	7.3	7.4
Réunion	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rwanda	54.9	44.5	34.2	41.1	4.4	4	3.5	4.8
Seychelles	n.a.	n.a.	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.	n.a.	n.a.
South Sudan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uganda	27.9	24.3	31	39	6.6	6.8	10.3	15.2
United Republic of Tanzania	36.7	34.6	34.7	32.3	12.5	13.5	15.8	17.3
Zambia	47.6	51.3	49.7	45.9	5	6.2	6.9	7.4
Zimbabwe	43.3	40	33.3	44.7	5.4	5.2	4.7	7

Source: FAO

The trend in Southern Africa is heavily weighted by South Africa. The rate of undernourishment is indeed much higher in all other Southern African countries and in general, despite some fluctuations over time, has remained largely unchanged since 2000. Botswana, which has seen the prevalence of undernourishment fall over time, is the exception. The countries in the region have been badly affected by drought, with 2015/16 having been the driest agricultural season in 35 years in the region. Botswana, Lesotho, Namibia, Swaziland and Zimbabwe experienced massive crop and livestock losses. In South Africa, eight of nine provinces, accounting for almost 90 percent of the country's maize production – and critically important for exports within the region – have been declared drought disaster areas (FAO, 2016a).

TABLE 5
UNDERNOURISHMENT IN SOUTHERN AFRICA, 2000–2016

	Prevalence (%)				Number (millions)			
Region/Country	1999–2001	2004–2006	2009–2011	2014–2016	1999–2001	2004–2006	2009–2011	2014–2016
Sub-Saharan Africa	28.2	23.7	20.7	21.3	179.1	171.9	171.8	205.2
Southern Africa	7.1	6.5	6.7	7.0	3.6	3.5	4.0	4.1
Botswana	35.6	32	28.6	26	0.6	0.6	0.6	0.6
Lesotho	13.7	11.7	12.8	14.5	0.3	0.2	0.3	0.3
Namibia	26.3	25.2	37.6	28.8	0.5	0.5	0.8	0.7
South Africa	4.7	4.2	3.9	4.6	2.1	2	2	2.5
Swaziland	19.3	17.3	23.7	19.6	0.2	0.2	0.3	0.3

Source: FAO

PREVALENCE OF SEVERE FOOD INSECURITY MEASURED WITH THE FOOD INSECURITY EXPERIENCE SCALE (FIES)

Table 6 shows the prevalence of severe food insecurity within populations, i.e. the number of people living in households where at least one adult has been found to be severely food insecure, as a percentage of the total population.

Sub-Saharan Africa is the continent where severe food insecurity is most prevalent, reaching 31 percent of the population and accounting for nearly one-half of all severely food insecure people in the world.

A comparison of regional PoU and FIES estimates, presented by FAO (2017a), shows that the PoU in 2015 is significantly lower than the average prevalence of severe food insecurity in 2014-16 for a number of countries in Eastern and Southern Africa. For these

TABLE 6
PREVALENCE OF SEVERE FOOD INSECURITY (MEASURED USING THE FIES) IN THE WORLD AND IN SUB-SAHARAN AFRICA, 2014–2016

	Severe food insecurity – prevalence (percent)						Severe food insecurity – prevalence (percent)					
	2014		2015		2016		2014		2015		2016	
World	9.2	(±0.5)	8.8	(±0.4)	9.3	(±0.4)	665.9	(±35.7)	645.1	(±31.7)	688.5	(±27.6)
Sub-Saharan Africa	28.3	(±1.0)	28.7	(±0.9)	31.0	(±0.8)	273.6	(±9.6)	284.5	(±8.7)	315.6	(±8.5)

Source: FAO Voices of the Hungry project.
Notes: Number of people living in households where at least one adult has been found to be severely food insecure, as a percentage of the total population. Margins of error are in parentheses.

countries, the higher estimates of the prevalence of severe food insecurity in 2014-16 may reflect an improved ability of the FIES-based indicator to capture the impact of the three consecutive years of drought in these countries. Such impacts may not yet be fully captured in current PoU estimates, and likely will be reflected in the new food balance sheets for these countries that will become available in the coming years. As FIES-based estimates are a direct measure of food access, discrepancies may also reflect short-term fluctuations in countries' economic and social conditions. In contrast, the PoU estimates may not reflect recent changes in access to food due to a lack of recent household survey data for many countries.

THE MULTIPLE BURDENS OF MALNUTRITION

Nearly all countries in sub-Saharan Africa experience a multiple burden of malnutrition that occurs as a result of inadequate, unbalanced or excessive consumption of the macronutrients that provide dietary energy (carbohydrates, protein and fats) and the micronutrients (vitamins and minerals) that are essential for physical and cognitive growth and development (FAO, 2011a). This section reports on outcome indicators of: undernutrition, micronutrient deficiency,[6] and overweight and obesity, and aims to shed some light on the overlaps because they reflect the multiple issues facing countries. Many of these indicators are widely available for children under five years of age and are considered effective approximations of the nutritional status of the entire population. The first part provides a broad overview of the progress that sub-Saharan Africa is making towards meeting the nutrition-related SDG target and the six World Health Assembly global nutrition targets. This is followed by a more detailed analysis of trends in key outcome indicators of malnutrition.

[6]Micronutrient deficiency is technically a form of undernutrition (UNSCN, 2010), 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.

TRENDS IN MULTIPLE BURDENS OF MALNUTRITION IN AFRICA

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."

Two indicators of malnutrition were endorsed by countries represented at the UN Statistical Commission to monitor target 2.2: the prevalence of stunting among children under 5 years of age and the prevalence of wasting and overweight among children under 5 years of age.

SDG Indicator 2.2.1: Prevalence of stunting

Stunting in children under the age of five is a key indicator of chronic undernutrition because it captures the effects of long-term deprivation and disease and is a powerful predictor of the life-long burden of undernutrition (Victora *et al.,* 2008). Stunting is caused by long-term inadequate dietary intake and continuing bouts of infection and disease, often beginning with maternal malnutrition, leading to poor foetal growth, low birth-weight and poor growth. Stunting causes permanent impairment to cognitive and physical development that can lower educational attainment and reduce adult income.

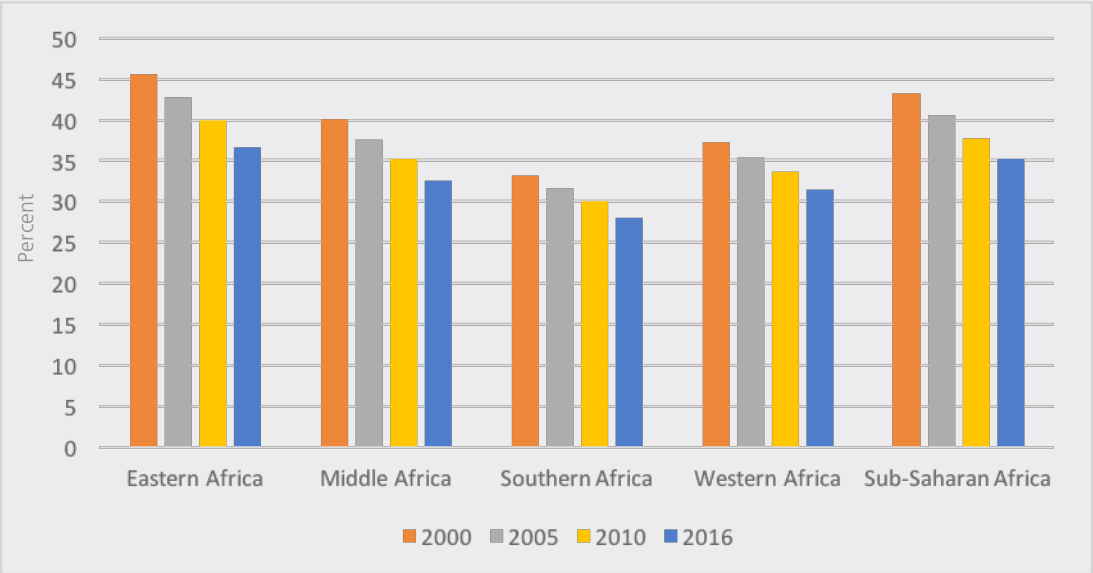
It is also well established that adults who suffered from stunting as children are less productive than non-stunted workers and are less able to contribute to the economy (African Union Commission, *et al.*, 2014). That study estimates the economic losses from child undernutrition through health, education and productivity costs and losses, amount to 16.5, 3.1 and 5.6 percent of GDP in Ethiopia, Swaziland and Uganda, respectively.

Globally, there were 154.8 million stunted children under the age of five in 2015, and about 56.8 million of these children (34.1 percent) are in sub-Saharan Africa (UNICEF, WHO and World Bank, 2017a). The prevalence in the region dropped by 8.1 percentage points over the past 15 years. The highest prevalence is observed in Eastern Africa, where 36.7 percent of children under the age of five are stunted.

Improvements over the 2000 to 2015 period have been steady, but modest (Figure 3). Country-level estimates are shown in Figure 4. There is much heterogeneity between countries, both in terms of levels and changes. Countries with the largest percentage reductions over the time period for which data was available are Angola, Ghana, Lesotho, Mauritania and Sao Tome and Principe.

Stunting is a long-term indicator, closely linked to economic growth, but also determined by other factors, such as health, sanitary conditions and education. Studies have shown that rates of undernutrition, as measured by child stunting, tend to fall with per capita income growth and the transformation of the food systems, but progress does not come quickly and is not automatic (see Box 2).

FIGURE 3
PROPORTION OF STUNTED CHILDREN UNDER FIVE BY SUBREGION IN 2000–2016



Source: UNICEF, WHO, World Bank (2017a).

BOX 2
GHANA, FOOD SECURITY SUCCESS STORY

By most measures of welfare, Ghana is a success story. Economic growth averaged 6.3 percent over the 2000–2015 period, and poverty rates have fallen from 56.5 percent in 1992 to 24.2 percent in 2013 (World Bank, 2017a; Cooke, Hague and McKay, 2016). Extreme poverty has fallen from 16.5 percent in 2006 to 8.4 percent in 2013. Strong agricultural and economic performance led to the decline in poverty, as well as a drop in undernourishment from 15.9 percent in 2000 to 7.1 percent in 2015.

Per capita agricultural and food production rose consistently between 1990 and 2014, and the average dietary energy supply adequacy has risen from 113 in 1999–2001 to 150 in 2014–2016. The depth of food deficit, i.e. how many calories would be needed to lift the undernourished from their status, everything else

Year	Net per capita food production index (2004 to 2006 = 100)[7]
1990	54.36
2000	89.3
2005	99.74
2010	109.62
2014	115.44

being constant, fell from 118 kcal/capita/day in 1999–2001 to 19 kcal/capita/day in 2014–2016. Access to food improved with the domestic food price index falling from 8.1 in 2000 to 5.4 in 2014. Over time, rates of stunting have fallen from 31.3 percent in 1999 to 18.8 percent in 2014 (UNICEF, WHO, and World Bank, 2017a). Today, Ghana is on track to meet four of the five World Health Assessment global nutrition indicators (see also section 2.5).

Income growth and greater availability of diversified food are key to reducing poverty and undernourishment. But so are complementary improvements in the areas of health, sanitation and nutrition and child-caring knowledge. In Ghana, better nutrition outcomes are also the result of better access to improved water and sanitation, as well as rising female school enrolment rates. In urban areas, access to improved water rose from 70.5 percent in 2000 to 87.6 percent in 2014, and in rural areas, it rose from 57.1 percent to 82.2 percent over the same period. Female secondary and primary school enrolment rates rose from 32.3 and 63.9 percent, respectively, in 2000 to 53.8 and 88.7 percent, respectively, in 2015 (UNICEF, WHO and World Bank, 2017a).

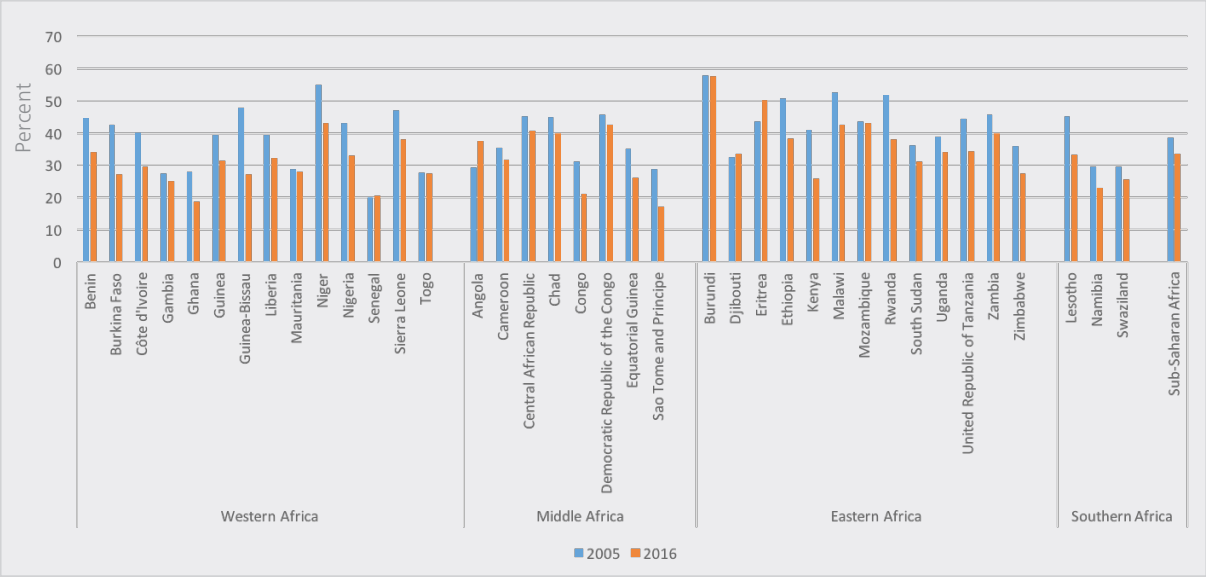
The Government of Ghana has also been implementing a wide range of nutrition programmes such as: the School Feeding Programme, which in 2014 covered 1 728 682 children in beneficiary schools (GoG, 2017); iron and folic acid supplementation; pregnant women's antenatal contacts which reduce anaemia; Essential Nutrition Actions (ENA);[8] integrated maternal and child care as well as nutrition education programmes, to name only a few (GoG, 2013).

Despite much progress, many challenges remain. Growth has been inclusive, but substantial gaps in incomes and welfare persist between urban and rural areas, as well as between different regions, and even within the same regions.

[7] FAO (2017b).

[8] The ENA approach looks at how to integrate Essential Nutrition Actions (such as exclusive breastfeeding for infants 0–6 months and controlling Vitamin A deficiency) at critical stages in the life cycle of women and children within commonly available facility and community contact points.

FIGURE 4
PROPORTION OF STUNTED CHILDREN UNDER FIVE BY SUBREGION



* For 2005: regional estimates correspond to the model predicted estimate for the year 2005. For countries, when data was unavailable for 2005, available data from 2002 to 2008 were used, choosing the closest year to 2005. For 2016: regional estimates correspond to the model predicted estimate for the year 2016. For countries, if country data were unavailable for 2016, available data were used from the most recent year between 2010 and 2015.
Source: UNICEF.

SDG Indicator 2.2.2: Prevalence of wasting and overweight in children

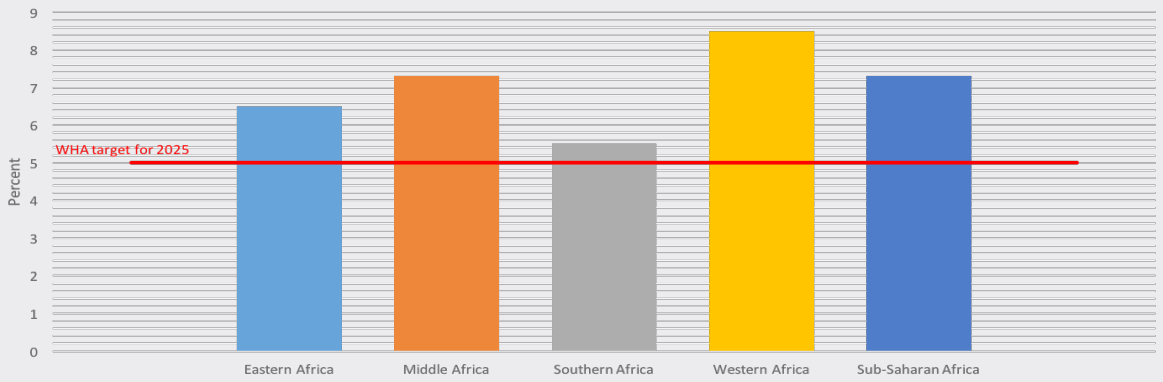
Wasting in children[9]

Wasting (or thinness) typically indicates recent and severe weight loss, which is often associated with acute starvation and/or severe disease. Addressing wasting is of critical importance because of the heightened risk of disease, such as diarrhea, pneumonia and measles, and death for children who lose too much of their body weight. In 2016, globally 51.7 million children, or 7.7 percent, suffer from wasting. Of that figure 11.8 million wasted children are in sub-Saharan Africa, were the prevalence rate is 7.3 percent (UNICEF, WHO and World Bank, 2017a). The burden is highest in Western and Middle Africa (Figure 5).[10]

[9]WHO classifies wasting in children as severe or moderate, according to the WHO growth reference for weight-for-height (WHO/UNICEF/WFP, 2014).

[10]Only data for 2015 are available.

FIGURE 5
PREVALENCE OF WASTED CHILDREN UNDER FIVE BY SUBREGION IN 2015



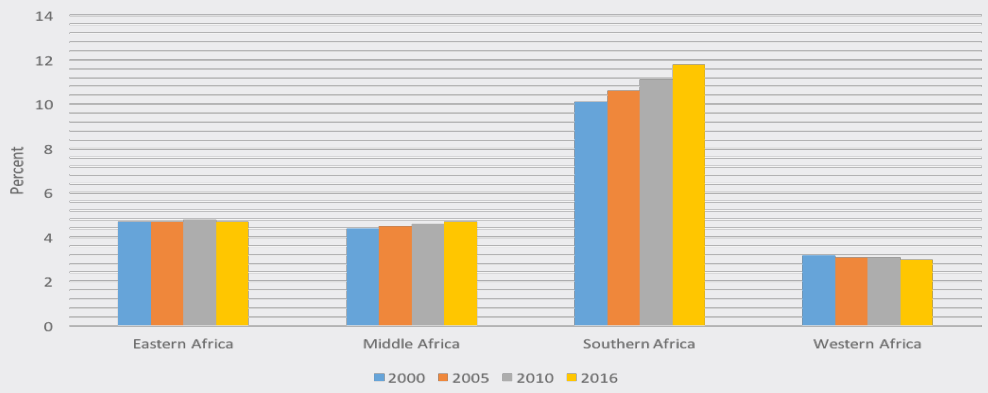
Source: UNICEF, WHO, World Bank (2017a).

Child overweight

Globally, there are about 40.6 million overweight children, representing 6 percent of all children under the age of five (UNICEF, WHO and World Bank, 2017a). Of these, about 6.4 million are in sub-Saharan Africa. The regional prevalence of 3.9 percent is below the global average and has been flat over the past two decades. However, the situation in Southern Africa is quite different in that the rate is 11.8 today and the trend has been a steady increase. Southern Africa has the highest prevalence rate globally, with Central Asia and Northern Africa the next highest with 10.7 and 10 percent, respectively (Figure 6).

The situation and trends in overweight children is a concern because these children are likely to stay overweight or turn obese in adulthood and more likely to develop non-communicable diseases like diabetes and cardiovascular diseases at a younger age.

FIGURE 6
PREVALENCE OF OVERWEIGHT CHILDREN UNDER FIVE BY SUBREGION IN 2000–2016



Source: UNICEF, WHO, World Bank (2017a).

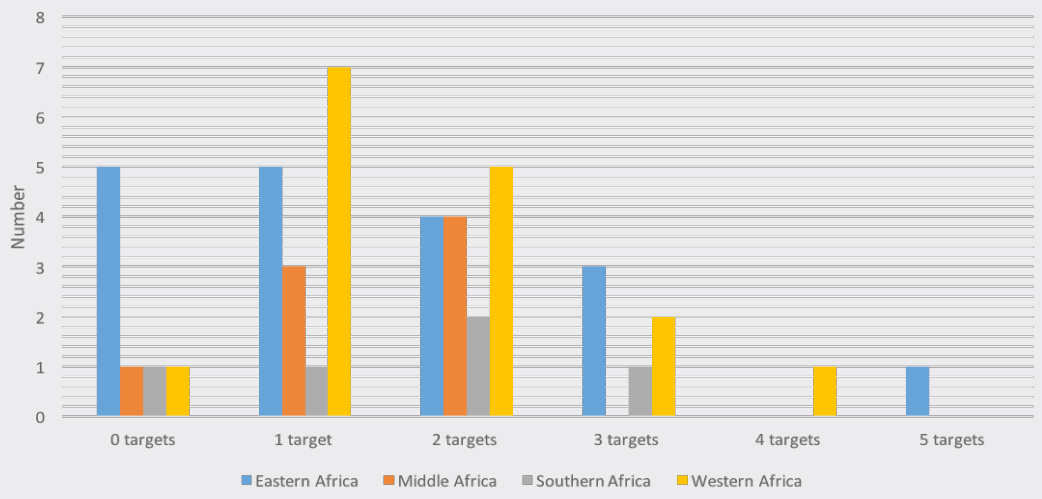
Progress towards the World Health Assembly targets

In 2012, the World Health Assembly (WHA)[11] endorsed a comprehensive implementation plan on maternal, infant and young child nutrition. Progress is monitored through six, interlinked, global nutrition targets for 2025:

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

Overall progress towards the WHA targets has been poor, with most countries on track for two or three of the five targets being tracked (Figure 7).[12] Only one country is on track for all five targets (Kenya) and one is on track for four targets (Ghana).

FIGURE 7
NUMBER OF COUNTRIES IN EACH SUBREGION AND NUMBER OF WHA TARGETS THEY ARE ON TRACK FOR



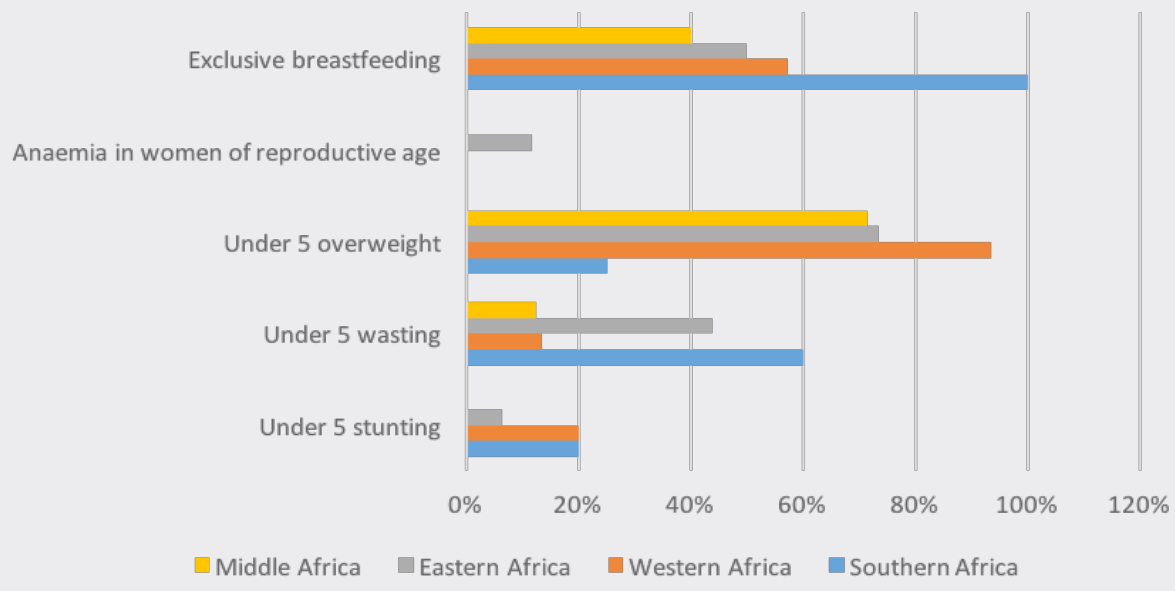
IFPRI (2015, 2016a).

[11]The World Health Assembly is the forum through which the World Health Organization (WHO) is governed. It is the world's highest health policy setting body and is composed of health ministers from member states.

[12]Low birth weight is not tracked because of ongoing methodological work being undertaken (IFPRI, 2015).

With regard to specific targets, it should be noted that progress towards the target for anaemia has been practically negligible, not only in sub-Saharan Africa (Figure 8) but also on the broader global scale. Progress towards meeting the target for stunting has also been poor and in Middle Africa, not a single country is on track to meet it. Progress towards meeting the WHA target for wasting has been strongest in Southern Africa, where nearly two–thirds of countries are on track. However, in Western and Middle Africa, progress is slow with most countries not on track to meet the WHA target. Most progress appears to have been achieved with regard to the child overweight and exclusive breastfeeding targets.

FIGURE 8
PROPORTION OF COUNTRIES IN EACH SUBREGION THAT ARE ON TRACK TO MEET THE WHA TARGETS



IFPRI (2015, 2016a).

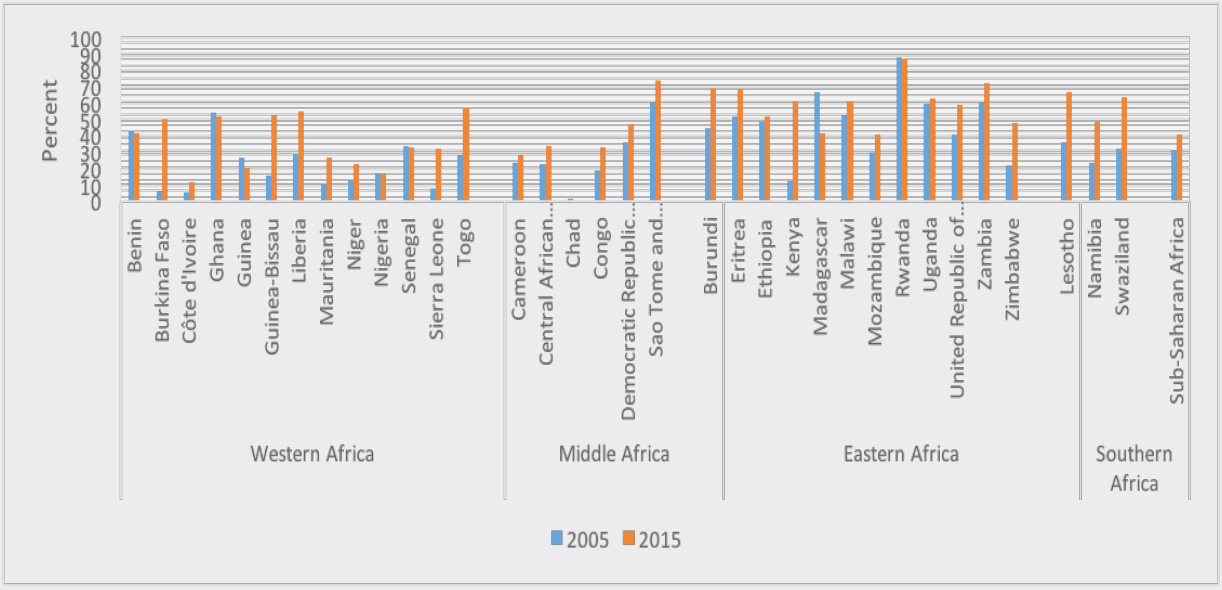
Trends and situation for stunting, wasting and overweight of children under five were discussed in the previous section, within the context of SDG 2 targets. Below we review the situation for WHA targets on exclusive breastfeeding, anaemia in women of reproductive age and low birth weight.

Exclusive breastfeeding

Breastfeeding has the single largest potential impact on child mortality of any preventive intervention (WHO/UNICEF, 2014). WHO recommends exclusive breastfeeding (no other food or water) until 6 months of age, with continued breastfeeding up to 2 years of age or beyond, with the addition of nutritionally adequate, safe, and appropriate complementary foods. Breastfeeding helps protect children against infant mortality and morbidity, especially from gastrointestinal infections; increases intelligence; and probably reduces the incidence of overweight and diabetes in later life (Victora *et al.,* 2008).

Among those countries for which data is available, a number of countries have made significant improvements in exclusive breastfeeding, notably in Southern and Eastern Africa, and some in the other subregions (Figure 9). The highest rates are in Rwanda (87 percent), Sao Tome and Principe (74 percent) and Zambia (73 percent) while the largest gains were achieved in Kenya (49 percent), Burkina Faso (43 percent) and Guinea-Bissau (36 percent).

FIGURE 9
PREVALENCE OF EXCLUSIVE BREASTFEEDING IN THE FIRST THREE MONTHS* (ONLY FOR COUNTRIES WITH TWO DATA POINTS)



*For 2005: regional estimates were included when more than 50 percent of population was covered. When country data was unavailable for 2005, available data from 2002 to 2008 were used, choosing the closest year to 2005. For 2016: regional estimates were included when more than 50 percent of population was covered. If country data were unavailable for 2016, available data were used from the most recent year between 2010 and 2015.

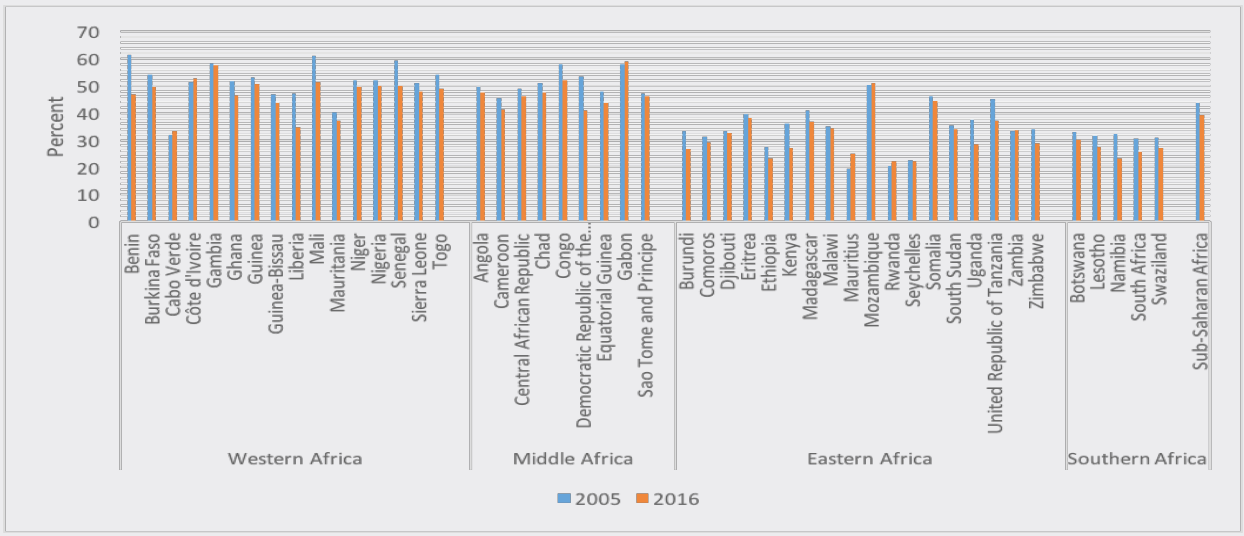
Source: WHO.

Anaemia in women of reproductive age

Several factors contribute to anaemia, but iron deficiency is estimated to be the cause in half of all cases. Iron is important for red blood cell production and iron-deficiency anaemia negatively affects the cognitive development of children, pregnancy outcomes, maternal mortality and the work capacity of adults. Anaemia and iron deficiency cause fatigue and lethargy, and impair physical capacity and work performance (WHO, 2014a).

Globally, 613 million women aged 15 to 49 years suffered from anaemia. Overall, about 91.2 million women of reproductive age are affected by anaemia in sub-Saharan Africa. The highest levels of anaemia among women of reproductive age are in Western and Middle Africa, where 46.9 and 43.5 percent are affected, respectively (Figure 10) (IFPRI, 2015).

FIGURE 10
PREVALENCE OF ANAEMIA IN WOMEN OF REPRODUCTIVE AGE IN SUB-SAHARAN AFRICA IN 2005 AND 2015



Source: WHO.

Low birth weight

Low birth weight (LBW) is defined by the World Health Organization (WHO) as weight at birth less than 2 500 g and is associated with a range of both short- and long-term consequences. Data on low birth weight is limited and unreliable and about 54 percent of infants born in sub-Saharan Africa are not weighted at birth (WHO, 2014b). Nevertheless, the available estimates indicate that in sub-Saharan Africa, 13 percent of infants suffer from LBW. For Eastern and Southern Africa the proportion is 11 percent while for Western and Central Africa it is 14 percent. For comparison, globally, the prevalence of LBW is 15 percent and 48 percent of infants are not weighed at birth.

Actions to reduce the incidence of low birth weight must include improving maternal nutritional status, treating pregnancy associated conditions such as pre-eclampsia; and providing adequate maternal care, perinatal clinical services and social support (WHO, 2014b). Insidiously, stunted girls grow up to be stunted mothers, and maternal stunting is one of the strongest predictors for giving birth to a low-birth-weight infant. Maternal and child malnutrition thus perpetuate the cycle of poverty.

Adult overweight and obesity

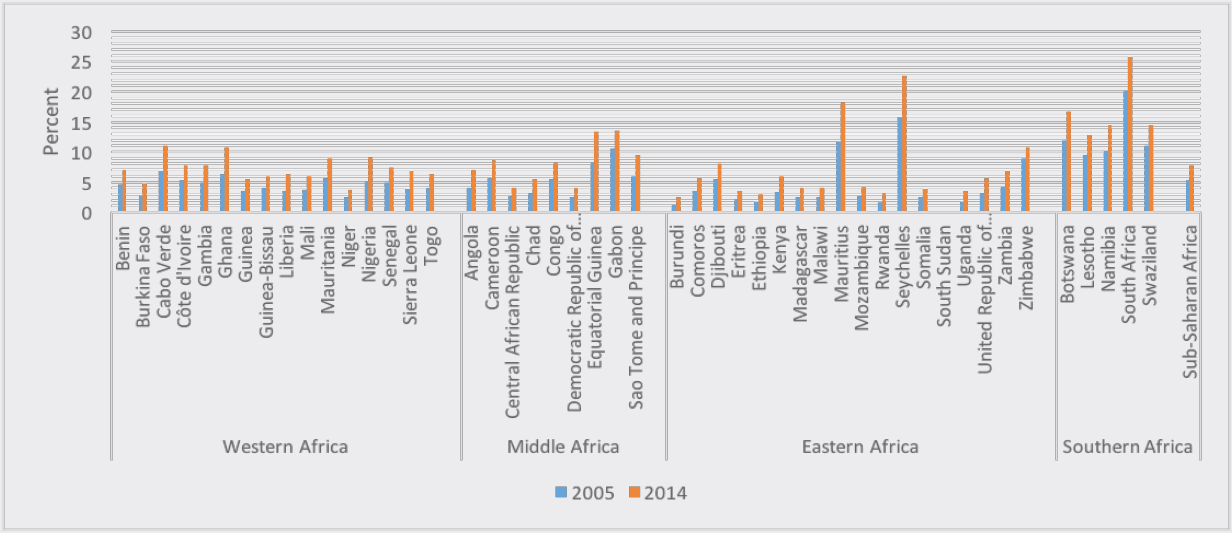
In addition to the SDG 2 and the WHA targets, this report also reviews trends and situation in adult overweight and obesity, defined as abnormal or excessive fat accumulation that may impair health (WHO, 2013), and are most commonly measured using the body mass index (BMI).[13] A high body mass index is recognized as increasing the likelihood of incurring various non-communicable diseases and health problems, including cardiovascular disease, diabetes, various cancers and osteoarthritis (WHO, 2011). The health risks associated with overweight and obesity increase with the degree of excess body fat.

The most immediate cause of overweight and obesity is overconsumption of energy relative to physical requirements. Obesity is associated with lower labour productivity and higher medical costs arising from associated non-communicable chronic diseases, such as diabetes and heart disease (WHO, 2011).

Rising trends in overweight and obesity reflect rising income as well as urbanization and the associated changes in lifestyles. These changes in activity and dietary patterns in developing countries are part of a "nutrition transition" in which countries simultaneously face not only the emerging challenge of rising levels of overweight and obesity and related non-communicable diseases, but continue to deal with problems of undernutrition and micronutrient deficiencies (Bray and Popkin, 1998). This transition corresponds closely to rises in income and the structural transformation of the food system, as seen primarily in industrialized and middle-income countries. Popkin, Adair and Ng (2012, p. 3) describe this phenomenon as "the primary mismatch between human biology and modern society".

Globally, 641 million adults (aged 18 years and above), or 12.8 percent of adults in the world, are obese. In sub-Saharan Africa the share of the adult population that is obese is 8 percent, and it is rising in all

FIGURE 11
PREVALENCE OF ADULT OBESITY IN SUB-SAHARAN AFRICA IN 2005 AND 2014



Source: WHO.

[13]The BMI equals the body weight in kilograms divided by the height in square metres (kg/m2) and is commonly measured in adults to assess underweight, overweight and obesity. The international references are as follows: underweight: BMI < 18.5; overweight BMI ≥ 25; obese: BMI ≥ 30. Obesity is thus a subset of the overweight category.

[14] Mauritius and Seychelles are quite different to most other Eastern African countries, and are indeed more aligned with Southern African obesity levels, both in 2005 and 2015.

subregions (Figure 11). However, while only seven countries in Western, Eastern and Middle Africa reached 10 percent in 2015, all countries in Southern Africa had already reached this level in 2005.[14] Obesity rates are rising rapidly in Southern Africa, as well as in a small number of countries in the other subregions. South Africa, Seychelles and Mauritius are the three countries with the highest obesity rates, of 25.7, 22.7 and 18.2 percent, respectively.

The levels of obesity in adults by gender are shown in Figure 12. Across the region, the rates are always considerably higher for women. The prevalence of obesity is considerably higher in Southern Africa, and it is especially high in South Africa where more than one in three women are obese.

PROGRESS HAS SLOWED, NEW CONCERNS HAVE EMERGED

In summary, the evidence presented in Part One shows that progress in reducing hunger in sub-Saharan Africa has slowed and the most recent estimates suggest an increase. At the same time, child undernutrition has continued to decline, although rates are still very high in many countries. Overall, little progress has been made towards the WHA goals. A concern is the rise in overweight and obesity,

FIGURE 12
PREVALENCE OF ADULT MALE AND FEMALE OBESITY IN 2014, BY SUBREGION

IFPRI (2015).

in particular among women and in Southern Africa. Nearly all countries experience multiple forms of malnutrition simultaneously, and food insecurity exists alongside obesity in many countries.

The forces driving these trends in food insecurity and malnutrition differ from country to country, and even within countries. Two important drivers of hunger are adverse climatic conditions and conflict. Often occurring together, they have left millions food insecure and malnourished. Economic slowdowns in countries highly dependent on oil and other primary-commodity export revenues have also had an impact on food availability and/or reduced the ability of people to access food.

Malnutrition is not only the result of a lack of access to sufficient, nutritious, and safe food, but derives from a series of interlinked factors related to inadequate access to resources and services, such as quality healthcare, education, drinking water, sanitation and hygiene. Poor women often face additional hurdles to access resources and services. Compelling evidence shows that improving women's education and status within their households and communities has a direct, positive impact on food security and nutrition, especially for children.

Part Two of this report takes a closer look at the current food security and nutrition policies and programmes designed by governments and/or regional bodies to achieve SDG 2 targets and the goals of the Malabo Declarations.

NIGER
FAO supported project to improve food security and nutrition through agroproduction activities ©FAO/Giulio Napolitano

PART 2

POLICIES AND PROGRAMMES TO SUPPORT FOOD SECURITY AND NUTRITION

In Part One of this report, the evidence presented showed that undernourishment had fallen steadily between 2000 and 2010, but that the prevalence of undernourishment has remained flat thereafter and appears to be on the rise again. There are various reasons for this slowdown and subsequent worsening of the situation in sub-Saharan Africa, including a difficult global economic environment, adverse climatic conditions and conflict. Although some of these factors are beyond governments' control, forward-looking policies that strengthen agriculture and food security, improve nutritional outcomes and build resilience can lessen the impact of shocks to come.

The experience of several countries, such as Brazil, Ghana and Viet Nam, shows that government policies and actions play a key role in reducing undernourishment and improving nutrition outcomes. Although there is no one-size-fits-all approach, some challenges are regional or subregional. For example, most countries in sub-Saharan Africa face the prospect of a rapidly expanding labour force, and climate change poses a challenge for all countries. A regional and subregional approach also helps share costs and experiences as well as imposing mutual accountability.

At regional level, CAADP has guided policies and processes for the agriculture sector. The first section of this part of the report presents an overview of the CAADP experience to date, and the impact the programme has had on agriculture, food security and poverty. In the second section, the situation and trends in food security and nutrition are presented within the context of the four dimensions of food security: availability, access, utilization and stability.

THE RECENT REGIONAL EXPERIENCE

The importance of strengthening agricultural policies in sub-Saharan Africa was recognized by the New Partnership for Africa's Development (NEPAD), the AU's economic programme that was established in 2001. To address this issue, NEPAD formulated the Comprehensive Africa Agriculture Development Programme (CAADP), an initiative to achieve sustainable agricultural growth and poverty reduction, one of NEPAD's sectoral priorities (Zimmermann *et al.,* 2009).

CAADP, envisaged as a strategic framework for agricultural sector transformation, was ratified by AU Heads of State and Government in 2003 in Maputo, Mozambique. It has since heavily influenced agricultural policy at regional and national levels and is arguably the most successful continent-wide development effort in history (Jayne and Ameyaw, 2016).

The Maputo Declaration showed recognition, at the highest political level, of the importance of agriculture for economic growth, poverty reduction and food and nutrition security. Subsequently, 42 of the 55 AU Member States adopted the CAADP principles, targets and processes and signed a compact. Of these, 30 countries have developed evidence-based National Agricultural Investment Plans (NAIPs) that guide programme implementation and investments. Finally, 26 countries held CAADP business meetings to discuss the implementation and financial modalities for the NAIPs (Bahiigwa *et al.,* 2015).

At regional level, the Regional Economic Communities (RECs) are fully engaged, although some joined the process relatively late. The Economic Community of West African States (ECOWAS) was the first to sign a regional compact. Importantly, ECOWAS allocated funds from its own budget to finance the regional compact and the CAADP planning process in its member countries, all of which have approved investment plans and held business meetings. The Economic Community of Central African States (ECCAS), the Intergovernmental Authority on Development (IGAD), the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC) have all signed regional compacts. The Regional Agricultural Investment Plans (RAIPs) are at various stages in these regions (Jayne and Ameyaw, 2016).

Specifically, CAAPD set two targets: (1) to achieve 6 percent annual growth in agricultural productivity by 2015, and (2) to increase the allocation of national budgets directed to the agricultural sector to at least 10 percent. With regard to target 1, while 15 countries managed to exceed the 6 percent growth rate, on average agricultural sector growth was below the target rate. With regard to target 2, on average, agricultural expenditures rose by 6.1 and 6.6 percent between 1995 and 2003 and between 2003 and 2008, respectively; however, due to the food and financial crisis, agricultural expenditures grew by only 2.3 percent in the 2008–2014 period (Badiane, Benin and Makombe, 2016). Nevertheless, on average, agricultural expenditure as a percentage of total expenditure averaged only 3.5 percent in 2003–2008 and nearly 3 percent in 2008–2014, similar in magnitude to the level seen in 1995–2003. Only five countries exceeded the 10 percent target in the 2008–2014 period.

Badiane, Benin and Makombe (2016) attempt an assessment of how CAADP had influenced outcomes.[15] They conclude that the changes are generally larger for countries that are implementing CAADP and that the differences are statistically significant (the authors also note that the quality of processes and implementation is not accounted for). Furthermore, they find that while the achievements in terms of targets 1 and 2 are mixed, CAADP had, and continues to have, a noticeable impact on raising agricultural public investment and growth, reducing poverty and advancing mutual accountability.

[15]This assessment is largely based on the work of Benin (2016).

For example, in 2017, the Nigerian Government allocated 92 billion Naira (₦) (about US$290 million to the agricultural sector.[16] Policies focus on the integrated development of the agricultural sector by facilitating access to inputs, improving market access, providing equipment and storage, as well as supporting the development of commodity exchanges. A sum of ₦15 billion (about US$47.2 million) was budgeted for the recapitalization of the Bank of Industry and the Bank of Agriculture with an additional ₦1.3 billion (about US$4.1 million) for the commencement of the Development Bank of Nigeria. In all, of the total budget of ₦13.5 trillion (about US$42.5 billion), the federal and state governments will spend about 1.8 percent on agriculture in 2017. While short of the 10 percent called for by the Maputo Declaration, this is an increase over 2015 and 2016.

CAADP's influence has also been felt in the international development community. For example, resources were promised at the 2009 G8 Summit to support, *inter alia*, the CAADP process, and ultimately led to the Multi Donor Trust Fund and the Global Agriculture and Food Security Program, with the latter having approved US$611 million for 17 countries since 2009. Access to funding is conditional on countries having completed the CAADP process.

THE MALABO DECLARATION

The AU's Agenda 2063 sets the continent's development vision for the next 50 years, towards a prosperous Africa based on inclusive growth and sustainable development, among other goals. The Agenda's first ten-year implementation plan, covering 2015 to 2025, provided the basis for the Malabo Declaration of 2014, which reaffirmed the principles and values of the CAADP process and recommitted to the two targets established by the Maputo Declaration, notwithstanding the continuous debate regarding the appropriateness of the 10 percent level.[17] It furthermore set commitments to end hunger and halve poverty by 2025, boost intra-African trade, and enhance the resilience of livelihoods and production systems to climate change and other shocks, and it expanded on the mutual accountability requirements (African Union, 2015a).

Aligned with the goals of the Malabo Declaration are the Africa Regional Nutrition Strategy (ARNS) 2015–2025 (AU, 2015b), a roadmap to enhance and promote nutrition, and the Declaration on Women Empowerment and Development towards Africa's Agenda 2063. The ARNS is also aligned with the Decade of Action for Nutrition for 2016-2025, that was declared following the United Nations General Assembly's endorsement of the outcomes of the second International Conference on Nutrition aimed at achieving, *inter alia*, the global nutrition targets set by the World Health Assembly. An additional important element of the continental effort to reduce hunger and malnutrition is the 'Feed Africa' Strategy of the African Development Bank (AfDB, 2016), a strategy to promote a competitive and inclusive agribusiness sector which creates wealth, improves lives and protects the environment.

Translating the Malabo commitments into implementable programmes will be facilitated by a CAADP Implementation Strategy and Roadmap (IS&R), a programme of work, a results framework, and guidelines for appraising existing NAIPs and formulating second generation ones. The CAADP results framework is the main tool for measuring and reporting progress towards achieving the Malabo Declaration and targets. To support the process, AU will carry out biennial reviews to report on progress, using the Joint Sector Review (JSR) process. Since 2014, the Regional Strategic Analysis and Knowledge Support System (ReSAKSS) and Africa Lead have helped 30 countries to establish comprehensive JSR processes (see also Box 3).

[16]The equivalent US dollar amounts provided in brackets are evaluated at May 2017 exchange rates and are meant solely as a reference point for the reader.

[17]The Malabo targets are in total alignment with global agriculture-related targets highlighted in the Sustainable Development Goals (SDGs), with a more ambitious Malabo horizon of 2025 while SDGs are set for 2030 (NEPAD, 2016).

BOX 3
ReSAKSS: SUPPORT TO EVIDENCE-BASED DECISION-MAKING

The Regional Strategic Analysis and Knowledge Support System (ReSAKSS) was established in 2006 under the Comprehensive Africa Agriculture Development Programme (CAADP). It provides data and related analytical and knowledge products to facilitate benchmarking, review, and mutual learning processes, to promote evidence- and outcome-based policy planning and implementation. The International Food Policy Research Institute (IFPRI) facilitates the overall work of ReSAKSS in partnership with the African Union Commission, the NEPAD Planning and Coordinating Agency (NPCA), leading regional economic communities, and Africa-based CGIAR centres.

ReSAKSS supports the CAADP process by providing strategic analysis, knowledge management and communication, and capacity-building. Through its different products, including the official monitoring and evaluation (M&E) framework to track CAADP implementation progress and outcomes, and the Annual Trends and Outlook Reports (ATORs, which are the formal CAADP M&E reports), ReSAKSS helps countries evaluate policy and investment options for promoting growth and reducing poverty and hunger. It functions as a knowledge platform and resource storehouse, supports policy planning and analysis, dialogues on CAADP and, ultimately, agricultural and rural development on the continent. ReSAKSS also builds capacity through sharing best practices for data collection and analysis, collaborates on strategic analysis with in-country partners, and organizes trainings, workshops, and conferences. Finally, ReSAKSS initiated the establishment of country Strategic Analysis and Knowledge Support Systems (SAKSS) which are considered as critical instruments for supporting the review of and dialogue on CAADP implementation at country level.

Source: IFPRI (2016b).

Considerable challenges remain, funding being perhaps the most important of these. While nearly all countries have significantly increased agricultural expenditures, only five have met the CAADP's 10 percent benchmark. Most NAIPs are not fully implemented. Countries also do not always allocate budgets along NAIP priorities, or areas that generate the highest returns in terms of growth and development outcomes (Benin, Nin Pratt and Wood, 2016). For example, only about 40 percent of countries for which data is available met the national agriculture expenditure target for R&D of at least 1 percent of agricultural value added, as set by NEPAD. And data from the Monitoring and Analysing Food and Agricultural Policies programme data shows that between 2006 and 2013, about 30 to 40 percent of the total annual agricultural expenditure went to subsidies (Kenya and Malawi being exceptions, with the former having a very low share and the latter a very high share of subsidies in the expenditures) (Badiane, Benin and Makombe, 2016).[18] Furthermore, capacity for technical analysis and monitoring and evaluation is constrained.

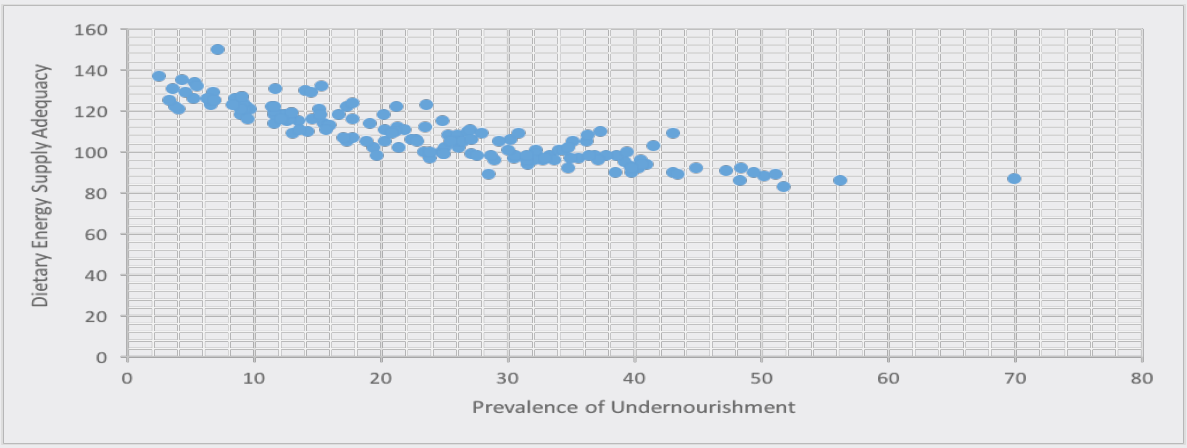
[18]This is a complicated issue. For a balanced discussion, see Druilhe and Barreiro-Hurlé (2012).

REGIONAL AND NATIONAL POLICIES, STRATEGIES AND PLANS TO PROMOTE FOOD SECURITY AND NUTRITION[19]

The Malabo Declaration sets out clear objectives to achieve a prosperous Africa, driven by a transformed agricultural system. Complementing the Malabo Declaration is the Declaration on Nutrition Security for Inclusive Economic Growth and Sustainable Development in Africa, adopted at the same summit. Indeed, economic growth is central to the fight against hunger. In many sub-Saharan countries, most of the poor live in rural areas and agriculture is the main source of employment and livelihoods. Stimulating smallholder and national production and productivity in agriculture is essential for meeting rising demand for food and for nutrition requirements. At the same time growth in agriculture in sub-Saharan Africa is particularly effective at reducing poverty essential for generating inclusive growth (Christiaensen, Demery, and Kuhl, 2011). Agriculture also has strong economic linkages with other sectors and is a key driver of overall growth in most sub-Saharan African countries.

Promoting agricultural production addresses, *inter alia*, the availability of sufficient quantities of food on a consistent basis, proxied by the average Dietary Energy Supply Adequacy (DESA). This indicator expresses the Dietary Energy Supply (DES) as a percentage of the Average Dietary Energy Requirement.[20] Analyzed in conjunction with the prevalence of undernourishment, it indicates whether undernourishment is mainly due to insufficiency of food supply or to particularly bad distribution. Figure 13 indicates that DESA is indeed correlated with undernourishment. It also shows that high levels of undernourishment can be observed even when dietary energy supply is adequate at the aggregate level, suggesting that adequate dietary energy supply is not sufficient to eliminate hunger and that other factors also play a role (see also Box 2).

FIGURE 13
AVERAGE DESA VERSUS PoU FOR SUB-SAHARAN AFRICAN COUNTRIES (2000–2015*)



Source: FAO (2017b). *Data are for the years 2000, 2005, 2010 and 2015.

[19]This review includes policies, plans and strategies that have been adopted recently or are being developed. Every effort has been made to collect relevant information, but unfortunately gaps remain and the review cannot claim to be exhaustive. Information on policies was obtained from the Food and Agriculture Policy Decision Analysis (FAPDA) tool, which gathers policies collected since 2007 from more than 80 countries (http://www.fao.org/in-action/fapda/fapda-home/en/). In addition FAO subregional and country offices provided information on regional and country policies. For a complete list of policies received see Annex.

[20]A DESA of 100 means that the dietary requirements are just covered.

A focus on production and productivity to boost agricultural growth, and availability and access to food, is essential. But it is not enough. Not all countries that experience strong economic growth were equally successful in reducing poverty and hunger. There is clear consensus today that improving food security and nutrition outcome requires a multidisciplinary and multisectoral approach (FAO, 2013; IFPRI, 2015) and this is also reflected in the Agenda 2063, the IS&R and the Africa Regional Nutrition Strategy 2015–2025. As a result, regional institutions and countries have and are preparing broad food security and nutrition policy frameworks/strategies, as the next section shows.

REGIONAL AND NATIONAL POLICIES FOR FOOD SECURITY AND IMPROVED NUTRITION OUTCOMES REFLECT A BROAD, MULTIDISCIPLINARY APPROACH

Efforts to strengthen the contribution of agriculture to reducing poverty, hunger and malnutrition are reflected in the preparation of multidisciplinary and multisectoral regional and national investment plans. For example, in 2015, the Southern Africa Development Community (SADC) developed the Regional Agricultural Policy Investment Plan (RAIP) covering the 2017–2021 period. The RAIP outlines five priority investment programmes: 1) agricultural production, productivity and competitiveness; 2) access to markets and trade of agricultural products; 3) investments in and access to finance for agriculture; 4) social and economic vulnerability reduction; and 5) food and nutrition security in the region. Implementation of the RAIP is supported by the Agricultural Development Fund (ADF) which is expected to be approved in 2017.

The Indian Ocean Commission formulated the Regional Food and Nutrition Security Programme (PRESAN) for 2017–2022 for the Indian Ocean as well as the Small Island Developing States (SIDS) of Comoros, Mauritius, and Seychelles, as well as Madagascar and Réunion. The implementation of PRESAN is based on three facilities that make up the Regional Food and Nutrition Security Fund (FRESAN): 1) the facility for promoting regional value chains; 2) the facility for the trade of regional agricultural commodities; and 3) the facility for food and nutrition security. The IOC Council of Ministers officially adopted the PRESAN document in February 2016 and its total budget is about US$146 million. Efforts to launch the programme are under way.

At national level, Burkina Faso validated the National Economic and Social Development Plan (PNDES) for the period 2016–2020, replacing the Accelerated Growth and Sustainable Development Strategy (SCADD). The plan aims to reduce poverty through strong, sustainable and inclusive growth within the context of a structural transformation of the economy. The PNDES is divided into three strategic axes: 1) reforming institutions and modernizing administration; 2) developing human capital, and; 3) boosting sectors that are conducive to the economy and jobs. The Plan is to achieve by 2020 water control for agriculture, development of infrastructure, access to markets, rural land security and access to finance. Furthermore, it aims to guarantee access to quality health services for all and to improve the nutrition status of the population, particularly women and children. The Government of Burkina Faso is also reviewing the National Food and Nutrition Policy (PNSAN) to align

it with the PNDES. The Policy aims to sustainably increase food availability, strengthen the capacity for prevention and response to shocks, improve physical and financial accessibility to food; improve the nutritional status of populations, and strengthen governance in food and nutrition security.

Similar overarching programmes are being developed or implemented in a number of other countries: the Government of Cabo Verde established the National Council on Food and Nutrition Security and adopted the National Food Security and Nutrition Strategy (ENSAN 2020); Guinea approved the National Economic and Social Development Programme (PNDES); Mali is expected to adopt the National Food and Nutrition Security Policy; the United Republic of Tanzania approved the National Five Year Development Plan (FYDPII) for 2016/17 to 2020/21; Kenya is developing an implementation framework for the Food and Nutrition Security Policy (FNSP) and formulated the Overarching Agricultural Policy; Nigeria developed the National Policy on Food and Nutrition, launched in 2017 the strategic plan and roadmap to achieve Zero Hunger by 2030, and developed the Agriculture Promotion Policy 2016 to 2020; and Senegal adopted the National Strategy for Food Security and Resilience Strategy (SNSAR).

RAISING AGRICULTURAL PRODUCTION AND PRODUCTIVITY IS ESSENTIAL FOR ADEQUATE FOOD AVAILABILITY

Raising agricultural production in a sustainable manner is a strategic action area of the IS&R. Not only is agricultural growth a key driver of economic growth, but high population growth will mean that agricultural output would need to more than double by 2050 to meet increased demand in sub-Saharan Africa (FAO, 2017c).

Higher food production growth is not only needed in the future. The relatively lower levels of PoU in Western and Southern Africa are partially explained by significantly higher levels of DESA in these regions, compared to Middle and Eastern Africa (Table 7). However, growth in DESA has been weak in most regions (Table 7). In Southern Africa, Botswana and South Africa saw a growth of 4 percent or higher over the 2009–2011 to 2014–2016 period, while all other countries experienced a decline or no growth in DESA.

TABLE 7
LEVEL AND GROWTH IN DIETARY ENERGY SUPPLY ADEQUACY

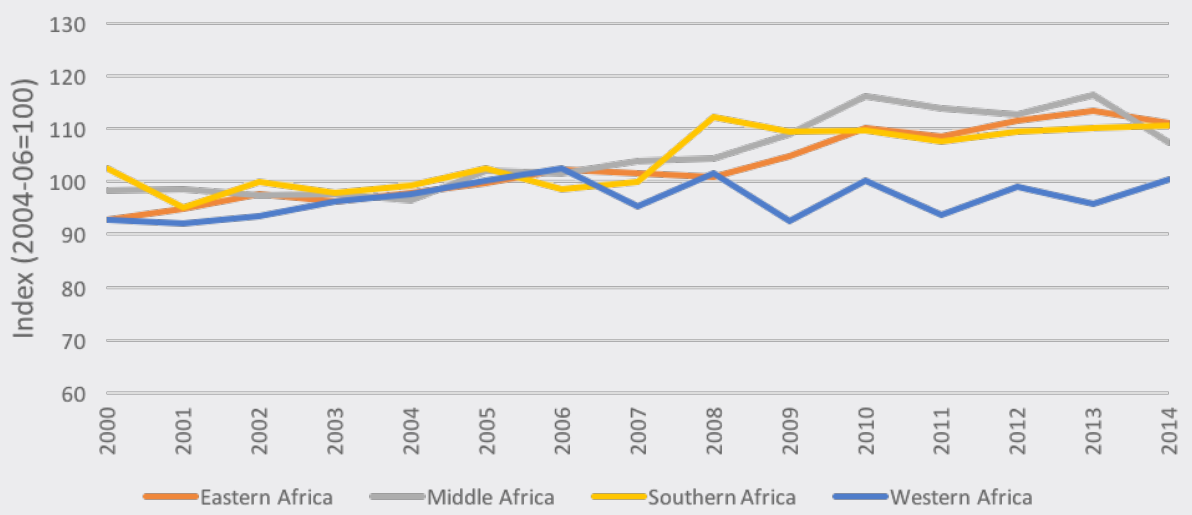
	DESA level		Growth of DESA
Region	2009–2011	2014–2016	2009–2011 to 2014–2016
Western Africa	124	125	0.8
Middle Africa	95	95	0.0
Eastern Africa	99	101	2.0
Southern Africa	122	127	4.1

Source: FAO (2017b).

Food production has increased slightly in sub-Saharan Africa for the past three decades, but has remained stagnant over the last four years (Figure 14). Between 2004 and 2014, growth in food production was highest in Middle Africa (4.3 percent) and Eastern Africa (4.2 percent), followed by Western Africa (3.3 percent) and Southern Africa (2.5 percent). However, in per-capita terms growth in Eastern, Middle and Southern Africa was 1.3, 1.2 and 1.2 percent, respectively, while in Western Africa it reached only 0.5 percent.

chain development and resilience. Also the broad country level policies have agriculture specific provisions. Tanzania's FYDP II aims to stimulate agriculture through increasing the use of modern technologies, including ICT, strengthening extension services to increase productivity, skills promotion along the value chains, commercialization, quality and standards, research and development, improving infrastructure, and promoting producer groups.

FIGURE 14
NET PER CAPITA FOOD PRODUCTION INDICES FOR SUB-SAHARAN AFRICA BY SUBREGION, 2000–2014



Source: FAO (2017b).

Some of the broad policies described in the previous section and in the Annex also encompass agricultural interventions, which are designed to support agriculture production. For example, the RAIP has agricultural production, productivity and competitiveness as one of its five priorities and the revised ECOWAS Agricultural Policy (ECOWAP) is to better stimulate investment and promote inclusive agricultural growth. In 2016 ECOWAS also agreed to support member countries to develop their second generation National Agricultural Investment Plans (NAIPs), focusing on agricultural production, value

At the same time, a broad, multidisciplinary strategy does not preclude sector specific planning and indeed many sub-Saharan Africa countries have developed National Agriculture Investment Plans (NAIPs) and policies or interventions aimed at specific issues, such as land tenure. Such sector-specific policies are discussed below.

Key measures to promote agricultural production and food availability are outlined in the IS&R strategic action area 1a: "Adopt measures to increase sustainable agricultural production and productivity in an inclusive

manner." They include access to land, access to and adoption of appropriate technologies and innovations, availability and affordability of inputs, seeds, soil health, and livestock related interventions as well as irrigation and farm machinery, access to markets and the management of natural resources.

A number of agriculture policy initiatives discussed here focus on land, inputs, market access and finance for farmers. For example, Nigeria aims to facilitate access to inputs, *inter alia*, by supporting farmers with credit. In 2016, the government launched the Anchor Borrowers Programme that provides farmer with a bank loan that is used to pay input suppliers directly. In Mozambique, the government approved a new project in early 2017 to promote access to finance for smallholders, called Integrated and Inclusive Rural Development Program (PDRI), and designed to promote and finance family farming in the country. The project, with a budget of 16 billion meticais (about US$263 million) is expected to benefit more than 700 000 smallholder farmers.

In Ghana, the government scaled-up the National Fertilizer Subsidy Programme, introduced in 2008. In 2012, US$63 million were allocated to the programme, up from US$10.8 million in 2008, but in 2013 the overall subsidy was reduced by 21 percent due to rising fertilizer prices and budgetary constraints. In 2016, the government subsidized 180 000 tonnes of fertilizer inputs.

In Zimbabwe, the distribution of agricultural inputs under the Presidential Inputs Support Scheme began in October 2016 with 600 000 households benefiting. Each household received two bags of fertilizer, a 10-kg pocket of maize or 5-kg of small grain seed. The scheme, which targets about 1.4 million communal farmers and vulnerable families, complements the special programme on maize production for import substitution (Command Agriculture) under which the government financed 400 000 ha of maize this season.

The Rwanda Bugesera Natural Region Rural Infrastructure Project (PAIRB) invests in making marshland available for rice production on 515 ha and vegetable and fruit production for export on 165 ha. In 2016, plots started to be allocated to farmers. Each beneficiary gets 0.25 ha and furthermore receives training through Farmer Field Schools (FFS) in modern farming techniques for yield improvement. The farmers are organized into a cooperative (KODUMUGA) for production and marketing purposes and a water users' organization (UDUAGIGA) for equipment and infrastructure maintenance, including collection of water fees.

Land tenure policies are being considered in Chad, where the government instituted by decree a national observatory of land which is meant to guide the government in implementing policies regarding land legislation. In South Africa, in February 2017, the government launched "Operation Phakisa", a programme to review existing producer support models and develop finance models aimed at fast tracking land reform. The programme also seeks to address constraints in ensuring equitable access to land, both for economic development and agrarian transformation.

Several policies or plans address market access and value chain development, one of the strategic action areas of the IS&R. For the SADC's RAIP this is one of the five priority areas. Also Burkina Faso's PNDES, Nigeria's Agriculture Promotion Policy and policy initiatives in Kenya, such as the proposed Agricultural Growth and Transformation Strategy (AGTS), and Zambia's Agriculture Policy, are aimed at facilitating market access. Value chain development are part of the already mentioned ECOWAS Regional Agricultural Policy (ECOWAP) and the IOC PRESAN. They are also part of Tanzania's FYDP II, and Rwanda's new agricultural policy that is being developed.

Sustainability of resource use is part of the agricultural policy framework in many countries. The SADC's RAIP is implemented through the ADF facilities which includes the Environment and Natural Resources Facility. The Government of Cabo Verde adopted the Blue Growth Charter on 30 October 2015. This initiative is a framework for the sustainable and socio-economic management of aquatic resources with an emphasis on efficient resource and ecosystems use in capture fisheries and aquaculture, ecosystem services, trade livelihoods and food systems. Among the activities that support the implementation of the Blue Growth initiative, Cabo Verde is currently formulating a national investment plan for the development of blue growth/economy.

In 2016, Rwanda committed to maintaining healthy soils. The Ministry of Agriculture and Animal Resources (MINAGRI) has been investing substantially in several initiatives meant to maintain healthy soils. In addition, the ministry also keeps promoting the use of fertilizers in a bid to improve soil fertility. Enhancing agricultural productivity through the Integrated Soil Fertility Management (ISFM) approach is one of Rwanda's strategies for soil management through the proper use of fertilizers, improved seeds and scaling up agroforestry and evergreen agriculture practices for climate change adaptation in drought-prone areas. In Mozambique, the government has embarked on a Mozambique Forest Investment Program (MozFIP) to help reduce deforestation and forest degradation. The programme provides a framework for channelling international support to the country's commitment for forest sector reform and transformational change, through national-level activities to improve the enabling environment towards the aim of reducing deforestation and on-the-ground investments in two targeted landscapes (Cabo Delgado and Zambezia provinces).

Agriculture in sub-Saharan Africa is largely rainfed and investing in irrigation is needed to achieve the Malabo Declaration commitment to ending hunger by 2025. As Table 8 shows, most countries have less than 5 percent of land equipped for irrigation, putting a significant constraint to production.

TABLE 8
NUMBER OF COUNTRIES WITH DIFFERENT PROPORTIONS OF LAND EQUIPPED FOR IRRIGATION

Number of countries	Range of proportion of land equipped for irrigation
16	< 1%
18	≥ 1% to < 5%
3	≥ 5% to < 10%
7	≥ 10% to < 50%
3	≥ 50%

Source: FAO (2017b).

A number of countries have implemented irrigation policies aimed at increasing production and productivity. In Malawi, the government established the Greenbelt Authority (GBA) as a stand-alone public agency. The agency will be responsible for the construction of large scale irrigation infrastructural projects throughout the country in line with the government's Irrigation Masterplan, while small-scale irrigation projects will continue to be implemented by the Ministry of Agriculture, Irrigation and Water Development.

In Zimbabwe the Tokwe–Mukosi dam was inaugurated in May 2017. The dam is expected to transform Masvingo Province into an industrial hub, supporting key sectors such agriculture, tourism and energy. Upon completion, the Tokwe–Mukosi dam would become Zimbabwe's largest inland lake with potential to irrigate an additional 25 000 ha of land in the Lowveld, which represents almost 50 percent of the land currently under irrigation in the area.

The government is also in the process of establishing an irrigation scheme in Lupane that will utilize water from the Bubi–Lupane dam. The scheme will provide employment opportunities and sustain livelihoods. Several countries have developed policies aimed at enhancing livestock production and productivity. In 2016, the Government of Mali implemented the Strategic Framework for Economic Recovery and Sustainable Development in Mali (CREDD 2016–2018), the reference framework for different development policies and strategies at both national and sectoral levels. Promoting Inclusive and Sustainable Growth is the first strategic axis of CREDD. In the priority area Agriculture, Livestock, Fisheries and Food Security, the government is committed to promoting intensive, diversified and sustainable agriculture, ensuring food self-sufficiency and competitiveness in subregional and international markets, optimizing the potential development of livestock and to supporting the development of fisheries, fish farming and aquaculture.

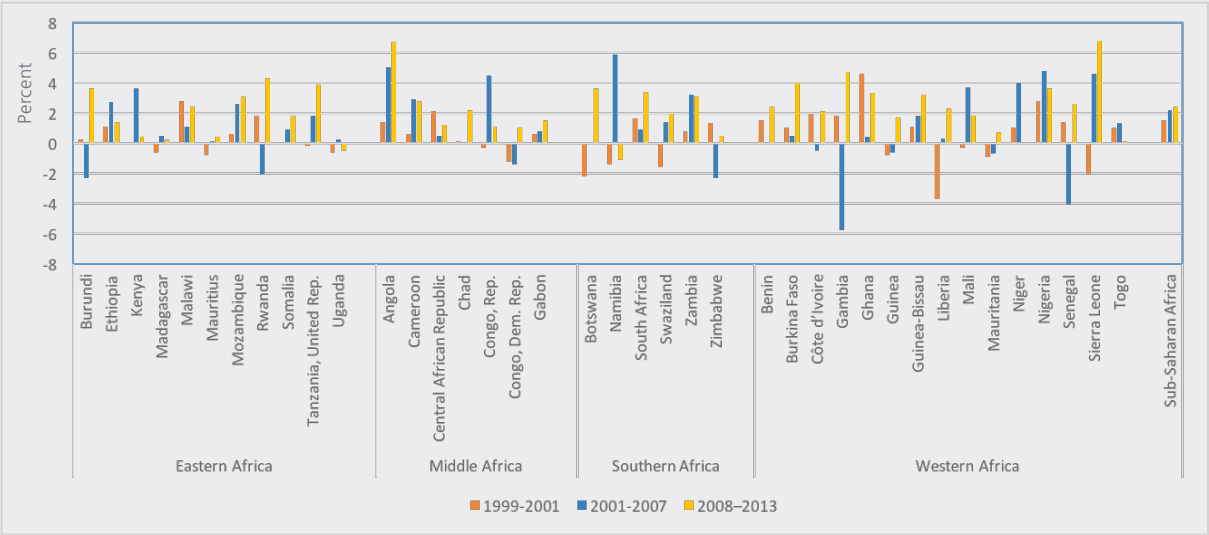
The Government of Mozambique approved the Programme for Intensification of Livestock Production (PIPEC) for 2015–2019 in August 2015. According to the NAIP, priority areas for livestock subsectors are: milk, cattle (in Maputo, Gaza, Sofala and Manica provinces), poultry – chicken and eggs – (in Maputo,

Manica and Nampula provinces) and small ruminants – sheep and goats – (in Gaza, Sofala, Tete and Nampula provinces).

Policies that address raising productivity through promoting modern technology, extension, and research and development are essential to promote sustainable agricultural growth in the face of high population growth, deteriorating soils and climate change. Returns on spending on agricultural R&D has been shown by a large body of evidence to be consistently very high in terms of agricultural productivity growth and poverty alleviation (FAO, 2012).

Currently, yield gaps, i.e. the percentage difference between actual and potential yields are 76 percent in sub-Saharan Africa, the highest of any region (FAO, 2017c). And overall total factor productivity (TFP) is lagging in the region, but TFP growth appears to have improved in recent years (Figure 15).[21] TFP growth was by far the most important factor underlying agricultural growth in most regions, except for sub-Saharan Africa. In this region, new land has been the dominant driver of agricultural growth in the period 1981–2009 and the contribution of TFP growth declined over the years. In sub-Saharan Africa, the transition to sustainable agricultural intensification will require a change from a strategy based on area expansion to one based on investment in activities, notably research and extension, which enhance TFP growth (FAO, 2012).

FIGURE 15
TOTAL FACTOR PRODUCTIVITY GROWTH FOR SUB-SAHARAN AFRICA BY REGION 1981–1990, 1991–2000, 2001–2009



Source: FAO (2017b).

[21]Partial productivity indicators are important but do not account for all the factors that contribute to productivity growth. Total factor productivity attempts to account for all sources of productivity growth in agriculture. It is an index of measured outputs divided by an aggregate index of measured inputs. Growth in TFP thus represents that part of production growth that is not explained by increased use of these factors but by other things such as technological progress, human capital development, improvements in physical infrastructure and government policies, as well as unmeasured factors such as improvements in input quality or depletion of natural resources (Fischer, Byerlee and Edmeades, 2009).

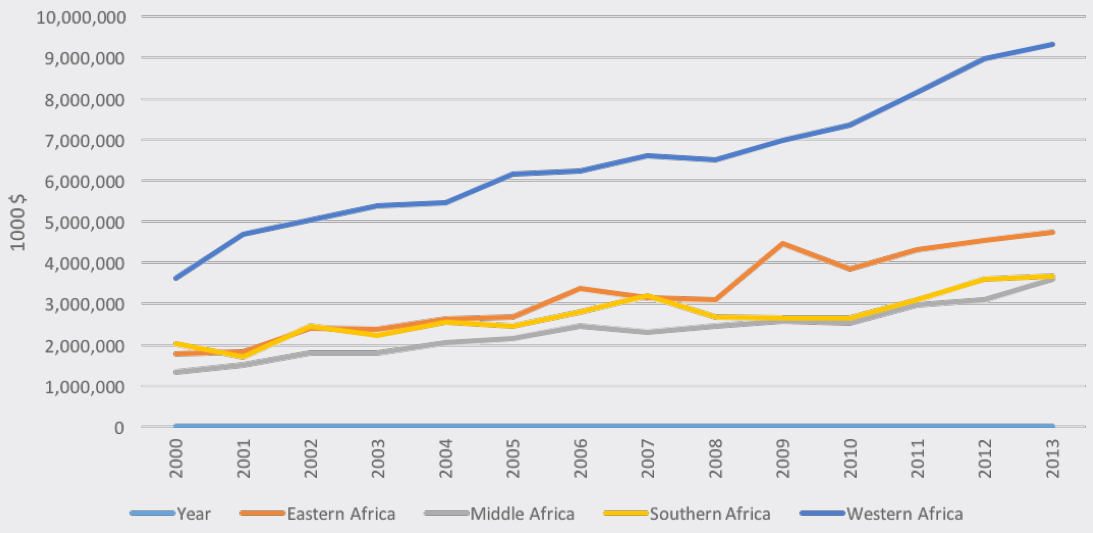
It is encouraging that agricultural expenditure on R&D grew by 4 percent in real terms between 2000 and 2009, after averaging only 0.6 percent in 1980–1990 and -0.5 percent in 1990–2000. However, this growth was concentrated in only a few African countries, with Nigeria, South Africa, and Kenya accounting for half the region's agricultural R&D investments in 2012 (Beintema and Stads, 2014).

The importance of research is reflected in the policy initiatives of Cabo Verde, Ghana, Kenya, Mali, Nigeria, Senegal and Zambia. In Ghana, the government is committed to modernizing agriculture and in 2016, over 500 tractors of various types have been delivered to farmers at subsidized prices. The Ministry of Agriculture is also in the process of establishing Farm Service Centres, which provide services for mechanization, advisory services, inputs, training, credit, and extension either free, or at minimum cost. Finally, the government continues to support the establishment of Agriculture Mechanization Services Enterprises Centres (AMSECs) which began in 2007 and of which there were 89 in 2015. The programme was designed to assist qualified private sector companies in purchasing agricultural machinery at a subsidized price and interest rate which in turn is rented to farmers at affordable prices.

At regional level, SADC countries have adopted a common seed certification policy, with the aim of increasing the movement of improved germplasm across national borders. Efforts are underway to increase the pace of the domestication of the SADC Protocol for Regional Harmonization of Seed Policies. These renewed efforts to support the process of domestication of the protocol in SADC overlaps with the Agriculture Productivity Programme for Southern Africa (APPSA), which is the research and development technical unit of SADC. The project is implemented in Malawi, Mozambique and Zambia, with the goal of supporting the national seed authorities in the three countries through capacity-building for alignment of the national legislation and regulatory systems to the harmonized regional seed system. APPSA also seeks to support the region with increased regional release of varieties, in particular grain and legume varieties. For example, in 2013 the Government of Mozambique approved a new national legislation on seed production, trade, quality control and seed certification. This legislation aims at developing seeds; granting accreditation of private sector agents in the seed breeding and providing protection of new varieties of plants. Mozambique was expected to align its national legislation on seed with Southern Africa Development Community (SADC) regulations. And in Kenya, the government launched a five-year strategy to integrate the conservation of genetic resources into national climate change and adaptation planning and strategies. Kenya is focusing on exploiting genetic resources for solutions to combat climate change.

A growing population, rising incomes and urbanization creates opportunities and challenges for farmers and policy makers. Rising incomes and changing tastes translate into growing demand for more food and more variety. It is a concern that relatively flat production growth and low agricultural productivity, especially for cereals, are mirrored in rising food imports in the region (Figure 16). Wheat imports are high in Western and Eastern Africa and poultry imports have risen quite dramatically in all regions apart from Eastern Africa. Western Africa imports are higher than in the other subregions, largely due to markedly higher rice imports.

FIGURE 16
VALUE OF FOOD IMPORTS FOR SUB-SAHARAN AFRICA BY SUBREGION, 2000–2014*



Source: FAO (2017b).
*Base year price.

Import dependency is relatively high for some products in some regions but has not risen uniformly. For wheat, import dependency is about 50 percent for Western and Middle Africa and about 35 percent in Eastern and Southern Africa; however, only Southern Africa has seen a rise in the ratio over the 2000–2013 period. For poultry, Middle Africa has seen import dependency rise very gradually over the last ten years to 45 percent while for Western Africa the ratio has increased over the 2006–2013 period from 20 to 30 percent. For pig meat, Middle Africa has seen import dependency rise from about 25 percent in 2000 to 32 percent in 2013 and, in Western Africa the ratio rose from under 5 percent in 2000 to over 10 percent in 2013, with the trend accelerating in recent years. Finally, for rice, the ratios range from 25 percent for Eastern Africa to 58 percent for Southern Africa in 2013. It is 46 percent in Middle Africa and 34 percent in Western Africa; and the trend has been flat over the last decade.

Although it is correct that the trade balance regarding agricultural products has worsened, the proportion of imports are high only for specific products. Although urbanization is associated with rapid growth in import dependence, this is inaccurate as a general statement (Vorley and Lançon, 2016). In general, most of the increase in demand over the past 50 to 60 years has been met by domestic production. Reardon *et al.,* (2015) calculate that in sub-Saharan Africa, over a 10-year period, 80–90 percent of urban and rural food consumption has been supplied by domestic producers, while 10–20 percent is imported, depending on the product.

Several countries are actively promoting local production to reduce the reliance on imports. For example, In April 2016 the Government of Ghana approved the Ghana Livestock Development Policy and Strategy (GLDPS) for 2016–2025. This policy aims to address the myriad of issues affecting the

development of the Ghana livestock subsector, including the excessive importation of livestock and livestock products, especially poultry.

As of 25 March 2016, the Nigerian Customs Service reintroduced restrictions to rice importations through land borders across the country. A full ban on all rice importations was first introduced in July 2015 with the aim of promoting self-sufficiency in rice by encouraging domestic production. The ban was partially lifted in October 2015, when importations through the land borders were once again allowed after the payment of appropriate duty and charges. However, these measures amplified informal cross-border imports from neighbouring coastal countries, resulting in a reintroduction of restrictions to rice imports through land borders as of March 2016. Nigeria is aiming to reduce rice imports by 50 percent by the end of 2017.

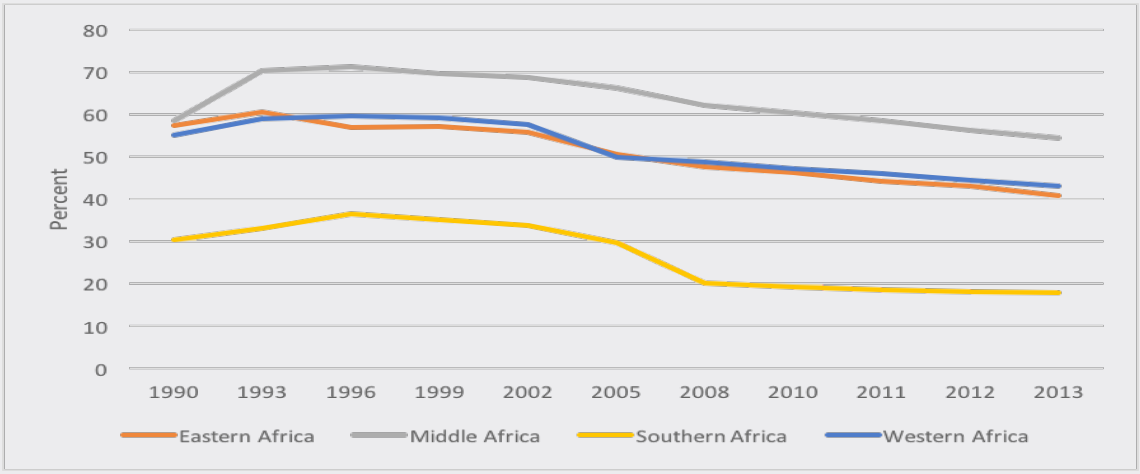
In 2016, the Government of Zimbabwe also put in place stringent regulations meant to control the importation of goods that are available locally. The long list also includes food products such as baked beans and potato crisps, cereals, bottled water, mayonnaise, salad cream, peanut butter, jams, *mahewu,* canned fruits and vegetables, pizza base, yoghurts, flavoured milks, dairy juice blends, ice creams, cultured milk and cheese. Zimbabwe also promotes maize production for import substitution through the Presidential Inputs Support Scheme and the Command Agriculture Programme.

Several countries also support producer prices to stimulate domestic production. For example, in October 2016, following pressure from maize farmers complaining that prices did not match their production costs, the Government of Kenya increased the purchasing price of a 90-kg bag of maize to 3 000 Kenya Shillings (Ksh) – about US$29 – from Ksh2 300 – about US$22. Similarly, in July 2016, Zambia's Food Reserve Agency, the government parastatal mandated to manage the national strategic stock, increased the maize purchasing price by 13 percent, from 75 Zambian Kwacha (ZK) (US$8) set in May to ZK85 (US$9.1) per 50-kg bag for the 2016/2017 marketing year. The adjustment was made to reflect higher maize production costs following the depreciation of the local currency in 2015.

AGRICULTURAL PRODUCTION AND PRODUCTIVITY AND SOCIAL PROTECTION – ESSENTIAL TO IMPROVE ACCESS TO FOOD

The ability to access food rests on two pillars: economic and physical access. Economic access is determined by disposable income, food prices and the provision of and access to social support. Physical access is determined by the availability and quality of infrastructure, including ports, roads, railways, communication and food storage facilities and other installations that facilitate the functioning of markets. Improvements in economic access to food can be reflected by reduction in poverty rates. Poverty in sub-Saharan Africa has fallen over the past 20 years, but there are wide regional variations. In Southern Africa, the poverty rate stood at 18 percent while in Eastern and Western Africa the rate was 41 and 43 percent and in Middle Africa it stood at 55 percent (Figure 17).

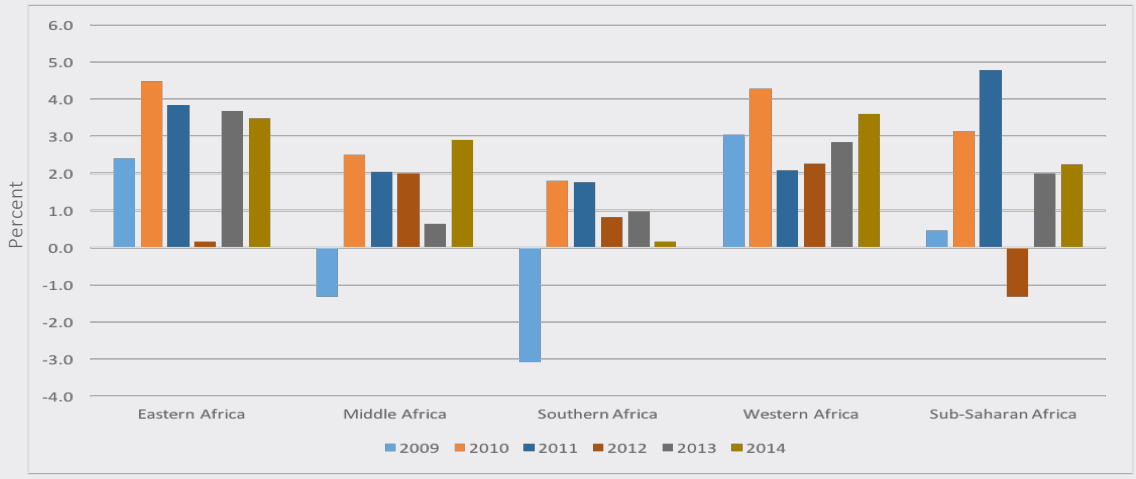
FIGURE 17
POVERTY RATES FOR SUB-SAHARAN AFRICA AND SUBREGIONS, 1990–2013



* The figure refers to the international poverty lines of $1.90 a day (extreme poverty) as measured in constant 2011 PPP dollars. Source: World Bank (2017b).

Economic growth, especially in agriculture, has been essential to driving down hunger and poverty rates. Strong economic growth helped reduce the global poverty rate from 46 to 27 percent between 1990 and 2005 (UN, 2011). Yoshida, Uematsu and Sobrado (2014) calculate that reducing extreme poverty to 3.1 percent globally by 2030 would require a minimum across the board average GDP per capita growth rate of 4.4 percent. Figure 18 shows that for sub-Saharan Africa and the subregions such growth rates are typically not achieved. Projections by the IMF (2017) show that real GDP growth was 1.4 percent in 2016 and is projected to reach 2.6 and 3.5 percent in 2017 and 2018.

FIGURE 18
REAL GDP PER CAPITA GROWTH FOR SUB-SAHARAN AFRICA AND SUBREGIONS, 2009–2014

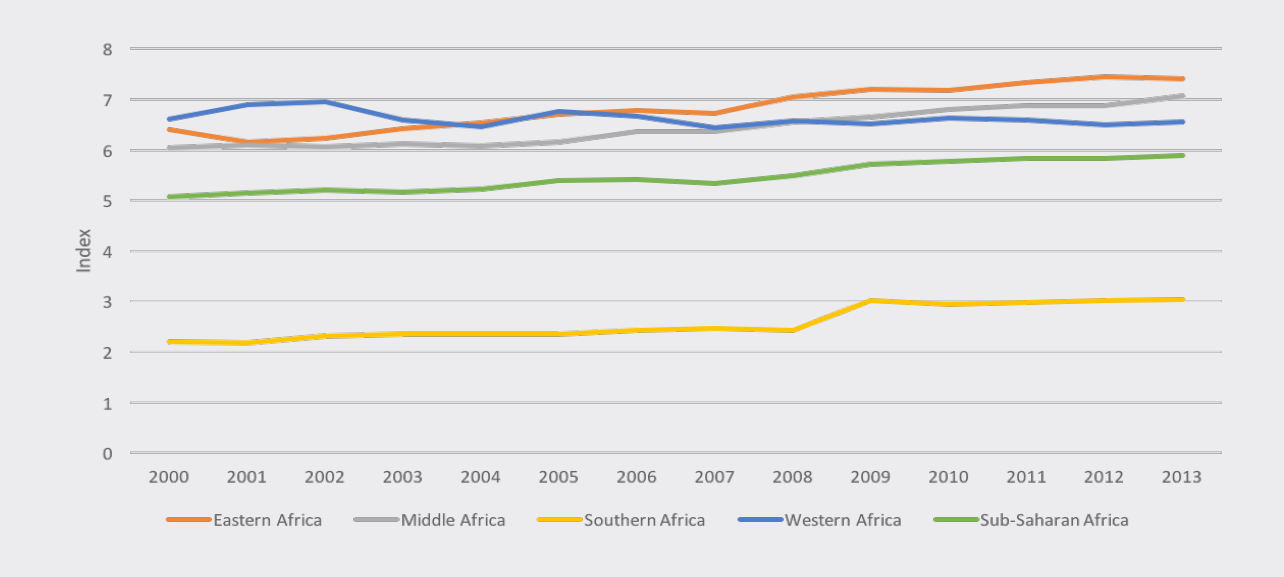


Source: World Bank (2017a)

Policies that aim to promote agricultural production and productivity, as described in the previous section, do not only raise food availability but also improve access to food by raising incomes and lowering food prices. Many of the broad food security and agriculture policy frameworks discussed above have poverty reduction as a goal. For example, the IOC Regional Food and Nutrition Security Programme (PRESAN) is a five-year programme (2017–2022) that aims to contribute to food and nutrition security and poverty reduction. The National Economic and Social Development Plan (PNDES) 2016–2020 of Burkina Faso aims to reduce poverty through strong, sustainable and inclusive growth within the context of a structural transformation of the economy. The Government of Zambia has launched its Second National Agricultural Policy covering the period 2016–2021 which, among other issues, aims at accelerating agricultural production and ultimately eradicating poverty.

Economic access to food is also determined by food prices and people's purchasing power. The domestic food price index, defined as the ratio of food purchasing power parity (PPP) to general PPP, captures the cost of food relative to total consumption. For example, the domestic food price index for Eastern Africa stood at 7.4 in 2013, i.e. food prices were about 7.4 times higher than the price of all other non-food items in the consumption basket. At the regional level, this index is significantly higher in sub-Saharan Africa than in Asia and Latin America and the Caribbean. Within the region, the domestic price index is significantly lower in Southern Africa than the regional average. High food prices are a particular challenge in Western, Eastern and Middle Africa (Figure 19).

FIGURE 19
DOMESTIC FOOD PRICE INDEX FOR SUB-SAHARAN AFRICA AND SUBREGIONS, 2000–2013



Source: World Bank (2017a).

Infrastructure constraints can significantly inflate food prices, and in 2017, the Federal Government of Nigeria approved measures to reduce transport costs with the aim of reducing food prices. These include strengthening the railway infrastructure and working with state governments to reduce delays due to multiple taxation of trucks, with the aim of forcing down food prices in the market. And in Burkina Faso, in March 2016, the Council of Ministers adopted the report on the five-year development programme 2016–2020 for maintenance and rehabilitation of about 7 000 km of rural roads in 13 regions.

Several countries use trade policies or provide consumer price support to reduce food prices. For example, the Government of Kenya introduced an export ban on maize in 2017 to reduce maize price inflation. Furthermore, in May 2017, the government introduced a subsidy programme to slash the price of a two-kilogram packet of unga (sifted maize flour), used to make the popular ugali, by nearly 44 percent (from Ksh160 to Ksh90 – about US$1.38 to US$0.77). The government has also lifted all duties on maize imports in an effort to encourage private importers.

Rising food prices led the Government of Lesotho to subsidize the price of maize meal, beans and pulses, reducing the retail prices for consumers by 30 percent for a period of one year from 1 June 2016. The government allocated about 163 million Rand (about US$12.3 million) for these subsidies, with the aim to ease access to basic food commodities.

It is widely recognized that economic growth, especially in agriculture, has been essential to driving down hunger and poverty rates, and investment in agriculture remains one of the most effective ways to provide opportunities to generate income and improve nutrition, especially for women and youth in rural areas. However, even with economic growth, the struggle to escape from hunger and poverty is often slow, as growth may not be inclusive. For some groups, such as small family farmers, children and the elderly, economic growth may bring little relief, or come too late to prevent deprivation and lasting disadvantage. Moreover, the pathway out of poverty is difficult. In addition, many non-poor households are vulnerable to poverty when faced with shocks, such as droughts and floods, but also illness and death in the family. Such shocks can cause large income losses, and, in the absence of sufficient savings or adequate coping mechanisms, many households to fall below the poverty line. The negative impacts for the poor are typically long-lasting.

Without targeted public assistance, many of the poor and vulnerable will suffer unnecessary hardship and lasting deprivation, perpetuating poverty for future generations. In developing countries, successful experiences with large-scale programmes that help the poor and vulnerable, for example in Bolsa Família in Brazil, the Productive Safety Net Programme in Ethiopia, the Mahatma Ghandhi National Rural Employment Guarantee Act in India and PROGRESA/Oportunidades/Prospera in Mexico, have given impetus to a reassessment of the value and role of such programmes in combating poverty and hunger, as well as social, economic and political inequality. For example, Ethiopia, which has experienced several large-scale humanitarian disasters, established the Productive Safety Net Programme (PSNP) in 2005 with the aim to help the rural poor to resist shocks, create assets and become food self-sufficient. The PSNP is a public works programme that also includes cash transfers to poor, labour-constrained households. The programme, which covers about 8 million individuals and is one of the largest safety-net programme in sub-Saharan Africa, outside of South Africa, is credited with having reduced the national poverty rate by two percentage points (OCHA, 2017a, World Bank, 2015). The programme design and implementation also helps households cope better with seasonal hunger, a perennial issue in many countries. It is estimated that the programme has helped reduce seasonal hunger among beneficiaries by a third (Berhane *et al.,* 2014).

The experience of the PSNP and many other social protection programmes across the region and beyond has shown that social protection, when well implemented, with regular and predictable transfers, facilitates increased investment in on-farm production activities, including inputs, tools and livestock, as well as in non-farm enterprises. Even relatively small transfers help the poor overcome liquidity and credit constraints, and provide insurance against some

risks that deter them from pursuing higher-return activities (FAO, 2015a).[22] These benefits spread beyond the immediate recipients to their communities and the broader economy as recipients purchase food, agricultural inputs and other rural goods and services.

The importance of social protection is recognized in the first Ten-Year Implementation Plan of the 2063 Agenda, as well as in the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity, and many sub-Saharan African countries have established social protection strategies, which include a wide range of instruments including, but not limited to, cash transfers, in-kind and asset transfers, school feeding programmes, and public works programmes. For example, in March 2016 the Council of Ministers of Burkina Faso adopted a report on the implementation of the Labour-Intensive Work Programme (THIMO) for the year 2016. Under this programme, 9 300 youth will be recruited in 49 municipalities at a cost of CFAF2.5 billion (about US$4.3 million). The government implemented the THIMO approach to reduce the vulnerability of the poorest populations following the riots and youth protests that rocked the country in April-May 2011. Special job creation programmes for youth and women, including the THIMO approach, have been set up by the government not only as a one-off response to the various emergencies (social, economic or environmental), but also in terms of a sustainable response to issues of underemployment and chronic vulnerability.

Food-for-work or cash-for-work programmes and cash transfer programmes are also being developed or implemented in a number of other countries. For example, in Lesotho cash transfer top-ups, complemented with home gardening support, have been an important part of the response to the El Niño-induced drought. In Malawi, the National Social Support Policy and Programme (NSSP) includes public works, social cash transfers, school meals, microfinance and village savings and loan schemes. In Senegal, the Programme National de Bourse de Sécurité Familiale (PNBSF) aims to make available a significant family grant to 300 000 households for a five-year period while keeping children in school, updating immunization cards and validating the civil register. A recent assessment shows that the PNBSF strengthens dignity, family welfare and the resilience of beneficiaries (FAO and IRAM, 2017). The United Republic of Tanzania and Zambia also have programmes involving cash transfers and Rwanda is using a food-for-work system to assist drought affected families.

Several countries, such as Cabo Verde, Ethiopia, Malawi, Mali, Nigeria and Zambia have implemented or are implementing school feeding programmes. In Nigeria, the Home-Grown School Feeding (HGSF) programme was piloted in 2004 and provides free school meals prepared with food procured from local farmers. As of 2016, 155 000 beneficiaries were being targeted by the programme. Additionally, in June 2016, the government launched the National Home Grown School Feeding Strategic Plan (2016–2020), which constitutes the cornerstone of the nationwide HGSF programme. When fully implemented, the school feeding component of this programme will support states to feed more than 24 million school children, making it the largest school feeding programme of its kind in Africa. In some instances, as in Zambia, local farmers receive production support so that they are better able to exploit the market opportunity offered by the school feeding programme.

Social protection in many countries in sub-Saharan Africa does not only address chronic hunger and poverty but also provides humanitarian assistance in response to drought and other shocks. As of June 2017, large numbers of people in 29 countries in sub-Saharan countries were in need of humanitarian assistance for a variety of reasons, but mainly due to drought and/or conflict. In Nigeria, Somalia and

[22]Programmes in sub-Saharan Africa typically relate the transfer amount to some stated programme objective such as providing one meal per day, or closing the poverty gap. Since most national programmes in sub-Saharan Africa have food security as a key objective, the food poverty line or cost of a typical meal is the most common point of reference used to set the transfer amount (Davis and Handa, 2015). Twenty percent of beneficiary household income marks a crucial threshold: programmes that transfer significantly less than this threshold have small and selective impacts on households, while those that transfer significantly more than this threshold show widespread impacts (Davis and Knowles, 2015).

South Sudan, 15.8 million people are classified as severely food insecure and in South Sudan, thousands are threatened by famine. Many additional persons are in need of assistance in several other countries affected by conflict, displaced populations and/or drought. In many countries, national efforts are complemented by the international community.

In many countries the Fall Armyworm (FAW) has emerged as a new threat to crop production. The FAW is an insect pest that has the potential to feed on more than 80 plant species, causing damage to economically important cultivated cereals, mostly maize, but also rice, sorghum, and also to legumes as well as vegetable crops and cotton. Although it is too early to know the long-term impact of FAW on agricultural production and food security in Africa, it has the potential to cause serious damage and yield losses. Preliminary assessments, conducted between mid-February and end of April 2017, have shown that approximately 356 000 hectares of crops were affected by the Fall Armyworm infestation in seven reporting SADC Member States (Botswana, Democratic Republic of the Congo, Malawi, Namibia, South Africa, Swaziland and Zambia) and will cause at least 25 percent crop losses.

STABILITY OF AVAILABILITY AND ACCESS TO FOOD ALSO IMPORTANT IN ENSURING FOOD SECURITY

To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). The "hungry season" is an important driver of undernutrition (Vaitla, Devereux and Swan, 2009). Particularly in areas dependent on rainfed cultivation, the year-to-year availability of food is the key determinant of fluctuations in undernutrition and short-term deprivation (Kumar, 1987). In Malawi and the Niger, Cornia, Deotti and Sassi (2012) found that strong seasonal food price variations are a major determinant of child malnutrition; these fluctuations occur even in periods of relatively abundant harvests because of limited investment in storage at the community and household levels, limited credit availability and inadequate strategic food reserves. Policies that address instability in the availability and access to food aim to smooth production and/or price fluctuations. Many sub-Saharan African countries face a high degree of exposure to risk from production and price instability when considering a number of relevant indicators: the area equipped for irrigation, which provides a measure of the extent of exposure to climatic shocks, such as droughts; the degree a country depends on imports to meet cereal demand, which reflects potential exposure to international price shocks; and the share of food imports in total merchandise exports, which captures the adequacy of foreign exchange reserves to pay for food imports.

Shocks, including natural disasters, epidemics, and food price crises are often associated with conflict. Such shocks may sometimes aggravate or even trigger civil conflict, others—such as food price hikes—are often a result of civil conflict and can themselves spark conflicts. Developing policies and interventions that prevent instability in availability and access to food, and/or build greater resilience, are important therefore also from the point of view of sustaining peace. This issue is discussed in depth in Part Three of this report.

In Rwanda, in February 2017, the government committed to intensify irrigation initiatives to cope with climate change effects that have adversely affected agricultural production over the last few years. To mitigate effects of drought and boost productivity, the government has been investing in both large and small-scale irrigation schemes to provide farmers with modern irrigation technology as a sustainable solution to cope with the drought. Since 2014, the government has been supporting farmers with small-scale irrigation facilities, subsidized

by up to 50 percent of the total cost. The scheme supports individual farmers, cooperatives and groups of farmers who are willing to irrigate their crops close to water bodies. About 44 000 ha have been developed with formal irrigation infrastructure in Rwanda.

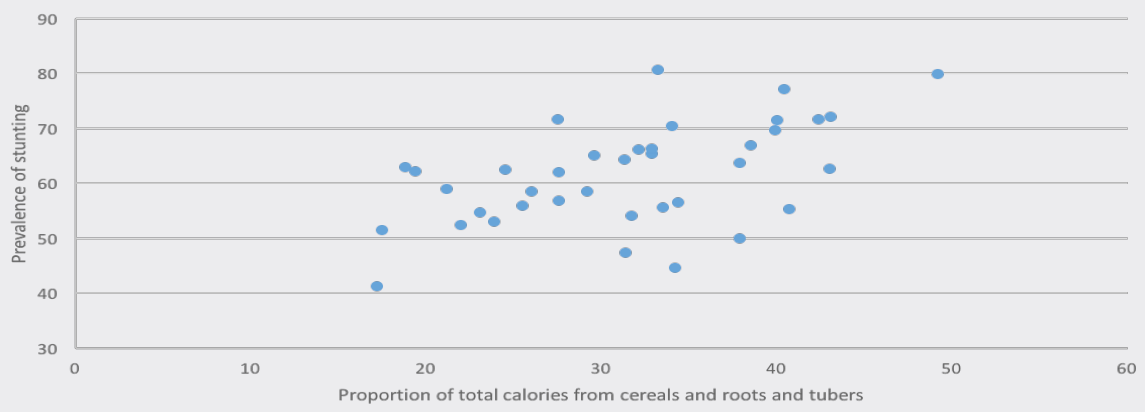
In 2011, the Government of Mali, in response to the adverse effects of climate change, has decided to enhance water management to secure agricultural productions. The Ministry of Agriculture together with the African Development Bank (AfDB) initiated the implementation of two flagship projects in 2016: "Strengthening Food Security through the Development of Irrigated Crops" and "Strengthening Food and Nutrition Security in the Region of Koulikoro". Both projects aim to develop irrigated crops adapted to consumer needs on a sustainable basis through water management.

Several countries are also using trade policies to avoid adverse supply and price fluctuations. For example, in mid-2016 Burundi, expecting a long dry season, banned exports of certain foods and called on farmers to put their harvests into public storage to avoid food shortages. And Kenya too, in January 2017, fearing food shortages, banned exports of maize in response to the drought. Finally, the Government of Uganda approved duty-free rice imports to boost supplies and stabilize prices.

FOOD UTILIZATION ALSO DETERMINES NUTRITION OUTCOMES

Food utilization includes two distinct dimensions. The first is captured by anthropometric indicators affected by undernutrition, such as stunting and wasting, that were presented under the section on the multiple burdens of malnutrition in Part One. In this section, we report on nutrition policies that aim to improve these nutrition outcomes. It is important to realize that the availability of adequate food supplies does not in itself guarantee good nutrition outcomes. In many countries, high levels of stunting are observed even though the average adequacy of dietary diversity is relatively high. In many cases, but not always, poor nutrition outcomes are also the result of a lack of dietary diversity. Even a look at the relationship between stunting and dietary diversity at a very aggregate level suggests that in countries where a high proportion of calories are derived from cereals and/or roots and tubers, the rates of stunting are also higher (Figure 20). Nutritionists consider dietary diversity a key indicator of a high-quality diet and evidence indicates that dietary diversity is strongly and positively associated with child nutritional status and growth, even after socio-economic factors have been controlled for (FAO, 2013).

FIGURE 20
PREVALENCE OF STUNTING IN CHILDREN UNDER FIVE VERSUS PROPORTION OF CALORIES DERIVED FROM CEREALS AND ROOTS AND TUBERS OUT OF TOTAL CALORIES



Source: FAO (2017b) and UNICEF, WHO and World Bank (2017b).

The second dimension is captured by input indicators that reflect food quality, health and hygiene conditions, determining how effectively available food can be utilized. Good health is a prerequisite for the human body to absorb nutrients effectively, and hygienic food helps maintain a healthy body. Access to clean water is crucial to preparation of clean, healthy food and maintaining a healthy body. This section therefore also reports on policies relevant to improved water sources and sanitation facilities.

Very many countries have developed and are implementing nutrition policies and strategies that are aligned with the Africa Regional Nutrition Strategy 2015–2025 (AU, 2015b) and the goals of the Malabo Declaration. In addition, also regional and national investment plans are being made nutrition-sensitive. For example, Ethiopia launched a US$1.14 billion nutrition programme for 2016–2020 which provides a framework for coordinated and integrated implementation of nutrition interventions by the government and relevant stakeholders. Food and nutrition quality, safety and security, as well as setting up a post-harvest management system, are also among the priorities of the Programme.

In general, nutrition policies, for example in Burkina Faso, Cabo Verde, Mali, Mozambique, Nigeria, Senegal, and Zambia, focus on reducing undernutrition, micronutrient deficiencies, overweight, and on improving food safety issues, nutrition education, and nutrition governance. For example, in 2016, the Government of Nigeria developed the National Policy on Food and Nutrition which aims to reduce hunger and malnutrition through a multisectoral and multidisciplinary approach. The Policy sets specific targets for 2025 which include: a reduction in the proportion of people who suffer hunger and malnutrition by 50 percent; a reduction in the rate of stunting among children under-five from 37 percent in 2013 to 18 percent, and; an increase in access to potable water from 49 percent in 2013 to 70 percent. In Burkina Faso the National Nutrition Policy (PNN) was revised in 2016 but has not yet been adopted. Unlike the National Food and Nutrition Policy, the PNN embraces a multisectoral approach to nutrition. The policy will specifically focus on reduction of undernutrition, reduction of micronutrient deficiencies, strengthening the fight against over-nutrition and nutrition-related chronic non-communicable diseases, strengthening food safety linked to nutrition, and improved governance in nutrition. And in 2017 the Government of Mali is expected to adopt the new National Food and Nutrition Security Policy and its action plan to accelerate the achievement of Sustainable Development Goals (SDGs). This new Policy will integrate the current 2014-2018 National Nutrition Policy (PNN) and create conditions for a better coordination of sectoral policies. The PNN identified specific objectives to be achieved by 2021, including: halving the prevalence of acute malnutrition and cutting down by two-thirds the prevalence of chronic malnutrition among children 0–5 years old and school age (6–14 years); sustainably fighting micronutrient deficiencies-related disorders (iodine, iron, zinc and vitamin A); decreasing by one-third the prevalence of anaemia among children and women; and improving the nutritional pregnancy and postpartum management.

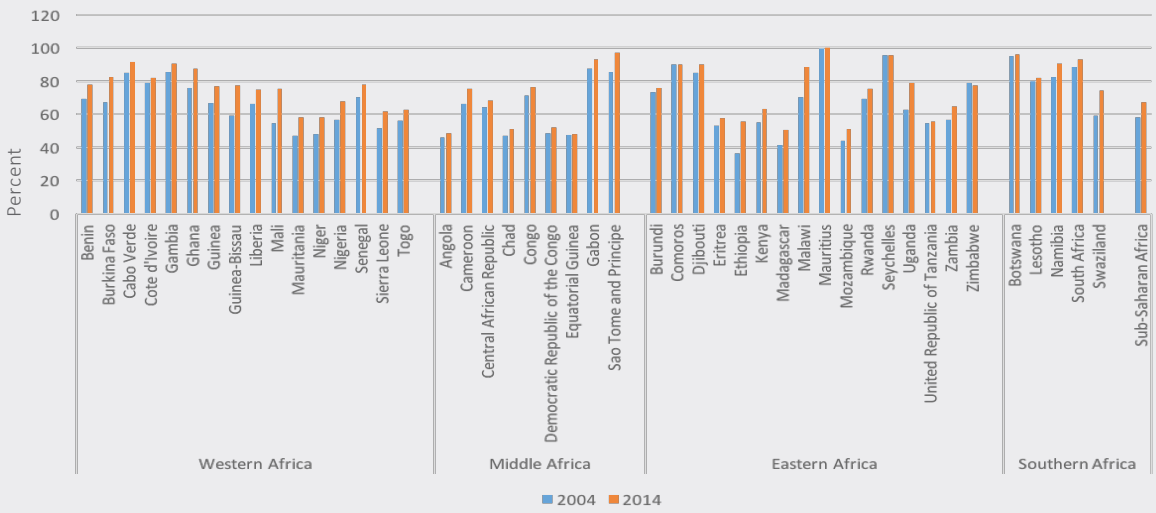
Nutrition goals are also often embedded in school feeding programmes. For example, Zambia will scale-up the Home-Grown School Feeding Programme to enhance learning abilities of school-going children, increase attendance rates and combat malnutrition. And Cabo Verde adopted a Law on School Food and Health in 2015 that requires, *inter alia*, to introduce nutrition education into the curriculum.

The Government of South Africa, in an effort to improve public health, has announced that on 1 April 2017, the sugar tax is to take effect. This tax is designed to reduce sugar intake from sugar-sweetened beverages by raising the price by 20 percent and is part of the strategic plan to prevent and control non-communicable disease, and obesity. South Africa has one of the highest rates of overweight and obese adults in Africa: one in five women has a body mass index greater than 35. The number of overweight and obese children in South Africa has increased from 1.4 percent in 1994 to more than 15 percent in 2004.

Also policies aimed at improving access to clean water and sanitation are an important part of food utilization and help determine nutrition outcomes. The importance of clean water and sanitation for

development is reflected in SDG 6 and its targets, including universal and equitable access to safe and affordable drinking water for all. Figures 21 and 22 show the situation and trend in access to improved water sources and sanitation facilities in sub-Saharan African countries. While there is much variability in access levels across countries, it is invariably higher for improved water access. Several countries, notably Burkina Faso, Ethiopia, Guinea-Bissau, Mali, Malawi, Uganda and Swaziland have made significant gains in providing access to improved water sources.

FIGURE 21
ACCESS TO IMPROVED WATER SOURCES, 2004–2014

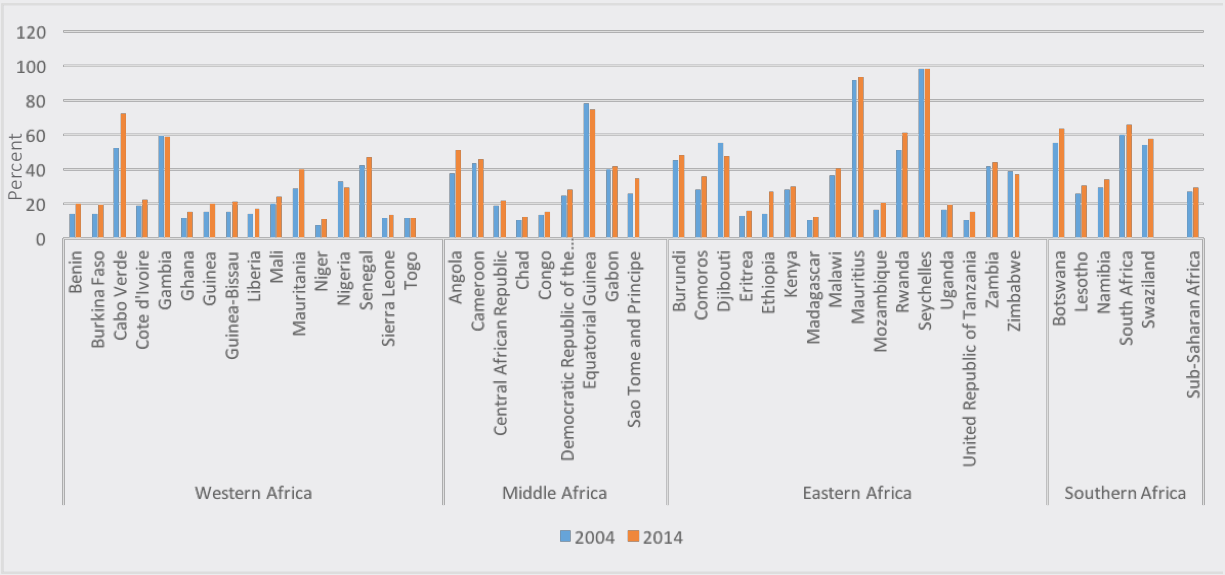


Source: FAOSTAT (available at http://www.fao.org/faostat/en).

While several countries have achieved relatively high levels of access to improved sanitation facilities, this is not the case in most countries. On average progress was much slower than for improved water sources, but several countries, notably Angola, Ethiopia, Mauritania and Sao Tome and Principe, made considerable progress. For the latter three countries, this complemented good progress in increased access to improved water sources.

Tanzania, in its National Five-Year Development Plan, identified water supply and sanitation services as strategic development sectors; Cabo Verde's National Food Security and Nutrition Strategy aims to improve access to safe water and improved sanitation, and Malawi's Food Security Response plan identified water and sanitation among the priorities for immediate assistance for those affected by the food and nutrition emergency.

FIGURE 22
ACCESS TO IMPROVED SANITATION FACILITIES, 2004–2014



Source: FAOSTAT (available at http://www.fao.org/faostat/en).

Several food security and nutrition policies identified access to safe water and improved sanitation facilities as important for food security and improved nutrition. Senegal's National Policy for Nutrition Development (PNDN) considers education, hygiene and sanitation as well as essential health services critical to promote human capital development; the United Republic of

In February 2016, South Africa drafted a new National Sanitation Policy which includes hygiene and end-user education. The policy aims to, *inter alia*, support equity in the sanitation sector, strengthen sanitation institutions and, to ensure sustainable sanitation provision in the country. The policy addresses gaps in current sanitation policies, which may also require legislative amendment.

POLICIES AND PROGRAMMES ARE ALIGNED WITH THE MALABO DECLARATION AND ACHIEVING SDG 2

Across the board, countries have developed and are developing policy frameworks and investment plans that are aligned, or efforts are being made to align them, with the goals of the Malabo Declaration and SDG 2. Through CAADP, policy processes are coherent, and this initiative has raised the profile of agriculture and heavily influenced agricultural policy at regional and national levels.

In general, country policies on food security show a recognition of the need for a broad and multisectoral approach. Raising food production and productivity are central to achieving SDG 2, but malnutrition is not only the result of a lack of access to sufficient, nutritious, and safe food, but is also determined by a lack of access to resources and services, such as quality healthcare, education, drinking water, sanitation and hygiene.

The goals of the Malabo Declaration are ambitious and there are many challenges to achieving them. Adequate funding, setting the right priorities and strengthening institutional capacities are essential for effective implementation and delivery of policies and investment plans.

SOMALIA
A woman with her family in a camp for internally displaced people in Uusgure ©FAO/Karel Prinsloo

PART 3
CONFLICT, FOOD SECURITY AND NUTRITION

Much evidence shows that conflict is a leading cause of food insecurity, hunger and poverty and that people living in countries affected by conflict are more likely to be food insecure and malnourished. A majority, or 489 million, of the 815 million people in the world that were undernourished in 2016 live in countries struggling with conflict, violence and fragility (FAO, 2017a).[23] The prevalence of undernourishment in the 46 countries affected by conflict is on average between 1.4 and 4.4 percentage points higher than that of all other countries. Where compounded by conditions of fragility, the prevalence is between 11 and 18 percentage points higher, and for protracted crisis situations, the prevalence is about two and a half times higher than that of countries not affected by conflict.[24] For countries in sub-Saharan Africa, for which data is available, the prevalence of undernourishment is about twice as high in countries affected by a protracted crisis than in countries not affected by conflict. Nutrition outcomes are also worse: almost 122 million, or 75 percent, of stunted children under the age of five live in conflict-ridden countries, with the difference in prevalence between conflict and non-conflict countries at nine percentage points (FAO, 2017a).

Countries affected by conflict made the least progress in reducing hunger among their populations, as compared to countries not affected by conflict and that achieved the MDG 1c goal. It is likely that low- and middle-income countries affected by conflict will struggle to achieve SDG 2, highlighting the need to address the challenges of conflict, fragility, violence and the complex relationship between these, food security and nutrition.

The 2030 Agenda recognizes the link between conflict and food security, whereby conflict threatens sustainable development in many countries, and the 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.

[23]The OECD characterises fragility as the accumulation and combination of risks combined with insufficient capacity by the State, system, and/or communities to manage it, absorb it, or mitigate its consequences. Fragility is evaluated over five dimensions: political, societal, economic, environmental and security. Currently the OECD identifies 56 countries as having fragile situations (OECD, 2016). More than half of the fragile States are low-income, but there does not appear to be a linear connection between economic development and fragility. The majority of fragile States have authoritarian regimes.

[24]FAO currently identifies 19 countries as being in a protracted crisis-situation. Of these, 14 have been in this category since 2010, 11 of which are in Africa. Protracted crises are contexts in which a significant proportion of the population is acutely vulnerable to hunger, disease and disruptions to livelihoods over prolonged periods of time. Conflict and violence are key determinants of most protracted crises. These countries have suffered from conflict for 10.5 years on average over the last two decades. In six countries conflict has been ongoing for at least 18 of the last 20 years (FAO, 2017a).

Since 1946, there have been 259 distinct conflicts (Gates *et al*., 2016 – based on statistics from the Uppsala Conflict Data Program).[25] Colonial and interstate conflicts predominated early on, but today conflicts are mostly internal to countries, although often involving external actors. The distinct rise in civil conflict peaked in 1991 and then declined until 2003, after which there were about 30 to 40 conflicts – mostly civil – each year (Gates *et al*., 2016). At the same time, the ratio of new conflicts to conflicts in countries with a previous conflict has changed from 43 to 57 in the 1970s, to 10 to 90 in the 2000s (World Bank, 2011).[26] Although the frequency of wars has decreased over the decades, there has recently been a surge in the number of violent conflicts (FAO, 2017a) and conflict-related deaths have increased, with the average annual number of recorded deaths rising from 70 000 in 2007–2012 to 90 000 in 2010–2015 (Small Arms Survey, 2016).

Most conflicts affect mainly rural areas, and this is particularly true for civil conflicts, the most common form of armed conflict today. Conflicts can damage agriculture, disrupt food production and food systems, lead to the plundering of crops and livestock, and cause loss of assets and incomes. Conflicts also undermine social, human, and economic capital. The disruption or destruction of livelihoods are major drivers of food insecurity and malnutrition, both acute and chronic.

The impact of conflict on rural livelihoods is particularly severe in countries with large rural and agricultural sectors, many of which are in sub-Saharan Africa. Thirty-five countries in sub-Saharan Africa are fragile, and conflicts, at national and subnational levels, are destroying lives and livelihoods in several countries. In 2016, there were 94 conflicts in sub-Saharan Africa, nearly a quarter of the world's political conflicts (HIIK, 2017).[27] Over one-third of the world's highly violent conflicts took place in sub-Saharan Africa. In 2016 there were seven limited wars (down from ten in 2015), while the number of full-scale wars decreased from nine to seven (HIIK, 2017). And of 19 conflict-affected countries in protracted crises, 13 are in sub-Saharan Africa (FAO, 2017a).[28]

Conflict not only leads 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 often contributing to fragility by weakening institutions, one of the main driver of fragility (OECD, 2016; Vallings and Moreno–Torres, 2005, and FAO, 2017a). Demands for basic administration and services as well as unmet expectations of the people in protracted crises can easily lead to unrest and violence. The ability of States to cope is often weakened by internally displaced people and the arrival of refugees. In 2015 Sub-Saharan Africa hosted 32 percent of the world's refugees – and people in refugee-like situations – and about 29 percent of internally displaced persons (IDPs) assisted by UNHCR (including people in IDP-like situations) (UNHCR, 2016).

The nexus of conflict and food insecurity may also be amplified by climate change, which is expected to negatively impact food insecurity in sub-Saharan Africa (see also Box 4). Climate change affects food availability through its increasingly adverse impacts on crop yields, fish stocks and animal health and productivity, especially in sub-Saharan Africa, already burdened with a high prevalence of undernourishment. Along with a more volatile climate, the intensity and frequency of climate-related natural disasters are expected to increase. Poor family farmers are particularly vulnerable to such disasters. Severe droughts or floods can sharply reduce incomes and cause asset losses that erode future income earning capacity. In addition, a reduction in food supply due to climate change will also lead to a rise in prices (FAO, 2016b).

[25]Defined as conflicts with at least 25 battle-deaths.

[26]Collier, Hoeffler and Soderbom (2008) estimate that post-conflict situations are typically fragile, with 40 percent reverting to conflict within 10 years.

[27]The Heidelberg Institute for International Conflict Research (HIIK) uses a broad definition of conflict that ranges from non-violent disputes to war.

[28]Burundi, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, Kenya, Liberia, Niger, Somalia, South Sudan, and Zimbabwe.

BOX 4
CLIMATE CHANGE AND CIVIL CONFLICT

In 2007, the United Nations Security Council expressed the fear that climate change was the greatest challenge to world peace. Climate-related events, particularly the most extreme, especially droughts, can increase food insecurity both in terms of food availability and food access, through a number of channels. Drought is a special case because it diminishes livestock and agricultural productivity and thus expands the pool of potential combatants and gives rise to more broadly held grievances. A severe drought tends to threaten local food security and aggravate humanitarian conditions which, in turn, can trigger large-scale human displacement and become the breeding ground for fighting, igniting or prolonging conflicts.

A study of conflict events in Asia and Africa from 1989 to 2014 shows that the risk of conflict increases for each additional year of growing-season drought, and is even more pronounced for low income developing countries (FAO, 2017a). With climate change, the risk of extreme weather-related events increases, as much as the variability in rainfall. If left unabated, climate change thus could be expected to add to the stresses that contribute to the outbreak of conflicts.

The climate change impacts on sub-Saharan agriculture, summarized in FAO (2016b) are, in some cases and locations, large and negative:

- The overall impact of climate change on yields of cereals, especially maize, are negative.
- The frequency of extremely dry and wet years increases.
- Much of Southern Africa is expected to be drier, but rainfall increases in Eastern and Western Africa.
- In the Sahel rangeland, degradation and drought will reduce forage productivity.
- By 2050, declining fisheries and aquaculture will be affected by oxygen deficit, acidification and pathogens due to warming.
- Deforestation, degradation and forest fires affect forests in general.
- Forest losses reduce wildlife, bush meat and other non-wood forest products.
- Water scarcity affects forest growth more than higher temperature.

The report also notes that under the Representative Concentration Pathway 8.5 high emission scenario, most of the expected slow-down in the reduction in the number of people at risk of hunger is in sub-Saharan Africa, also because agriculture is relatively more important for incomes and food security in the region. It is unsurprising that the potential negative impacts of climate change should be a cause for concern. With climate change, the concurrence of conflict and climate-related natural disasters is likely to increase. This not only magnifies problems of food insecurity and nutrition, but also adds another stressor that exacerbates the potential for conflict, protracted crisis and continued fragility.

HOW DOES CONFLICT AFFECT FOOD SECURITY AND NUTRITION?

Conflicts result in mortalities, injuries, disabilities and mental health issues. The human suffering is immeasurable. They also cause considerable economic damage, both in the short and long term. Conflicts undermine or destroy livelihoods and prevent the accumulation of human capital. They negatively affect mother and child nutrition, with long lasting negative effects on human capital and labour productivity. They can also disrupt local markets by destroying infrastructure and raising transaction costs.

Broad economic costs have been estimated by Costalli, Moretti and Pischedda (2014), who, based on a sample of 20 countries in which conflict lasted for an average 9.5 years, find that civil war leads to an average annual loss in per capita GDP of 17.5 percent. A comparison of the fortunes of Burundi and Burkina Faso is instructive. The two countries had similar incomes until 1990, when a civil war engulfed Burundi and reduced real income to 1970 levels. Today Burkina Faso, conflict-free, has income levels two and a half times that of Burundi (World Bank, 2011). Recovery to the original growth paths takes an average of 14 years for countries that experienced civil war (World Bank, 2011). Furthermore, the World Bank (2011) finds that countries that endured long-term conflict are also likely to have a significantly higher poverty rate. This economic upheaval translates into reduction in availability, access, stability and utilization of food, that is to say it causes food insecurity and hunger.

Conflict and food security: some recent evidence

In Burundi, restrictions of movement of goods and people, due to insecurity and government policies, have a negative impact on economic activities, limiting availability of food in the market, as well as reducing household income earning opportunities. The recent socio-political crisis has led to a rapid deterioration of food security and an increase in the internally and externally displaced population. Between October 2016 and February 2017, the number of food insecure rose from 2.1 to 3 million and those considered severely food insecure from 800 000 to 900 000 (FAO, 2016c).

In the Central African Republic, conflict started in 2012 and has led to a fall in cultivated areas by 57 percent and a drop in food production of 54 percent. In late 2015, the general livestock-related loss associated with the crisis in the Central African Republic was assessed at 46 percent for cattle and 57 percent for small ruminants, forcing a quarter of pastoralists to shift to other sources of livelihoods (FAO and WFP, 2016). Furthermore, conflicts between farmers and herders escalated due to the crisis. The conflict has led to more than 2.2 million people – close to half of the population – needing basic humanitarian assistance, including just over 400 000 IDPs (OCHA, 2017b).

The Democratic Republic of the Congo has been in a protracted humanitarian crisis for many years and 6.9 million people, or 8 percent of the total population, need emergency assistance, including more than 4.2 million children (OCHA, 2017c). About 3.9 million people are affected by acute malnutrition,[29] including 1.9 million severely malnourished children (OCHA, 2017c). The high nutritional vulnerability of populations

[29]WHO defines severe acute malnutrition by a very low weight-for-height (below -3 standard deviations of the median WHO growth standards), by visible severe wasting, or by the presence of nutritional oedema (oedema is the retention of water in the body tissues).

(43 percent of the infant population is chronically malnourished) has increased the risk of mortality and morbidity throughout the country (OCHA, 2017c). For South Sudan, mired in conflict since December 2013, farmers in affected locations cannot access their plots; livestock and fishing equipment has been looted; and commerce disrupted. As a result, 4.9 million people were severely food insecure (IPC Phases 3, 4 and 5)[30] between February and April 2017, a figure expected to rise to 5.5 million people, almost 50 percent of the population, by the peak of the lean season in July. In Greater Unity State, some counties are classified in famine or high likelihood/risk of famine (FAO, 2017e).

Widespread food insecurity has important nutrition impacts, especially on children.[31] For example, disruptions to agriculture in Rwanda during the conflict of the 1990s contributed to a rise in stunting of children born in affected regions (Akresh, Verwimp and Bundervoet, 2007). And in Burundi, children's height was affected by the civil war in the 1990s and early 2000s, and the subsequent economic embargo (Bundervoet and Verwimp, 2005).

CAN FOOD INSECURITY AND UNDERNUTRITION TRIGGER CONFLICT?

Food insecurity reflects deteriorating economic circumstances, which in many countries in sub-Saharan Africa are directly related to conditions in agriculture. Seminal work by Collier and Hoeffler (1998, 2001, and 2002) concludes that the gap between the returns from taking up arms relative to those from conventional economic activities is the key causal mechanism linking low income to the incidence of civil war.[32] The authors conclude that, in general, economic factors are more important than political grievances. Substantiating those findings, a survey of what might drive ex-combatants in Liberia to return to fighting found that the two most commonly cited reasons are poverty and economic disadvantage, followed by a lack of jobs, benefits or training (Hill, Taylor and Temin, 2008). Later reviews find that economic welfare is the factor most consistently linked to conflict (Burke *et al.,* 2009; Blattman and Miguel, 2010). At the same time it is important to keep in mind that multiple factors drive conflict. For example, Annan (2014) argues that conflicts in Western Africa have been fuelled by multiple interrelated factors such as poverty, human rights violations, poor governance and corruption, ethnic marginalization and small arms proliferation.[33]

Many people move to neighbouring areas or other countries when faced with food insecurity and/or violence, and the ensuing pressure on resources often helps fuel conflict. For example, in South Sudan and Burundi, there has been a massive movement of population to neighbouring countries as people flee the country to seek security and food in refugee camps. Massive population displacement has increased the pressure on natural resources and is a source of conflict between IDPs and the host communities in many areas of South Sudan. In postwar Burundi, recurrent drought and food insecurity together with uneven food distribution led to conflict between migrants and host communities over access to land (Heijman *et al.,* 2009). And in Mali, the conflict in 2012 coincided with a regionwide drought that affected 3.5 million people. Many pastoralists were left in poverty and food insecurity and many joined the armed rebel factions or turned to looting and stealing (Breisinger, Ecker, and Trinh Tan, 2015).

[30]IPC phases are classified as: 1 = generally food secure; 2 = moderately/borderline food insecure; 3 = acute food and livelihoods crisis; 4=humanitarian emergency; 5 = famine/humanitarian catastrophe (IPC Global Partners, 2008).

[31]The Committee on World Food Security (CFS) developed a Framework for Action for Food Security and Nutrition in Protracted Crises (CFS–FFA) which recognized that undernutrition during protracted crises is typically severe and that nutritional needs require a special focus, especially on risk populations, the vulnerable and marginalized groups. For more information see http://www.fao.org/cfs/cfs-home/activities/ffa/en/.

[32]I Fearon and Laitin (2001) and Miguel, Satyanath and Sergenti (2004) come to a similar conclusion.

[33]Ethnicity and ethnic fragmentation are considered one of the root causes of violent conflicts in Western Africa. For example, Vinck, Pham and Kreutzer (2011) find that nearly 50 percent of Liberians identified ethnicity and ethnic divisions as the root cause of the Liberian civil war. However, Collier and Hoeffler (2004) find that ethnic dominance, not diversity, is more likely to increase the risk of war. They argue that ethno-linguistic fractionalization (ELF) raises the transaction costs of cross-group coordination and they hypothesize that coordination for rebellion is easier at low levels of ELF and it becomes harder as ethnic diversity increases.

Measuring the impact of food insecurity on conflict is difficult, precisely because a confluence of factors are typically the driving factors of conflict. Studies that investigate this link focus on rainfall/temperature or price data, factors that impact on food availability and access. For example, Miguel *et al.,* (2004) use rainfall variation as an instrumental variable for economic growth in 41 African countries from 1981 to 1999. Their results show that GDP growth is significantly related to the incidence of civil conflict: a five percentage point drop in annual economic growth increases the likelihood of civil conflict in the following year by 12 percentage points. Hendrix and Glaser (2007) arrive at a similar conclusion.

A study by Hendrix and Salehyan (2012) finds that wetter years are more likely to suffer from violent events. Further evidence linking conflict to rainfall patterns in preceding years is provided by Chen *et al.,* (2016), but they note that rainfall is only one of the factors that play a role. And Raleigh and Kniveton (2012) find that extreme rainfall variation, in either direction, increases conflict in Eastern Africa. This finding is supported by data from sub-Saharan Africa more generally (Maertens, 2016).

A robust link between temperature and civil conflict in Africa is reported by Burke *et al.,* (2009). They find that a rise in temperature of 10C increases the incidence of internal armed conflicts in sub-Saharan African countries by 4.5 percent in the same year and 0.9 percent in the next year. A study on Somalia by Maystadt and Ecker (2014) finds that over the period 1997 to 2009 longer and more severe droughts contributed to conflict. Drought drives conflict by causing livestock prices to fall, thus negatively impacting household income of livestock producers who then may be less resistant to engage in conflict. In addition, population growth, fragility of grazing lands and greater water scarcity have undermined traditional coping strategies (Breisinger *et al.,* 2014). Burke, Hsiang and Miguel (2014) carry out a meta-analysis on 55 studies and find that deviations from moderate temperatures and precipitation patterns systematically increase the risk of conflict. The effect of temperature is by far the largest, but also rainfall deviations have a substantial impact.

Food prices can also impact negatively on food insecurity. Several studies look at food prices and their impact on food insecurity. However, Brinkman and Hendrix (2011) note that the link between food prices and food insecurity are very much context-specific and that food insecurity is neither necessary nor sufficient for conflict. Finally, a study by Bellemare (2011) finds that rising prices can lead to political unrest, while price volatility does not.

CASE STUDY: LAKE CHAD CRISIS

Boko Haram-related violence in northeast Nigeria, that has also affected the neighbouring countries of Cameroon, Chad and Niger, has disrupted agriculture and other activities, and created a massive humanitarian crisis in an area already characterized by food insecurity, poverty and environmental degradation. Following the recapture by the combined armed forces of Nigeria, Cameroon, Chad and Niger of several main towns and many villages under Boko Haram control, the need for large-scale humanitarian interventions in those areas has become an absolute priority for the affected countries and their partners. The retreat of Boko Haram on the ground has opened access for humanitarian actors to communities that have been isolated for a long time. About 17 million people are affected and nearly 2.5 million people are internally displaced, refugees and returnees, making it the second largest displacement crisis in the world and the most rapidly growing one (OCHA, 2017d; FAO, 2017f).

There are arguably many factors contributing to the current humanitarian crisis in northeast Nigeria. Structural factors, such as economic and political marginalization, poverty and poor governance, can create conditions for the emergence of crisis, by stoking frustration and a sense of injustice. Intermediate factors may exacerbate structural factors over the medium term, while triggers are

short-term, perhaps unforeseen incidents which provoke violence. In northeast Nigeria, climate change and environmental degradation, mainly drought, desertification and contraction of Lake Chad, have led to a lack of demarcated grazing lands, cattle routes and diminishing water sources for livestock, agriculture and fisheries. This situation fuels competition over land and natural resources, especially between agriculturalists and pastoralists. Economic infrastructure in the northeast is limited, and the industrial base of northern Nigeria, mostly located outside the northeast regional zone, in Kano and Kaduna, has largely collapsed in recent decades. Rural livelihoods based on agriculture, pastoralism and fisheries have been badly eroded because of a combination of limited government support, poor management and limited access to new technology and inputs. The lack of employment and livelihood opportunities for young people is one of the major causes of frustration and discontent with government, and a possible 'push factor' in the incitement of individuals to violence (CAR, 2016).

In the most affected areas of these four countries, conflict and displacements are adding to pre-crisis poverty, increasing vulnerability and food insecurity as well as poverty rates, and diminishing access to basic services, such as water, sanitation, health and education. Other aggravating factors, such as the disruption of trade and the closure of borders, have further negatively affected the food security situation. Conflict has also lead to higher food prices in the four affected countries. In Nigeria, the prices of staple food crops across the states affected by the Boko Haram insurgency are extremely high compared to the five-year averages. Market prices of cereals increased by 50 to 80 percent in January 2017 when compared to the five-year average of the same month; and by 70 to 124 percent when compared to the 2016 average of the same month. Prices of legumes and tubers were also above the 2016 and five-year averages by 55 percent and 105 percent, respectively (FAO–CILSS, 2017). Affected areas in Niger have experienced similar increases in staple food prices (FAO, 2017g). The water resources and grazing areas are under considerable pressure due to the concentration of herds following changes in transhumance flows. This is putting pastoral resources under extreme pressure, and could threaten animal health. FAO has been advocating for special attention to be given to the health conditions of herds in the Niger and Chad following fodder deficits observed in late 2016 to 2017 (FAO, 2017f). The livestock situation is also worsening as herders are unable to move animals to new pasture. The water resources and grazing areas are under considerable pressure and the inability to export to Nigeria has resulted in a fall of cattle price by 30 to 50 percent in Chad and Cameroon (FAO, 2017g).

On 12 December 2016, the Food Crisis Prevention Center issued an alert on the food security situation in northeast Nigeria (Abuja Declaration, 12 December 2016), calling the international community, technical and financial partners and other stakeholders to mobilize support for the affected areas. A FEWSNET alert, issued in parallel, indicated that a famine probably occurred in Bama Local Government Area and may be ongoing in inaccessible areas of Borno State (FEWSNET, 2016).

Some 7 million people in the Lake Chad basin area need food assistance. In northeast Nigeria alone, more than 1.8 million are food insecure at emergency levels and, in Borno state, 55,000 people are threatened by famine (OCHA, 2017d). The prolonged food insecurity situation also has an impact on the nutritional status of the affected population. According to latest surveys, the global acute malnutrition (GAM)[34] rates are above the WHO's "serious" threshold of 10 percent throughout the areas around the Lake Chad. More than half a million children are severely acutely malnourished, and 75 000 could die if not urgently assisted (FAO, 2017f).

[34]Global acute malnutrition (GAM) is the sum of moderate acute malnutrition (MAM), defined by moderate wasting, and severe acute malnutrition (SAM) (see footnote 29). A GAM value of more than 10 percent generally identifies an emergency.

International response mechanism[35]

The international humanitarian response in northeast Nigeria has provided life-saving assistance to IDPs and host communities. This support aims to ensure a dignified existence as they wait for durable solutions to resolve their current situation. The 2017 Humanitarian Response Plan for Nigeria was developed to coordinate the response and provide urgent food assistance and food production support to the most affected individuals (OCHA, 2016).

The plan focuses on 8.5 million people in need of urgent assistance in the most affected states of Borno, Adamawa and Yobe and aims to reach 6.9 million people with life-saving humanitarian support. It includes a country strategy in the (post-) conflict and forced displacement situation, as well as operational response plans for Adamawa, Borno, Gombe and Yobe states. The plan covers a range of immediate life-saving needs including: health, food, nutrition, water, sanitation and hygiene, shelter, non-food items, education and protection of civilians. In response to this crisis, the humanitarian community is massively scaling up efforts. In 2017, UN agencies and NGOs require US$1.5 billion to assist 8.2 million people with assistance in the four countries (OCHA, 2017d).

Regional response mechanism[36]

In March 2017, FAO developed a Lake Chad Strategy (2017–2019) to respond to the immediate needs as a starting point for the implementation of longer-term activities that contribute to strengthening the population's resilience and food security of conflict-affected communities. Focusing solely on the conflict and insecurity as the cause of the crisis oversimplifies the complex, interrelated socio-environmental and ecological issues affecting rural and urban livelihoods in the Lake Chad Basin. Demographic growth, harsh competition over natural and economic resources, lack of income opportunities, the marginalization of vulnerable groups, such as returnees, youth and women and especially children, negative coping strategies and social divisions based on livelihood, ethnic or religious lines, as well as governance issues, have been identified as the main underlying factors of the crisis. Ensuring sustainable and equitable access to resources and services as well as sustainable growth of livelihood opportunities are therefore critical priorities. Strengthening resilience by linking emergency interventions to lasting recovery will facilitate immediate efforts to address food insecurity and reduce negative coping strategies, while mitigating the impact of the root causes of the conflict and instability in the region (See Box 5 for an innovative proposal to link assistance with productive activities to reduce food insecurity).

[35]OCHA, 2017e.

[36]FAO, 2017g.

BOX 5

OPTIONS FOR LIVELIHOOD SUPPORT FOR FISHERMEN IN NORTHEAST NIGERIA

Considerable efforts are currently being undertaken to support refugees and internally displaced persons in the Lake Chad Basin. The rehabilitation of the agriculture and livestock sectors, which play an important role in the livelihoods of many households, receives much attention. Less consideration, however, appears to be paid to the displaced fishermen and their families. Before the crisis there were approximately 100 000 Nigerian fishermen operating on Lake Chad. Together with their families they may number about 700 000 and thus represent nearly one-third of the total number of IDPs. These families need support through cash and food transfers, but also through livelihood support.

Many fishing families left their villages along Lake Chad during the crisis and sought shelter in Maiduguri. The displaced fishermen have few options to make a living and many engage in whatever possibilities they get. The presence of the army in and around Maiduguri provides security and many of the displaced fishermen started fishing in Lake Alau, adding to the existing pressure on fish stocks and resulting in reduced catches and declining fish sizes. Others, mainly youth, started fishing on the river flowing through Maiduguri. As the river is used as a rubbish tip by many residents the water quality and sanitary conditions are extremely poor. Sanitary conditions are also poor at the Maiduguri fish market. Drains are blocked with waste and with rainfall the waste is dispersed throughout the market and the adjoining area. The unsanitary conditions are a direct health threat to the displaced fishermen and their families, adults and children working in the markets, as well as those eating fish bought there.

Among potential interventions to ameliorate this dire situation, through fishing activities, is the breeding of catfish which already are part of many people's diets, especially in smoked form. Catfish aquaculture can provide a source of income for displaced fishermen, reduce pressure on existing fish stocks and help improve the quality of fish sold. FAO and the Ministry responsible for fisheries have already successfully established a backyard fish culture activity in fibreglass fish tanks elsewhere in the country. Moreover, Nigeria has a well-developed fish breeding and fish-feed manufacturing industry, able to provide essential inputs. Experience with previous projects indicates that it would be relatively straightforward to implement a fish breeding project that provides two tanks, fish fingerlings and feed to displaced fishermen in the northeast. Fibreglass tanks can be produced fairly quickly and on the spot, once a mould has been manufactured. A borehole may provide the necessary water resources until regular water supply is restored. Such a project would not only provide fishers with fish-related activities, but the products would also contribute to food and nutrition security, not least by improving the quality of fish.

In the longer term, promoting fish breeding among the displaced fishermen would help establish this activity also when they have returned to their homes. This would reduce pressure on existing fisheries resources in the lake and provide additional household income, thus contributing to food security and resilience of households. Of course, additional interventions would be needed. For one, such a project would need to be complemented with cash and/or food transfers at least in the short term. Fish production will take a few months to bear fruit and will then only provide limited income. Furthermore, interventions in the sanitary conditions of the local market are also needed.

Contributed by Martin Van der Knaap,
FAO Regional Office for Africa.

National response mechanism

The Government of Nigeria has formulated regional initiatives, such as the Presidential Initiative for the North–East (PINE), and the North East States Transformation Strategy (NESTS). Building on these is the Buhari Plan, a presidential intervention to address the crises which has affected the northeast and other parts of Nigeria since 2009, and which is designed to set out the broad policy thrusts and strategies in the rebuilding agenda of the Federal Government of Nigeria. The overall objective of the Buhari Plan is to: 1) restore peace, stability and civil authority in the northeast region; 2) coordinate the mobilization of targeted resources to jumpstart the region's economies while strategically repositioning the region for long-term prosperity; 3) provide equal access to basic services and infrastructure; 4) promote a civic culture that integrates zero tolerance of sexual and gender-based violence with peaceful coexistence; 5) accelerate equal access to quality education for girls as well as boys and building social cohesion; 6) advance social and economic development to reduce inequalities affecting the poor, particularly women and young people; and 7) address environmental degradation through sustainable measures to halt desertification and protect the Lake Chad resources (Government of Nigeria, 2016).

As immediate actions, Nigeria's National Emergency Management Agency (NEMA), in coordination with State Emergency Management Agencies (SEMAs), has been monitoring IDPs movements and providing a range of relief support to affected communities. Food, access to clean drinking water, and other emergency supplies have been provided to IDPs living in camps and many of those staying with host families in the northeast because of the Boko Haram conflict. NEMA has strategically stockpiled emergency supplies in warehouses in Adamawa, Borno, and Yobe states to cater for the needs of the IDPs. NEMA has taken the lead in camp coordination and management and has deployed personnel to provide technical support to SEMAs and the Nigerian Red Cross, to manage the IDP camps in the northeast. The government leads humanitarian coordination efforts, and the international community encourages state ministries to lead sectoral working groups in the northeast, while NEMA and SEMAs continue to be overall humanitarian coordination partners.

BUILDING RESILIENCE FOR FOOD SECURITY AND PEACE

The realization that mutually reinforcing factors link food insecurity, malnutrition, social and political instability and conflicts has also led to the realization that efforts must be combined across disciplines to restore and support resilient livelihoods with sustaining peace and conflict resolution to achieve sustainable development and food security and nutrition. In that sense, investing in food security and agriculture is essential to help prevent conflict and achieve lasting peace.

Food security and nutrition matters for peoples' resilience, and relevant interventions can contribute to sustaining peace. This is especially true in countries were most people are engaged in agricultural activities for some of their livelihoods. In particular, interventions to improve food security by improving availability and access to food and stability of prices can take away one potential contributing factor to conflict.

Following shocks, particularly in fragile settings, it is essential to provide support to farmers to re-engage in productive activities. Social protection, including in-kind and cash assistance, can offer valuable peace dividends, as well as contributing to restoring trust in governments and rebuilding social capital, such as social networks (Brinkman and Hendrix, 2011).

Conflicts are usually complex[37] and multifaceted and addressing these complexities, and not only post-conflict, is essential to sustain peace. Often, other shocks occur with conflict, and building household resilience is necessary for lasting peace. Once these complexities are acknowledged, a range of pathways can be identified through which support to food security and livelihoods can also help build resilience against conflict and contribute to sustaining peace (FAO, 2017a). They include:

[37]FAO defines complex emergencies as a major humanitarian crisis that are often the result of a combination of political instability, conflict and violence, social inequities and underlying poverty. Complex emergencies are essentially political in nature and can erode the cultural, civil, political and economic stability of societies, particularly when exacerbated by natural hazards and diseases such as HIV and AIDS, which further undermine livelihoods and worsen poverty.

1. Livelihood support that addresses the root causes of conflicts and conflict stressors, and promotes re-engagement in productive economic activities, including cash transfers and social protection. For example, the El Niño induced floods of 2015 in Malawi caused considerable damage to private housing, transportation, water and sanitation infrastructure. In response, the government, with World Bank support, implemented the Malawi Floods Emergency Recovery Project. This public works programme, targeted at supporting 180 000 people, allowed individuals to earn cash or obtain farm inputs while repairing roads, bridges and other important infrastructure. The programme helped rehabilitate local infrastructure and re-connected communities to areas with basic services. At the same time participants were able to re-engage in farming activities and rebuild their livelihoods.[38]

In Mozambique, the severity of the drought led the government to revise the 2016 Strategic Response Plan in November 2016 to, *inter alia,* support the restoration of livelihoods of the drought-affected population through early recovery and resilience-building activities. The plan targets about 1.2 million people affected by drought with food, agriculture, livestock and other interventions until the end of March 2017.

In Sierra Leone, the Ebola Virus Disease caused over 3 500 deaths and disrupted economic and livelihood activities. For example, the Sorbeh Agribusiness Centre in the north of Sierra Leone, which each year provided 10 000 kg of rice to the WFP school feeding project, suffered huge losses to their vegetable and rice production. The market disruption meant that members of the farmer organizations that constitute the Sorbeh Agribusiness Centre were not able to meet their loans. With support from the Africa Solidarity Trust Fund, the Centre was able to buy seeds and reactivate their village savings and loans scheme, allowing the farmers and the communities to rebuild their livelihoods.[39]

Interventions to provide livelihood support must be gender-sensitive to allow for the differences in livelihood strategies between men and women. Women often have less access to resources, such as land, and often little control over the incomes derived from revenue-generating activities. At the same time they are usually responsible for child care and other household chores, with important implications for their time-use and for the health and nutritional status of their children.[40]

2. Facilitated community-based approaches that help build relationships and social cohesion, improving aspirations, confidence and trust. Social cohesion can be strengthened by providing basic social services and food assistance which can build institutions, address the root causes of conflict and reduce inequality (Brinkman and Hendrix, 2011). Inasmuch as conflict prevention is a process, the preparation and implementation of food security programmes can be used to foster interaction and dialogue among groups and build social cohesion and reduce the risk of violence (Hendrix and Brinkman, 2013). It is also important to create a safe space for interaction around natural resources. Building social connections and trust between communities can help mitigate stresses of conflict and allows communities to prepare for and cope with shocks (Kurtz and McMahon, 2015).

Social cohesion is also dependent on functioning social networks, such as reciprocal friendship and kinship ties, funeral and savings associations, and other community groups. These networks play an important role in helping households manage risk and engage with the wider community. Formal social protection measures can support social networks when they are under stress. Social protection allows households to renew or strengthen their participation in informal social networks for risk-sharing and reciprocal exchange thus reducing inequality, strengthening local institutions and social cohesion

[38]World Bank (2017c). The impact of the project was undermined by the drought that followed in 2016. The project is set to run until 2019.

[39]The Africa Solidarity Trust Fund is an Africa-led fund to improve agriculture and food security across the continent. It was officially launched in June 2013 with funding totalling over US$40 million from Equatorial Guinea, Angola and a group of civil society organizations in the Republic of the Congo.

[40]For a more detailed discussion of women's role in agriculture, see FAO (2011b).

(FAO, 2015b). For example, Burkina Faso implemented the Labour-Intensive Work Programme (THIMO) following the riots and youth protests in 2011. Under this programme, 9 300 youth will be recruited in 49 municipalities. During their contract, the youth will benefit from certain complementary measures in terms of initiation into the trades of their choice, literacy, and access to accident insurance and encouragement of voluntary savings. Such programmes help reintegrate disadvantaged groups and thus contribute to social cohesion.

Approaches to social cohesion must also be gender-sensitive. Women often have difficulty in accessing male-dominated networks, putting them at a disadvantage in accessing resources and assets and reducing the role they can play in their community (FAO, 2011b).

3. Interventions that contribute to building the capacity of institutions and improving governance to deliver equitable services. To anticipate and respond to food crises requires food security information systems, and disaster risk prevention and reduction systems are needed to anticipate and respond to food crises. Designing and implementing such systems requires effective regional and national institutions. For example, in 2008–2009 the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) developed the "Harmonized Framework for Identification and Analysis of Areas at Risk of and Populations Affected by Food and Nutrition Insecurity in the Sahel and West Africa". This tool, known as "Cadre Harmonisé", helps overcome problems of compatibility associated with using uncoordinated national food security monitoring. It provides a framework for countries to assess food and nutrition insecurity on an objective and consensual basis. The Cadre Harmonisé is now present in 17 countries in the region and provides regular and reliable data on food security, allowing governments and humanitarian actors in the region to take informed decisions to prevent, mitigate, anticipate and respond to recurrent food crises. For example, the Cadre Harmonisé provides regular updates on the food security crisis that resulted from the Boko Haram-related violence in northeast Nigeria (CILSS, 2014; FAO, 2017a).

There is also the need to strengthen the focus of official development assistance on supporting food security and sustaining peace. Much of the overseas development assistance (ODA) flowing to countries in conflict or with a protracted crisis takes the form of humanitarian assistance (FAO, 2017b). Humanitarian assistance must be better integrated with development support through a multi-year planning process that in turn requires a longer-term donor commitment. More ODA should also be directed at agriculture and nutrition in fragile countries or regions, as the available evidence suggests that they receive only a small share of the funds. Finally, a sustainable impact of food security and nutrition-related interventions on peace is more likely when implemented as part of a broader, multisectoral set of interventions before, during and after conflict.

Conflicts destroy livelihoods and threaten household food security and nutrition. Shocks to food security and nutrition may also be a trigger or compounding factor of conflicts. Effective interventions in the causes of food insecurity and undernutrition can help reduce risks of conflict. Both the cause and impacts of conflict are complex and designing adequate response requires in-depth knowledge of the nature of the conflict and the context within which it is taking place. Given the complexity of conflicts and the conflict-food insecurity nexus, which climate change may amplify, a multisector approach to analysis and interventions is needed.

Because agriculture plays a very important role in the livelihoods of people in many sub-Saharan African countries, policies and interventions that build resilience of farm households and mitigate potential causes of conflict, such as disputes over water and land, can contribute to sustaining peace.

Conflict-affected populations, including those displaced and their hosts, often need immediate assistance in terms of food or cash, but also in terms of access to basic social services, such as clean water, sanitation and health services. Greater focus should be placed on rebuilding livelihoods, through direct livelihood support, through strengthening social

cohesion and through building effective institutions. Strengthening resilience to shocks and stresses is important to avoid that a deteriorating food security and nutrition situation contributes to conflict and that it causes lasting damage to affected populations, in particular children's development. In this regard, social policies and protection systems are crucial to help households cope with shocks and avoid negative coping strategies. Policies also need to be gender sensitive to be able to respond to existing vulnerabilities, disadvantages and gender roles which impact on food security and nutrition, especially of children.

UGANDA
Students and members of the Lira integrated fish farm at the school's farm
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ANNEX

REGIONAL AND SUBREGIONAL POLICIES AND PROGRAMMES[41]

The Southern Africa Development Community (SADC)[42]

The Regional Agricultural Policy Investment Plan (RAIP)

The RAIP was developed in 2015 with an estimated cost of US$565 million for five years (2017–2021). The plan prioritizes areas for investments and builds on the principle of subsidiarity between national and regional levels. The RAIP outlines five priority investment programmes: 1) agricultural production, productivity and competitiveness; 2) access to markets and trade of agriculture products; 3) investments in and access to finance for agriculture; 4) social and economic vulnerability reduction; and 5) food and nutrition security in the region.

The mechanism of implementation of the RAIP is instrument-based comprising seven facilities that make up the Agricultural Development Facility (ADF): (i) Value Chain Facility; (ii) Agriculture Infrastructure Development Facility; (iii) Market and Trade Facility; (iv) Environment and Natural Resources Facility; (v) Agriculture Information Management Facility; (vi) Disaster Preparedness Facility; and (vii) Governance and Institutional Development Facility. The ADF will be operationalized as a window under the overall SADC Regional Development Fund (RDF) that is at an advanced stage towards its establishment.

The Regional Agriculture Development Fund (ADF)

In 2016, SADC drafted the rules and regulations of the ADF that have been pre-examined by representatives from Member States in July 2016, considered by SADC Ministers of Agriculture at their extraordinary meeting in Ezulwini, Swaziland, in May 2017, and expected to be approved by Ministers for Finance later in 2017. Member States representatives also recommended the Secretariat to anticipate the development of the SADC ADF Constitution and Institutional Management Sustainability Plan, to be adopted in 2017.

Promoting the domestication of the SADC Harmonized Seed Regulatory Framework

SADC countries have adopted a common seed certification policy, with the aim of increasing the movement of improved germplasm across national borders. Efforts are underway to increase the pace of the domestication of the SADC Protocol for Regional Harmonization of Seed Policies. The Protocol constitutes the following three technical agreements: 1) SADC Crop Variety Testing, Registration and Release System; 2) SADC Seed Certification and Quality Assurance System; and 3) SADC Quarantine and Phytosanitary measures for seed.[43]

The renewed efforts to support the process of domestication of the protocol in SADC are being made at a time when there are two projects with related goals being implemented in selected SADC countries. The first, the Southern Africa Seed Trade project, has been fundamental in supporting the

[41]There are eight regional economic communities recognized as the building blocks of the AU: the Arab Maghreb Union (AMU), the Community of Sahel–Saharan States (CEN–SAD), the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), the Economic Community of Central African States (ECCAS); the Economic Community of West African States (ECOWAS); the Intergovernmental Authority on Development (IGAD) and, the Southern African Development Community (SADC).

[42]Established in 1980, the Southern African Development Coordinating Conference (SADCC) was transformed into the SADC in 1992. Its Member States are: Angola, Botswana, Democratic Republic of the Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe.

[43]COMESA has adopted the same technical agreements for the harmonization of the seed systems for their Member States, some of which also belong to SADC.

revamping of the SADC Seed Technical Committee. This committee supports the domestication of national seed laws with the SADC Harmonized Seed Regulations; supports farmers' better access to quality seed at affordable prices through improved seed trade; and ensures that the SADC Variety catalogue contain more than just maize varieties.

The other project is the Agriculture Productivity Programme for Southern Africa (APPSA), which is the research and development technical unit of SADC. The project is implemented in Malawi, Mozambique and Zambia, with the goal of supporting the national seed authorities in the three countries through capacity-building for alignment of the national legislation and regulatory systems to the harmonized regional seed system. APPSA also seeks to support the region with increased regional release of varieties, in particular grain and legume varieties.

The Southern African Pesticide Regulators Forum (SAPReF)

The Southern African Pesticide Regulators Forum (SAPReF) was established in 2011 following the identification of a need for improved regional collaboration on pesticide risk management and risk reduction in SADC Member States. The role of the SAPReF is to promote regional information exchange, and collaboration on pesticide and pest management as well as regulation. SAPReF seeks to achieve sound management of pesticides and biopesticides used in agriculture, public health and domestic environments.

In 2015, SAPReF elaborated a five year strategic action plan that prioritizes a number of areas: legislation, policies and strategies; registration of pesticides; post registration management of pesticides; coordination of relevant projects and activities; awareness-raising, education and public information; disposal and prevention of accumulation of obsolete pesticides; risk reduction of highly hazardous pesticides (HHPs) and promotion of safer alternatives through Integrated Pest Management (IPM) and Integrated Vector Management (IVM). Work is ongoing for the review and update of the SADC Guidelines on Pesticide Management.

The Economic Community of West African States (ECOWAS)[44]

ECOWAS Regional Agricultural Policy (ECOWAP)

ECOWAS launched the ECOWAS Regional Agricultural Policy (ECOWAP) in 2005 and after ten years of implementation, and new developments at global and regional level in terms of commitment to fighting hunger and malnutrition, such as the Sustainable Development Goals (SDGs); the AU's 2014 Malabo Declaration with its implementation strategy and roadmap, and; the ECOWAS Hunger Free Initiative, the organization launched a process of reviewing the policy so that it may better stimulate investment, promote inclusive agricultural growth and achieve food security by 2025. In 2016 the organization agreed to support member countries to develop their second generation National Agricultural Investment Plans (NAIPs), focusing on agricultural production, value chain development and resilience.

The Common Market for Eastern and Southern Africa (COMESA)[45]

The COMESA Regional Investment Programme for Agriculture (RIPA)

Following the signing of the Regional CAADP Compact in November 2014 and the preparation of the draft Regional Agriculture Policy and Investment Framework, efforts are now underway to formulate the process for the Regional Investment Programme for Agriculture. To allow for the equal treatment and empowerment of women in agriculture and the rural sector, work on a Regional Action Programme on Gender and Agriculture is being prepared at the same time.

[44]The Economic Community of West African States (ECOWAS) was founded in 1975 to promote economic integration in economic activities, as well as social and cultural matters. ECOWAS Members are: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

[45]The Common Market for Eastern and Southern Africa (COMESA) was formed in December 1994 and its main focus has been on the formation of a large economic and trading unit to overcome trade barriers faced by the Member States: Burundi, the Comoros, the Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe

The East African Community (EAC)[46]

EAC Technical Working Groups for Harmonization of Pesticide Regulation

Directives of the 7th and 8th meetings of the EAC Sectoral Council on Agriculture and Food Security (SCAFs) encouraged the EAC Secretariat to mobilize resources and undertake harmonization in the area of farm inputs, including agrochemicals and pesticides. The ultimate aim of the regional collaboration and harmonization on pesticide registration in the EAC is to harness limited resources within the region, improve trade and provide better protection for the population and the environment from the toxic effects of pest control products.

The Indian Ocean Commission (IOC)[47]

The IOC Regional Food and Nutrition Security Programme (PRESAN) and Regional Food and Nutrition Security Unit (URSAN)

The Indian Ocean Commission formulated the Regional Food and Nutrition Security Programme (PRESAN) document, as reported in the *2016 Regional Overview*. The five-year programme (2017-2022) aims to contribute to food and nutrition security and poverty reduction in the Indian Ocean region including the Small Island Developing States (SIDS) of Comoros, Mauritius, and Seychelles, as well as Madagascar and Réunion. The mechanism of implementation of PRESAN is instrument-based comprising three facilities that make up the Regional Food and Nutrition Security Fund (FRESAN): (i) Facility for promoting regional value chains; (ii) Facility for the trade of regional agriculture commodities; and (iii) Facility for food and nutrition security. IOC Council of Ministers officially adopted the PRESAN document in February 2016 and the total budget of the programme is estimated at US$146 million. Efforts are under way to launch the programme.

[46]The East African Community (EAC) was originally founded in 1967, dissolved in 1977, and revived in 1999 by Kenya, Uganda and the United Republic of Tanzania. Burundi and Rwanda became Members in 2007 while South Sudan gained accession in April 2016.

[47]The Indian Ocean Commission (IOC) is an intergovernmental organization created in 1982 that brings together five countries in the Indian Ocean: Comoros, Réunion, Madagascar, Mauritius and the Seychelles.

The Intergovernmental Authority on Development (IGAD)[48]

The Drought Disaster Resilience and Sustainability Initiative (IDDRSI)

IGAD held its 4th General Assembly on Drought Disaster Resilience and Sustainability Initiative (IDDRSI) in April 2016, and member countries reaffirmed their commitment to 'Ending Drought Emergencies'. It was agreed to support programmes geared towards building resilience of cross-border communities, including selected cross-border location of Ethiopia (Liben), Kenya (Mandera) and Somalia (Gedo). The target area encompasses the watershed of the Dawa River which forms part of the Ethiopia–Somalia and Ethiopia–Kenya border and is characterized by high levels of food insecurity, conflict and insecurity caused by political strife and competition for pasture and water.

NATIONAL POLICIES AND PROGRAMMES

Burkina Faso

The National Nutrition Policy (PNN)

The National Nutrition Policy was revised in 2016 but has not yet been adopted. Unlike PNSAN, it embraces a multisectoral approach to nutrition. The PNN aims to improve the nutritional status of the population by 2020 through the implementation of multisectoral interventions. The policy will specifically focus on reducing undernutrition and micronutrient deficiencies, strengthening the fight against over-nutrition and nutrition-related chronic non-communicable diseases, strengthening food safety linked to nutrition, and improved governance in nutrition.

The implementation mechanism includes an institutional coordination mechanism, a financing

[48]The Intergovernmental Authority on Development (IGAD) in Eastern Africa was created in 1996 to provide a regional approach to supplement national efforts to drought and other natural disasters. IGAD Members are Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda.

mechanism and a monitoring and evaluation system. Thus, the National Nutrition Council (CNN) will coordinate and monitor the policy. The mechanism and indicators for monitoring and evaluation and the periodicity of data collection will be included in the strategic nutrition plan that is being developed. At the decentralized level, the Regional Nutrition Councils (CRNs) are responsible for participatory monitoring and local assessment.

The Socio-Professional Youth Integration Programme (PISJ)

In November 2016, the President of Burkina Faso launched the Socio-Professional Youth Integration Programme (PISJ). With an overall cost of 4.8 billion CFA francs (CFAF) – about US$8.2 million – the implementation of the PISJ will create at least 13 350 permanent and temporary jobs at the end of its first phase. The programme is structured around three operational components: i) promoting the Labour-Intensive Work Programme (THIMO) through recruiting youth for sanitation and road works in all main cities throughout the country, and carrying out vocational training and professional integration initiatives (see next paragraph); ii) strengthening employability through a pre-employment placement of 500 qualified young graduates; iii) promoting of self-employment of the youth through financing 500 innovative projects for the creation of micro-entrepreneurial companies initiated by young graduates as well as through integration of trained rural youth in agricultural trades by providing them with kits and working capital for the creation of 1 000 rural microenterprises. In this five-year programme entitled "Building with the People a Burkina Faso of Democracy, Economic and Social Progress, Freedom and Justice", the government is committed to make the youth dynamic actors of development by creating the necessary conditions for their professional integration.

The Labour-Intensive Work Programme (THIMO)

In March 2016, the Council of Ministers adopted a report on the implementation of the Labour-Intensive Work Programme (THIMO) for the year 2016. Under this programme, 9 300 youth will be recruited in 49 municipalities at a cost of CFAF2.5 billion (about US$4.3 million). During their contract, the youth will benefit from certain complementary measures in terms of initiation into the trades of their choice, literacy, and access to accident insurance and encouragement of voluntary savings. The Government of Burkina Faso has implemented the THIMO approach to reduce the vulnerability of the poorest populations following the riots and youth protests that rocked the country in April–May 2011. Special job creation programmes for youth and women, including the THIMO approach, have been set up by the government not only as a one-off response to the various emergencies (social, economic or environmental), but also in terms of a sustainable response to issues of underemployment and chronic vulnerability.

The National Social Protection Policy (PNPS)

The general objective of the PNPS is to contribute to the qualitative change of the living conditions of all through developing adequate and lasting mechanisms to prevent major risks and manage shocks. Furthermore it aims to extend social insurance to all categories of workers.

The PNPS has defined six areas of intervention, four of which are specific to social protection and two are support programmes: (1) enhancing transfer mechanisms to the poor and vulnerable; (2) enhancing access of vulnerable groups to education, health, housing and welfare services; (3) reducing the vulnerability of the poorest populations by securing employment and guaranteeing a minimum income by promoting access to the labour market through the promotion of THIMO programmes; (4) improving and extending social security coverage for workers in the formal and informal sectors; (5) strengthening the mechanism for consultation and coordination, monitoring and evaluation of programs and strengthening the institutional and legal framework for social protection; (6) capacity-building.

The National Economic and Social Development Plan (PNDES) 2016–2020

In March 2016, the National Economic and Social Development Plan (PNDES, 2016–2020) was validated, succeeding the Accelerated Growth and Sustainable Development Strategy (SCADD). The plan aims to reduce poverty through strong, sustainable and inclusive growth within the context of a structural transformation of the economy. The PNDES is divided into three strategic axes: (i) reforming institutions

and modernizing administration; (ii) developing human capital; and (iii) boosting sectors that are conducive to the economy and jobs. The Plan is to achieve the following by 2020: water control for agriculture, development of rural infrastructure, access to markets, rural land security and access to finance.

The Plan also aims to guarantee access to quality health services for all and to improve the nutritional status of the population, particularly women and children.

The National Food and Nutrition Security Policy (PNSAN)

The National Food and Nutrition Security Policy (PNSAN) has as overall reference framework the Accelerated Growth and Sustainable Development Strategy (the first national framework) and the National Rural Sector Programme (PNSR). A process for the review of this policy is under way for its alignment with the new PNDES. Its overall objective is to ensure sustainable food and nutritional security by 2025. Specifically, it aims to: sustainably increase food availability; strengthen the capacity for prevention and response to shocks; improve physical and financial accessibility to food; improve the nutritional status of populations; and strengthen governance in food and nutrition security.

The Five-Year Development Programme 2016–2020 for maintenance and rehabilitation of rural roads

In March 2016, the Council of Ministers adopted the report on the Five-Year Development Programme 2016–2020 for maintenance and rehabilitation of rural roads in the 13 regions of Burkina Faso. This programme consists of the development of approximately 7 000 km of rural roads in the 13 regions of Burkina Faso and maintenance of the developed network. The adoption of this report aims to improve the level of access to production and tourism areas and to basic social centres through the increase of the number of trails.

Burundi

In August 2016, the Burundian Minister of Agriculture, warning of a long dry season, adopted measures to alleviate food shortages which included a ban on the export of certain foods, and called on farmers to put their harvests into public storage facilities. The foods banned from export include fish, beans, potatoes, cassava, cooking oil, milk, fruits and vegetables. The export ban is a violation of the free trade regime of the East African Community, of which Burundi is a Member.

Cabo Verde

The National Nutrition Programme

Cabo Verde has made good progress in reducing malnutrition. Under the National Nutrition Programme the country carried out interventions such as awareness-raising, guidance and information on accurate weaning practices and adequate introduction of complementary feeding and nutritional education. Communication strategies, sensitization, guidance and information on healthy eating habits have been implemented and targeted to specific groups and population in general.

The country has also made good progress in reducing anaemia among children and pregnant women. Interventions including supplementation of iron and folic acid to pregnant and breastfeeding women were carried out. Fortification of wheat flour with iron and folic acid ensures the consumption of iron-rich foods, and the government promotes a strategy for household fortification with micronutrients, such as iron, vitamin D, calcium and magnesium, in powder form for children from 6 months to 59 months of age. These interventions are strengthened through education and nutritional guidance in schools, health services and communication addressed to the population in general (Ministério da Saúde, 2015).

The government also addressed Vitamin A deficiency in preschool children by establishing a programme for supplementation of postnatal women with

vitamin A mega doses at the time of hospital discharge. Progress has also been made in raising the proportion of children under six months of age who are exclusively breastfed. The government also aims to reduce iodine deficiency by monitoring the availability and consumption of iodized salt in families, schools and production sites.

Finally, the government is actively promoting nutritional education. The interventions carried out aim at ensuring permanent processes of Food and Nutrition Education (EAN) and to promote adequate and healthy food, valuing and respecting cultural and regional specificities, encouraging the use of local and regional products and recipes, participatory cooking sessions in educational, and health facilities and in communities as well as capacity-building of the educative community.

The Blue Growth Initiative

The Blue Growth Initiative is a framework for the sustainable and socio-economic management of aquatic resources with an emphasis on efficient resource and ecosystems use in capture fisheries and aquaculture, ecosystem services, trade, livelihoods and food systems. The Government of Cabo Verde adopted the Blue Growth Charter on 30 October 2015. The Charter targets key sectors for Cabo Verde, such as fishing and aquaculture, the seafood value chain, coastal and marine tourism, including ecotourism, scientific research, responsible management of coastal areas and maritime transportation. Among the activities that support the implementation of the Blue Growth initiative are the formulation, with AfDB support, of a National Economy Investment Plan (PNIEB) and the preparation of a Programme for the Promotion of the Blue Economy (PROMEB).

The National School Feeding Programme

In May 2015, the Law on School Food and Health was adopted.[49] Addressing the four dimensions of food security, it: i) requires that 25 percent of the school food budget be used to purchase food locally; ii) requires schoolchildren should be offered at least one hot meal daily; iii) ensures the availability and access to food throughout the school year; and iv) promotes healthy food systems and the introduction of nutrition education in the curriculum. Furthermore, partnerships have been developed with the Ministry of Health to implement other actions, such as deworming and the iron supplementation for schoolchildren as well as food fortification to reduce anaemia.

The National Council on Food and Nutrition Security

Following the adoption of the CPLP (Community of Portuguese Speaking Countries) Regional Strategy for Food and Nutrition Security during the Maputo Summit, Cabo Verde established the National Council on Food and Nutrition Security (CNSAN) in February 2014. The CNSAN Strategy and Plan of Action have also been updated. CNSAN will ensure articulation of sectoral policies, formulate proposals and programmes that contribute to policy development on food and nutrition security, and strengthen collaboration between the public sector, the private sector and civil society.

Following a review of the National Food Security Strategy (ENSA 2001–2015), a reformulated National Food Security and Nutrition Strategy (ENSAN 2020), with greater emphasis given to the Human Right to Adequate Food, was adopted by the government in July 2015 together with its National Action Plan for Food Security and Nutrition (PANSAN 2014–2016). The strategy aims to: i) consolidate the legislative and institutional framework to strengthen food security and nutrition, including the Human Right to Adequate Food; ii) improve access to water and sanitation; iii) promote agricultural production and fishery in a sustainable way; iv) improve the income of vulnerable populations to ensure financial access to food; and v) enhance sanitary controls to prevent nutritional diseases and promote nutritional education (Ministério do Desenvolvimento Rural, 2014).

Chad

Nutrition policies

In 2012 and 2013, Chad joined REACH, ACT and Scaling-Up Nutrition (SUN) movements. A multisectoral platform has been set up, with members conducting

[49]Lei nº 89/VIII/2015, de 28 de Maio.

actions with networks (from civil society, journalists, scientists, parliamentarians, donors and UN agencies) for nutrition. The government, the partners and the different categories of stakeholders concerned, have drawn up the National Nutrition and Food Policy (PNNA), technically validated in November 2013 and adopted on 24 April 2015. An Inter-Sectoral Action Plan for Nutrition and Food (PAINA), has been drawn up and is used to operationalize this policy.

In addition, the country has some 15 national and sectoral development and/or development planning documents in the field of nutrition, the most essential of which are:

- the National Development Plan (NDP, 2013–2015) which guides and encompasses all plans and policies contributing to nutrition;
- the National Health Development Plan (PNDS, 2013–2015);
- the National Food Security Programme (PNSA, 2014–2021) which is a nutrition support programme;
- the National Rural Sector Investment Plan (PNISR, 2014–2020); and
- the National Acute Malnutrition Management Protocol.

National Social Protection Strategy

The government validated the National Social Protection Strategy in 2015. One of its components covers food and nutritional security, and aims to promote pension schemes. It also supports actions to protect and promote the nutrition of children and their mothers, with emphasis on the most vulnerable. However, most social protection actions are humanitarian interventions in emergency situations. It is therefore planned to move to a more systematic, coordinated and integrated approach to development. Promoting youth employment in agricultural value chains

The government has drawn up a National Employment and Vocational Training Policy in 2015. This policy must now be translated into operational programmes that promote decent work and productive employment for youth, women and vulnerable groups in line with ILO international labour standards. The National Investments and Exports Agency (ANIE) has developed a concept note on a project to reduce the emigration of youth through job creation and diversified farm type microenterprises in rural and peri-urban areas.

Land tenure

The government instituted by decree a national observatory of land which is meant to improve the understanding of land issues so as to guide the State in the implementation of its policy and land legislation. The government has proposed the adoption of a new land and property code which allows for land management through decentralized local authorities, i.e. the legal entities headed by elected officials and traditional chiefs.

The Democratic Republic of the Congo

Promotion of cross-border trade

In October 2016, the Minister of Trade of the Democratic Republic of the Congo and his Rwandan counterpart launched the COMESA Simplified Trade Regime (STR) and signed a Memorandum of Understanding on the promotion of cross-border trade between the two countries. The countries agreed on these frameworks to facilitate cross-border trade; eliminate non-tariff barriers; fight against commercial and customs fraud; strengthen exchange of information and statistics; improve control and quality of sanitary and phytosanitary standards; and harmonize views on the implementation of the Great Lakes Trade Facilitation Project.

Ethiopia

Launch of the second National Nutrition Programme

Ethiopia launched a US$1.14 billion nutrition programme for 2016–2020. This is the second National Nutrition Programme, and it aims at providing a framework for coordinated and integrated

implementation of nutrition interventions by the government and relevant stakeholders to end hunger by 2030. The programme was signed by Health, Industry, Labour and Social Affairs, and Women and Youth, State Ministers. Keeping food and nutrition quality, safety and security as well as setting up a post-harvest management system are also among the priorities of the Programme.

The school feeding programme

In March 2016, Ethiopia started to implement a national school feeding programme as part of the newly developed National School Health Nutrition Strategy. The government has developed the programme to ensure transition from donor-funding to national ownership and to expand the current coverage to more schools. The feeding scheme will first be applied in primary schools as a pilot project and consequently be cascaded to other levels. In the longer term the new national school feeding programme will be applied to all schools whether private or public, in towns or in rural areas.

Ghana

Continuation of the National Fertilizer Subsidy Programme

After nearly 20 years of no large-scale government intervention in the fertilizer sector, a National Fertilizer Subsidy Programme was reintroduced in 2008 as a temporary response to spikes in domestic food and fertilizer prices that year. The programme subsidized all crop farmers, covering approximately 50 percent of fertilizer prices, and was implemented in the form of fertilizer-specific and region-specific vouchers. Rather than dismantling the programme after the crisis, as originally planned, government support to the programme was scaled-up from US$10.8 million in 2008 to US$63 million in 2012, although the overall subsidy was reduced by 21 percent in 2013, due to rising fertilizer prices and budgetary constraints. In 2016, the government subsidized 180 000 metric tonnes of fertilizer inputs.

Removal of import ban on rice

In August 2016, the government lifted the ban on rice imports through the land borders of Elubo, Sampa and Nkrankwanta. The ban, which had been in force since November 2013, was introduced to check the uncontrolled flow of rice across the border, to ensure quality standards and to curb the evasion of import duties. During the period of the ban, a Ministry of Trade and Industry's directive stipulated that imports of rice were allowed only through the Kotoka International Airport or the Takoradi and Tema ports.

The Planting for Food and Jobs Policy

In February 2017, the Ministry of Food and Agriculture of Ghana announced the new "Planting for Food and Jobs Policy", which is expected to create about 750 000 jobs in the first year of its operations, increasing to over 1.5 million in subsequent years. The Policy is expected to roll out in all the 216 districts across the country and will involve the supply of farm resources such as high yielding and improved seedlings to participating farmers. It will engage the services of over 1 000 unemployed graduates from the five Agriculture Colleges across the country as well as about 3 200 extension officers to provide expertise and supervisory services to beneficiary farmers. The policy, expected to commence in the 2017 crop season, is aimed at increasing food production and ensuring a sustainable food supply at cheaper cost, while also creating jobs. A seed capital of US$50 million has been earmarked by the government to provide a ready market for farming produce expected to be realized from the policy.

Subsidies towards modernizing agriculture

The government's commitment towards modernizing agriculture continues in the country. According to the Ministry of Agriculture, over 500 tractors of various types have been delivered to farmers throughout the country in 2016. The tractors include cassava planters and cassava harvesters. The tractors are sold to farmers with a subsidy from the government to make them affordable; the government absorbs 50 percent of the total cost while the beneficiary groups/farmers take up the remaining 50 percent.

Farm Service Centres

The Ministry of Agriculture is in the process of establishing Farm Service Centres throughout the country as one-stop service centres for farmers. The centres will consist of six units to provide service to farmers, namely: i) mechanization; ii) advisory, iii) inputs, iv) training, v) credit/facility, and

vi) extension unit. Farmers will get all the required services at these centres free of charge or at a minimum cost. As of September 2016, 50 of these service centres were being run on a pilot basis throughout the country.

To address the low level of agricultural mechanization in the country, the government launched the 'Agriculture Mechanization Services Enterprises Centres' (AMSECs) programme in 2007. The programme was designed to assist qualified private sector companies in purchasing agricultural machinery at a subsidized price and interest rate which in turn is rented to rural farmers at affordable prices. The programme had been extended and 89 AMSECs were established throughout the country as of 2015.

Livestock development

In April 2016, the government approved the Ghana Livestock Development Policy and Strategy (GLDPS) 2016–2025. The overall objective of the GLDPS is to address the myriad of issues affecting the development of the Ghana livestock subsector such as the excessive importation of livestock and livestock products especially poultry, the increased incidence of emerging and re-emerging animal diseases, inadequate supply of vaccines and veterinary pharmaceuticals, inadequate livestock infrastructure, transhumance, financing, research and technology dissemination in the livestock industry, among others.

Guinea

The National Economic and Social Development Programme (PNDES)

In 2016, a National Economic and Social Development Programme (PNDES) was approved by the government and the development partners of Guinea. It has the following objectives: (i) improve the welfare of the population, reduce inequalities and guarantee intergenerational equity by 2020, and (ii) begin the sustainable structural transformation of the Guinean economy. Through the PNDES, the authorities intend to respond to the different development challenges posed by the socio-economic and environmental situation, while ensuring post-Ebola health surveillance. The PNDES constitutes the instrument for achieving the SDGs in Guinea.

Kenya

Price intervention on staple commodities

In October 2016, the Government of Kenya increased the purchasing price of a 90-kg bag of maize to 3 000 Kenya Shillings (Ksh) – about US$29 – from Ksh2 300 (about US$22). Maize farmers had pressured the government to raise the price, saying what was initially offered did not match the high cost of production they incurred. The process of registering maize farmers has been launched nationwide and a new system is meant to ensure that only genuine farmers are registered.

The National Agricultural Insurance Programme

In March 2016, the Government of Kenya launched the Kenya National Agricultural Insurance Programme to address the challenges that agricultural producers face when there are large production shocks, such as droughts and floods. Through the new Kenya Livestock Insurance Program (KLIP), the government will purchase drought insurance from private insurance companies on behalf of vulnerable pastoralists. Satellite data is used to estimate the availability of pasture on the ground and triggers pay-outs to pastoralists when availability falls. KLIP was introduced in October 2015 for 5 000 pastoralists in Turkana and Wajir and is envisaged to be scaled across the region by 2017. For maize and wheat, the programme addresses these challenges through an "area yield" approach: farming areas are divided up into insurance units: if average production in one of the units falls below a threshold, all insured farmers in the unit receive a pay-out. The programme is starting up in Bungoma, Embu, and Nakuru and plans to reach 33 counties by 2020. KLIP introduces a state-of-the-art method of collecting crop yield data, using statistical sampling methods, GPS-tracking devices, and mobile phones. This partnership between the

government and the private sector is innovative and this programme could pave the way for other large-scale agricultural insurance programmes in Africa.

Import ban on chicken and poultry products from Uganda

In January 2017, following an outbreak of avian influenza, imports of chicken and poultry products from Uganda were banned temporarily. The Ministry of Agriculture also cancelled all permits that had already been issued for the import of poultry in a bid to safeguard domestic chicken production. Cases of the highly pathologic avian influenza (HPAI) were reported in wild ducks and birds at a beach on the shores of Lake Victoria near Entebbe in Masaka and Wakiso districts in Uganda.

Export ban on maize and price subsidy

In Kenya the retail price of maize has been on an increasing trend since early 2017. Prices were at record or near-record highs in April, underpinned by reduced supplies from the 2016 short-rains second season harvest and concerns over the upcoming 2017 long-rains harvest due to early season dryness and armyworm infestations. To address rising maize prices, the President of Kenya, in January 2017, banned exportation of maize until the ravaging drought and the food shortage ended. Kenya produces about 33 million bags of maize annually, while consumption stands at about 40 million bags. The deficit is usually filled through imports and cross border trade. In May 2017, the government responded to the rising food prices by introducing a subsidy programme to slash the price of two-kilogram packet of unga (sifted maize flour), used to make the popular ugali, by nearly 44 percent, from Ksh160 to Ksh90 (about US$1.38 to US$0.77). The government has also lifted all duties on maize imports in an effort to encourage private importers.

Relief efforts to mitigate the drought

In January 2017, the President of Kenya announced a raft of new measures to mitigate the drought in arid and semi-arid counties. At the top of the list is the food for fees programme where the government will supply food items to schools, which in turn will deduct the cost of the food from the fees they charge students. The President also announced a new restocking scheme where the State will buy weak but otherwise but healthy livestock from herders and slaughter the animals for local consumption. In February, the government declared the current drought a national disaster and subsequently increased relief food rations from 1.3 million to 3 million.

Water supply assistance implemented in response to drought

In January 2017, the Water Cabinet Secretary announced that Ksh1.6 billion (about US$15.5 million) would be made available to boost water supply between January and March, as the drought situation escalates. The amount will cater for up-scaling of water trucking and storage for people, livestock and wildlife, distribution of water bowsers, repair and rehabilitation of boreholes and fuel subsidy for the boreholes. Currently, 1.5 million people across the country require urgent assistance.

Purchase of emaciated livestock from farmers

In February 2016, the national government launched a programme to purchase emaciated livestock from farmers in parts of Baringo County. The government allocated Ksh600 million (about US$5.8 million) to the Kenya Meat Commission to buy livestock from pastoral communities affected by the famine being experienced across the country. The initiative aims to purchase about 100 000 animals from areas worst hit by the drought especially in Tiaty and Baringo North subcounties.

Free milk programme for nursery school children

In January 2017, the Embu County in Kenya announced a free milk programme for nursery school children to boost health and increase enrolment. Embu County has set aside Ksh40 million (about US$387 000) for this programme. The learners, numbering around 17 000, will receive milk thrice a week. The milk will be sourced from local farmers, which will improve the economy by providing a regular market.

The national strategy on genetic resources

In January 2016 Kenya launched a five-year strategy to integrate the conservation of genetic resources into national climate change adaptation planning and strategies. The strategy identifies five strategic objectives for 2016–2021, defines key issues and proposes intervention to be undertaken to improve effective conservation and sustainable utilization of genetic resources. The implementation of the policy will be coordinated by the Genetic Resources Research Institute (GeRRI), an organisation created under the Kenya Agricultural and Livestock Research Organization (KALRO), in partnership with the United Nations Development Programme. Kenya is focusing on exploiting genetic resources for solutions to combat climate change. Rising temperatures as well other forms of extreme weather events in the form of droughts and floods are a common feature for Kenya.

The Kenya Food and Nutrition Security Policy implementation framework

Kenya's Food and Nutrition Security Policy (FNSP) provides a multisectoral framework that encompasses all the four dimensions of food security (availability, accessibility, stability, and utilization). It clearly stipulates and articulates the required interventions by the relevant ministries to effectively combat food and nutrition insecurity. The process of developing an implementation framework for the FSNP is ongoing and is envisaged to institutionalize a multisectoral mechanism for its implementation.

The Overarching Agricultural Policy

Over the years, Kenya has had no overarching agriculture policy framework, and the policy landscape has been characterized by many subsectoral, commodity, service-oriented and county-level policies that are not internally aligned and mutually supportive. To address these issues, the Overarching Agriculture Policy has been formulated strategically to reposition the sector in view of the new governance system for agriculture; the transition from the MDGs to the SDGs; and the country's commitment to the Malabo targets. The Policy addresses specific institutional and legal reforms essential for agricultural transformation. It is awaiting cabinet approval.

The new agricultural development strategy

The current Agricultural Sector Development Strategy (ASDS 2010–2020) has been the blueprint document that guides development in the agricultural sector. The strategy was developed before the implementation of the devolved system and does not, therefore, address the clear dichotomy of roles between the national and county governments. Furthermore, performance of the sector has been suboptimal with regard to production, product transformation, food security, nutrition and response to emergencies such as drought, and public expenditure in agriculture. The new sector strategy intends to bridge the widening gap between domestic production and consumption and integrates the Malabo and SDG commitments into the national targets. The proposed strategy, tentatively referred to by the drafting Task Force as the Agricultural Growth and Transformation Strategy (AGTS), will provide a framework of national goals and targets of key food security and value chain priorities on which the county agricultural sector planning and investments would be based. It will also provide for the integration of an interministerial and intergovernmental coordination mechanism necessary for effective implementation of initiatives in the sector. Directly linked to the strategy will be a National Agriculture Investment Plan (NAIP) that will specify the level of investments required under the agreed priorities in order to realize the targets that will be defined in the AGTS.

Lesotho

Ease access to basic food commodities

From 1 June 2016, the Government of Lesotho subsidizes the price of maize meal, beans and pulses, reducing the retail prices for consumers by 30 percent for a period of one year. The government allocated about 163 million Rand (R) – about US$12.3 million – for these subsidies, with the aim to ease access to basic food commodities. In Maseru, prices of locally-produced maize meal rose by 17 percent between February and March and were nearly 40 percent higher than the prices a year earlier. These increases are a result of poor cereal crop production prospects for 2016 due to El Niño-associated dry conditions,

which prompted the government to declare a state of emergency in December. High maize prices in South Africa, which supplies the bulk of the country's consumption requirements, also exerted upward pressure.

A mid-term review indicated that vulnerable households in rural areas and remote highlands have only partially benefitted from this programme as subsidized grades were still higher than the cheapest grades in the market. Therefore, more targeted approaches (e.g. cash transfers, voucher, etc.) have been recommended to ensure that, in the future, the full benefit of such subsidies accrue to those most in need.

Staple food prices have gradually decreased during the El Niño drought period (WFP, 2017). According to the recently released Food Price Subsidy Analysis, this decline is due to downward trends in the South African market. The government's 30 percent Food Price Subsidy Programme has only partially contributed to this reduction.

Emergency response to the drought and social protection

The emergency response to the El Niño-induced drought was scheduled to continue until August 2017. The food security and agriculture sector has responded to the humanitarian needs identified by the Lesotho Vulnerability Assessment Committee in May and November 2016. The design of the food security response has been based on targeting people that experienced a food security survival deficit. The availability of a National Information System for Social Assistance greatly facilitated the targeting process. Social protection cash transfer top-ups, complemented with home gardening support have been an important part of the drought response.

Thus, it was possible to assist a total of 466 563 vulnerable people with either cash or food to date out of 509 000 initially targeted. Moreover, kits for agricultural recovery were distributed including seeds for staples and vegetables, fertilizer and shade nets. The kits also include training materials on climate smart agriculture and conservation agriculture techniques and address recovery and resilience needs.

Malawi

Reform of the Farm Input Subsidy Programme

In the 2015/2016 growing season the Ministry of Agriculture, Irrigation and Water Development implemented pilot reforms in the Farm Input Subsidy Programme (FISP), to move away from support to small farmers and focusing the programme on more commercially-oriented farmers. From the 2016/2017 growing season, the government will include the private sector fertilizer retailers in distribution in most of the districts easily reached by private retailers. The districts that are not accessible will continue to be served by the Smallholder Farmers Fertilizer Revolving Fund of Malawi and the Agriculture Development and Marketing Corporation (ADMARC). This shift will reduce the number of beneficiaries of the programme to 900 000 instead of 1 500 000. The government will provide coupons with a stated value per bag of fertilizer or pack of seed, while farmers will be required to pay the difference between the market price and the coupon value. In addition, the FISP provides subsidized legume seeds in the 2016/2017 growing season and the government is encouraging the farmers to grow as many legumes as possible, because of the multiple advantages of these crops. First, legume production is very rewarding to farmers: prices as high as 600 Malawian Kwacha (MK) – about US$0.82 – per kilogram have been realised by farmers in 2015/2016, while the input and labour requirements for these crops are characteristically lower than those of other crops. Second, legumes have a ready international market, especially India, and may contribute to the country's foreign exchange earnings. Finally, legume production is extremely useful for restoring soil fertility and lowering the demand for fertiliser use.

Procurement of maize

The government has allocated MK35.5 billion (about US$48.5 million) for the procurement of maize in the 2016/17 budget. Of this, MK6 billion (about US$8.2 million) is in support of the winter cropping initiative to purchase maize from large-scale farmers through contract farming. The total allocation for maize procurement is additional to the supplemental resources that the Treasury continues to provide in the current fiscal year for immediate relief.

Establishment of the Greenbelt Authority

The government established the Greenbelt Authority (GBA) as a stand-alone public agency. The agency will be responsible for the construction of large-scale irrigation infrastructural projects throughout the country in line with the government's Irrigation Masterplan, while small-scale irrigation projects will continue to be implemented by the Ministry of Agriculture, Irrigation and Water Development. Projects such as the Shire Valley Irrigation Project, and the Bwanje Valley Irrigation Scheme will be under the GBA.

Budget allocation for food purchase

The government announced that the 2016/17 budget formally identifies government intervention to the current food crisis as a key priority area. In this respect, the budget includes an allocation of MK35.5 billion (about US$48.5 million) for food purchase. The Agriculture Development and Marketing Corporation (ADMARC) has been mandated to continue the process of purchasing local maize for immediate sales. The government also provides support through providing guarantees for ADMARC to borrow from commercial banks to purchase food for sales to the public.

The Food Security Response Plan

From July 2016 to March 2017, Malawi faced a food security and nutrition emergency due to the impacts of the strongest ever El Niño, and following on devastating floods of 2015. Responding to the situation, the President of Malawi declared a State of National Disaster on 12 April 2016 and appealed for humanitarian relief assistance from the international community and the private sector. The Malawi Food Security Response Plan (FIRP) from July 2016 to March 2017, developed by the Government of Malawi in collaboration with the United Nations and civil societies, identified food security, nutrition, agriculture, health, education and water, sanitation and hygiene (WASH) as the key priorities for immediate assistance. FIRP will expand emergency school feeding to a total of 166 400 learners until the end of the school year. The FIRP food security cluster is expected to provide food assistance to all the 6.5 million people in need during the lean season from July 2016 to March 2017.

The National Social Support Policy and Programme (NSSP)

The Malawi National Social Support Policy and Programme (NSSP) includes the following components: public works, social cash transfers, school meals, microfinance and village savings and loan schemes. The Social Cash Transfer (SCT) programme supports the ultra-poor labour constrained households in covering their basic needs. In June 2016, the SCT programme was operational in 18 out of 28 districts, serving more than 170 000 households with regular cash transfers. In the 2014/2015 financial year, the government allocated almost MK4.2 billion (about US$5.7 million) to the Public Works Programme, and almost doubled this allocation in the 2015/2016 financial year in response to the El Niño-induced emergency, from resources provided by donors. The programme traditionally includes watershed management activities such as afforestation, soil and water conservation, irrigation, fisheries and construction and rehabilitation of road infrastructure.

Mali

National Response Plan for Food Problems

Also in 2016, the Government of Mali adopted the National Response Plan for Food Problems with the aim of improving food and nutrition insecurity through emergency response actions and resilience-building. The national plan will mobilize financial resources to restore the National Food Security Stock (SNS) and the State Intervention Stock (SIE) to ensure sustainability and effectiveness of the food security system. Mali's public food stock is made up of the SNS (used for food distribution), the SIE and the community-based cereal banks (used for food sales). The SNS provides free food rations of millet and sorghum to households affected by shocks. The SIE, together with cereal banks (both established in 2005), operate through price stabilization: keeping

producer prices high enough after the harvest and consumer prices low enough during the lean season.

Sustained emphasis on irrigation in response to climate change (CC)

In 2011, the government strengthened its governance on climate change by adopting three main documents: the National Climate Change Policy, the National Climate Change Strategy and the National Climate Action Plan. The policy seeks to mitigate the challenges posed by climate change to socioeconomic development by strengthening national monitoring, capacity-building, research, information and awareness on climate change with the objective of mainstreaming climate change in all sectors of Mali's socio-economic development. To finance the implementation of the national policy, Mali has been granted access to the "Green Climate Fund" and "Adaptation Fund" in 2016. In response to the adverse effects of climate change, the government decided to enhance water management to secure agricultural productions. The Ministry of Agriculture, together with the African Development Bank (AfDB) initiated in 2016 the implementation of two flagship projects: "Strengthening Food Security through the Development of Irrigated Crops" and "Strengthening Food and Nutrition Security in the Region of Koulikoro". Both projects aim to develop irrigated crops adapted to consumer needs on a sustainable basis through water management. Additionally, the government launched the PRIA–Mali project, "Building Resilience to Food Insecurity in Mali" (2014–2018) whose goals include: preserving the livelihoods of the most vulnerable households; strengthening the means of production of pastoralists, agropastoralists, farmers and fishermen; developing their capacity to adapt to climate change; assisting decision-makers in obtaining necessary and reliable information in the prevention and management of food and nutrition crises.

The National Social Protection Policy and its Action Plan for 2016–2018

In 2016, the Government of Mali developed the National Social Protection Policy and its Action Plan for 2016–2018, whose main objectives are to strengthen financing mechanisms, restructure coordinating mechanisms, and implement social safety net programmes aimed at strengthening resilience and food security and nutrition.

Increasing country ownership over school feeding programmes

In 2009, the government adopted the National School Feeding Policy and launched a government-run school feeding programme, the National School Feeding Programme. As of 2013, the programme targeted approximately 354 000 schoolchildren with a hot meal a day, to increase enrolment rates and improve the children's nutritional status.[50] In 2013, the government also adopted the School Feeding Sustainability Strategy, with the objective of increasing the country's ownership over school feeding programmes and reducing its dependency on external funding. Over the past three years (2014–2016), the government allocated US$18 million to school feeding.

The National Food and Nutrition Security Policy

In 2017, the government is expected to adopt the new National Food and Nutrition Security Policy and its action plan to accelerate the achievement of Sustainable Development Goals (SDGs). The new policy will address food and nutrition security and social protection issues with the aim of strengthening resilience and aligning its objectives to SDGs. Furthermore, the national policy will create conditions for a better coordination of sectoral policies, contributing to the achievement of the food and nutrition security, enhance governance and, promote the process of regional and subregional integration. The National Food and Nutrition Security Policy integrates the current National Nutrition Policy,

[50] WFP (2013).

operationalized in 2014, which identifies specific objectives to be achieved by 2021. These objectives are: halving the prevalence of acute malnutrition and cutting down by two-thirds the prevalence of chronic malnutrition among children 0–5 years old and those of school age (6–14 years); sustainably fighting micronutrient deficiencies-related disorders (iodine, iron, zinc and vitamin A); decreasing by one-third the prevalence of anaemia among children and women; improving the nutritional pregnancy and postpartum management; enhancing the management of chronic diseases related to diet and nutrition; and ensuring sustainable access to adequate food for all people.

The Strategic Framework for Economic Recovery and Sustainable Development CREDD (2016–2018)

In 2016, the government implemented the Strategic Framework for Economic Recovery and Sustainable Development in Mali (CREDD 2016–2018), which is the reference framework for the design, implementation and monitoring of different development policies and strategies at both national and sectoral levels. Promoting Inclusive and Sustainable Growth is the first strategic axis of CREDD. In the priority area Agriculture, Livestock, Fisheries and Food Security, the government is firmly committed to promoting intensive, diversified and sustainable agriculture, ensuring food self-sufficiency and competitiveness in subregional and international markets, optimizing the potential development of livestock and to supporting the development of fisheries, fish farming and aquaculture.

Mozambique

The National Basic Social Security Strategy (ENSSB–II) 2016–2024

The second National Basic Social Security Strategy (ENSSB–II) 2016–2024 was approved by the Council of Ministers in February 2016. The main objectives are to improve consumption levels and build resilience of the poor and vulnerable population; contribute to the development of human capital through the improvement of nutrition and access to basic health and education services for the poor and vulnerable population; prevent and respond to the risks of violence, abuse, exploitation, discrimination and social exclusion through social action services andinstitutional capacity-building for the implementation and coordination of basic social security. The strategy includes a new child grant for children aged 0 to 2 years with the specific objective to contribute to the reduction of chronic undernutrition.

Farm inputs, specifically fertilizer, seed, irrigation, mechanization

The Government of Mozambique and FAO agree that "smart subsidies" programmes using an electronic vouchers scheme for the 2015/2016 season were a powerful tool to facilitate access to seeds, fertilizers and other inputs needed to increase production and productivity. The objectives of the electronic voucher (e-Voucher) scheme are improving access and use of quality agricultural inputs (mainly seeds and fertilizers) and promote the creation of a distribution chain of agricultural inputs through the involvement of various agro-dealers and input producers. The scheme targets two groups of beneficiaries: (i) subsistence farmers, who contribute with approximately 30 percent of the value of the package; and (ii) small emerging farmers, who contribute with approximately 50 percent of the value of the package. Special attention is given to rural women and women heads of families. The e-voucher also represents a first step towards the introduction of electronic money services as well as for financial inclusion of rural populations that have less opportunities and low literacy level.

Child malnutrition, in particular stunting and wasting in children under five years

The National Infant Feeding Policy is under development and its approval is foreseen for this year. The Ministry of Health is leading the process in response to the Global Strategy on Infant Feeding adopted by the Fifty-Fifth World Health Assembly (WHA) and the Executive Board of the United Nations Children's Fund (UNICEF) in 2002. The Policy reiterates the government's commitment to ratified conventions, established laws and codes, strategies and plans to promote, protect and support appropriate infant feeding practices. Moreover, it recognizes the value of interventions that focus on the 1 000 days between

conception and the second birthday of a child, a unique window of opportunity to break the cycle of malnutrition that is hindering Mozambique's economic development.

Nutrition education

In 2016 the Government of Mozambique adopted and launched a Social and Behaviour Change Communications (SBCC) strategy for the prevention of chronic malnutrition (2015–2019) in the country. The strategy aims at providing a common framework for coordination and harmonization of the implementation of SBCC at all levels and is expected to promote evidence-based best practices. This key strategy is crucial for ensuring that the food security and nutrition policies and programmes are implemented while taking into consideration the socio-cultural realities.

Strengthening governance of natural resources

To tackle deforestation, forest degradation and forest fires, mainly caused by shifting cultivation, illegal logging, poaching, and uncontrolled firewood and charcoal production, the government has embarked on a Mozambique Forest Investment Program (MozFIP). The programme provides a framework for channelling international support to the country's commitment for forest sector reform and transformational change, through national-level activities to improve the enabling environment towards the aim of reducing deforestation and on-the-ground investments in two targeted landscapes (Cabo Delgado and Zambezia provinces).

Revision of the Strategic Response Plan, November 2016–March 2017

Due to the severity of the drought, the government extended the red alert for the most drought-affected provinces of Tete, Sofala, Gaza, Inhambane, Manica, Zambézia and Maputo. Subsequently, the government revised the 2016 Strategic Response Plan in November 2016, and set three main objectives: (1) provide immediate life-saving and life-sustaining assistance to the most vulnerable members of the populations affected by droughts in the form of food assistance and agricultural inputs, availability of clean water and nutrition supplements; (2) support the restoration of livelihoods of the drought-affected population through early recovery and resilience-building activities; and (3) promote continued access to education services and ensure coordination and mainstreaming of protection initiatives in drought response interventions. The plan targets about 1.2 million people affected by drought with food, agriculture, livestock and other interventions until the end of March 2017. The plan also includes contingency measures for 190 000 persons that may be affected by floods and cyclones during the same period.

Increasing production and productivity in important value chains

The Programme for Intensification of Livestock Production (PIPEC) 2015–2019 was approved in August 2015. According to the NAIP, the priority areas of the livestock subsector are: milk, cattle (in Maputo, Gaza, Sofala and Manica provinces) poultry – chicken and eggs – (in Maputo, Manica and Nampula provinces) and small ruminants – sheep and goats – (in Gaza, Sofala, Tete and Nampula provinces). The government will strengthen its interventions to support the intensification of livestock production covering these products.

A new project to promote access to finance for smallholders

In February 2017, the Mozambican Government approved a new project to promote access to finance for smallholders, called Integrated and Inclusive Rural Development Project (PDRI), and designed to promote and finance family farming in the country. The project budget is about 16 billion meticais (about US$263 million) funded by the World Bank. Pilot projects will be developed in two of the poorest provinces, Zambézia and Nampula, in the centre and north of the country, respectively, and is expected to benefit more than 700 000 smallholder farmers.

Introduction of the Harmonized Commodity Description and Coding System

In January 2017, Mozambique introduced the Harmonized Commodity Description and Coding System, an instrument of the World Customs Organization (WCO) of which Mozambique is a Member, with the aim to adapt local practices to

those used in international trade. The customs tariff and its instructions are essential for the country to introduce and align to the Harmonized System [HS Classification], and are intended to provide incentives to the agricultural, health, transport and fisheries sectors.

Nigeria

The National Agricultural Insurance Programme

In 2014, the Government of Nigeria launched the National Agricultural Resilience Framework, which is a structured plan for making Nigeria's agricultural sector resilient to shocks and stresses brought upon it by climate change. A commitment to expand insurance to 15 million smallholder farmers by 2017 is one of the pillars of the National Agricultural Resilience Framework. Furthermore, the federal government plans to: expand the Nigeria Agricultural Insurance Scheme (NAIS) in the country as part of several initiatives under the Agricultural Transformation Agenda (ATA); extend crop insurance to those farmers benefiting from fertilizer subsidies under the Growth Enhancement Support Scheme (GESS); implement weather index insurance in selected parts of the country which are prone to droughts and floods.

As part of the GESS, the Nigerian Agricultural Insurance Corporation (NAIC) also has plans to develop and deploy the crop insurance cover called "Planting with Peace Programme" via the e-wallet to all farmers that are entitled to subsidized input under the GESS. Compensation to insured farmers, up to a maximum of ₦20 000 (US$63.4) for each bag of fertilizer received, is paid in the event of crop losses due to flood, drought, fire, pests and diseases. Cost of insurance will be included in the price of each bag of fertilizer sold under the GESS.

Reintroduction of policy to restrict rice importations

As of 25 March 2016, the Nigerian Customs Service reintroduced restrictions to rice importations through land borders across the country. A full ban on all rice importations into the country was first introduced in July 2015 with the aim of promoting self-sufficiency in rice by encouraging domestic production. The ban was partially lifted in October 2015, when importations through the land borders were once again allowed after the payment of appropriate duty and charges. However, these measures amplified informal cross-border imports from neighbouring coastal countries, resulting in a reintroduction of restrictions of rice imports through land borders as of March 2016. Nigeria is aiming to reduce rice imports by 50 percent by the end of 2017.

The National Food and Nutrition Policy

In 2016, the Government of Nigeria developed the National Food and Nutrition Policy which aims to reduce hunger and malnutrition through a multisectoral and multidisciplinary approach that encompasses various interventions at the community and national level. Among the 18 targets to be achieved by 2025 are: reducing the proportion of people suffering from hunger and malnutrition by 50 percent; reducing the stunting rate among under-five children from 37 percent in 2013 to 18 percent; reducing the incidence of malnutrition among victims of emergencies by 50 percent; achieving universal access for all school children through school feeding programmes; and increasing access to potable water from 49 percent in 2013 to 70 percent. This is complemented by the National Strategic Plan of Action for Nutrition (2014–2019) which builds on the framework outlined in the National Food and Nutrition Policy, and articulates six specific objectives: a) promote the delivery of effective interventions that will ensure adequate nutrition to all Nigerians, especially vulnerable groups; b) enhance capacity to deliver effective and appropriate nutrition interventions; c) contribute to the control of diet-related non-communicable diseases; d) promote and strengthen research, monitoring and evaluation; e) promote and facilitate community participation in nutrition interventions; and f) promote and strengthen nutrition coordination and collaboration. Priority areas are maternal nutrition, infant and young child feeding, management of severe acute malnutrition in children under five, micronutrient deficiency control, diet-related non-communicable diseases and nutrition information systems.

The National Social Protection Policy

In 2015, the Government of Nigeria drafted the National Social Protection Policy, which aims to reduce poverty; provide guiding principles for managing social protection projects and programmes; ensure access to basic social services and infrastructure; enhance social welfare and improve food security and nutrition; support decent employment and sustainable livelihoods; protect households from shocks; and foster coordination among all social protection intervention agencies.

The national Home-Grown School Feeding programme

In 2016, the Government of Nigeria scaled up the "Home-Grown School Feeding" (HGSF) programme to the national level. The HGSF programme was piloted in 2004 and provides free school meals prepared with produce procured from local farmers. The food is usually delivered in the form of a hot meal at lunch, which is designed to be balanced and to contain one-third of the Recommended Dietary Allowance of nutrients. As of 2016, 155 000 beneficiaries were being targeted by the programme. Additionally, in June 2016, the government launched the National Home-Grown School Feeding Strategic Plan (2016–2020), which constitutes the cornerstone of the nationwide HGSF programme. The HGSF programme is part of a ₦500 billion-funded Social Investment Programme announced by the President to tackle poverty and improve the health and education of children and other vulnerable groups. When fully implemented, the school feeding component of this programme will support states to feed more than 24 million school children, making it the largest school feeding programme of its kind in Africa. As of 2017, the government has spent ₦375 million in delivering one hot meal a day to approximately 700 000 primary school pupils across seven national states. A total sum of ₦844 360 550 has been released for the commencement of the programme.

Budget allocation for the agricultural sector

In 2017, the government allocated ₦92 billion (about US$290 million) to the agricultural sector. Policies will pursue the following objective: the integrated development of the agricultural sector by facilitating access to inputs, improving market access, providing equipment and storage as well as supporting the development of commodity exchanges. A sum of ₦15 billion (about US$47.2 million) was budgeted for the recapitalization of the Bank of Industry and the Bank of Agriculture, with an additional ₦1.3 billion (about US$4.1 million) for the commencement of the Development Bank of Nigeria. In all, of the total budget of ₦13.5 trillion (about US$42.5 billion), the federal and state governments will spend about 1.8 percent on agriculture in 2017, despite their publicized commitment to the sector. While considerably short of the 10 percent called for by the Maputo Declaration, this is an increase over 2015 and 2016, when the shares were 0.9 and 1.2 percent, respectively.

The Agriculture Promotion Policy 2016–2020

In 2016, the government developed the "Green Alternative", the Agriculture Promotion Policy for 2016–2020. Its key policy pillars include: a) food as a human right; b) agriculture as key to long-term economic growth; c) prioritization of specific crops, both for domestic food safety and security and for boosting export earnings; d) assistance to agricultural growth through private sector-led business; e) policy interventions that strengthen commodity value chains; f) direction of market orientation through infrastructural improvement and commodity exchanges; g) factoring of climate change and environmental sustainability into agricultural development; h) enabling of participation and inclusiveness to maximize stakeholder participation; i) building of policy integrity in terms of accountability, transparency and due process; j) redirection of nutritional opportunities toward vulnerable groups and young children; and k) recognition of agriculture's

critical linkages with industry, the environment, power, and water sectors.

Tackling youth unemployment

In 2014, the Government of Nigeria launched a nationwide Youth Employment in Agriculture Programme (YEAP) to train 750 000 young commercial farmers and agrobusiness entrepreneurs. YEAP focuses on decent employment creation and innovative enterprise development for young women and men along priority value chains in targeted local economic areas. Furthermore, in 2014, the Government launched the National Schools Agricultural Programme (NSAP), aimed at developing a new generation of young agricultural entrepreneurs in Nigeria.

Enhancing agricultural credit

In 2006, the Government of Nigeria implemented the Agricultural Credit Support Scheme to enhance access to credit for small and medium farmers. The Agricultural Credit Guarantee Scheme Fund (ACGSF) guarantees up to 75 percent for all loans granted by commercial banks for agricultural production and processing. Additionally, in 2009, the Commercial Agriculture Credit Scheme (CACS) was introduced to fast-track development of the agricultural sector by providing credit facilities to commercial agricultural enterprises at a single digit interest rate. In 2011, the government launched the Nigeria Incentive-based Risk-sharing System for Agricultural Lending (NIRSAL) initiative, which aims at de-risking agricultural lending to farmers as well as lowering the cost of lending for the banks. In 2016, the government launched the Anchor Borrowers Programme, which is being managed by the Central Bank of Nigeria (CBN) and provides farmers with financial assistance through a bank loan. The loan is held in an account through which agricultural input suppliers are paid directly, based on the cost of supplies provided to the farmer.

The strategic plan and roadmap to achieve Zero Hunger by 2030

On 11 January 2017, the government launched a strategic plan and roadmap to achieve Zero Hunger by 2030. The plan, titled "Synthesis Report of the Nigeria Zero Hunger Strategic Review," articulates what Nigeria needs to do to achieve the SDG 2 by 2030. The Nigeria Zero Hunger Strategic Review sought to: a) provide a comprehensive understanding of the food security and nutrition context of the Federal Republic of Nigeria, including strategies, policies, programmes, institutional capacities and resource flows into the sector; b) identify key development and humanitarian challenges the country faces in achieving the Zero Hunger aspirations of the SDG 2; c) discuss the role of the private sector in achieving Zero Hunger, including food security and improved nutrition, and related national priorities; d) propose actionable areas where federal, state, and local governments can make significant progress toward the Zero Hunger objective; e) propose actionable areas where partners can better support the country to make significant progress toward the Zero Hunger goal; and f) recommend milestones, key actions, and effective partnerships that would serve as a national road map to achieve the SDG 2 in Nigeria.

Measures to reduce food prices

In 2017, the federal government approved measures to force down food prices in the market. These include using railway wagons to transport food items; work with state governments to reduce delays experienced by trucks along the roads because of various taxes required by local governments, and; stopping multiple taxation. High food prices are the results of high transportation costs, since food items are generally moved across Nigeria with heavy trucks which charge high fees because of the spike in the price of diesel.

Rwanda

Public awareness on the importance of drinking milk

In August 2016, the Rwanda National Dairy Platform (RNDP) and the Ministry of Agriculture and Animal Resources (MINAGRI) launched the campaign "Our milk, our health and our future" to raise awareness of the importance of drinking milk and to urge parents to give their children milk to facilitate their growth and development. The Government of Rwanda

has put in place different initiatives including the Girinka programme ("One cow per family") to increase milk production, improve nutrition and reduce poverty. These efforts helped increase milk production in Rwanda from 50 000 MT in 2000 to over 710 000 MT in 2016. Additionally, the "One Cup of Milk per Child" programme, initiated in 2010, is currently operating in 112 schools, reaching 85 000 children in 14 districts across the country.

Irrigation initiatives

In February 2017, the Government of Rwanda committed to intensify irrigation initiatives to cope with climate change effects that have adversely affected agricultural production over the last few years. To mitigate effects of drought and boost productivity, the government has been investing in both large- and small-scale irrigation schemes to provide farmers with modern irrigation technology as a sustainable solution to cope with drought. Since 2014, the government has been supporting farmers with small-scale irrigation facilities, subsidized by up to 50 percent of the total cost. The scheme supports individual farmers, cooperatives and groups of farmers who are willing to irrigate their crops close to water bodies. About 44 000 ha have been developed with formal irrigation infrastructure in Rwanda.

Price Intervention on staple commodities

In January 2017, the Ministry of Trade, Industry and East African Community Affairs (MINEACOM) revised upwards the minimum farm gate maize price to 200 Rwandan Franc (RF) – US$0.24 – a kilo, from RF160 (US$0.19) as set in January 2016. However, farmers are free to sell their maize at higher prices. The objective of the increase of the minimum price is to curb the illegal maize trade and assess the preparedness of the market to absorb the expected maize produce in the 2017 season.

Promotion of cross-border trade (see also entry for Democratic Republic of the Congo)

In October 2016, the Rwandan Minister of Trade, Industry and East African Community Affairs and his counterpart from the Democratic Republic of the Congo (DRC) launched the COMESA Simplified Trade Regime (STR) and signed a Memorandum of Understanding on the promotion of cross-border trade between the two countries.

Food-for-Work

In July 2016, following an extended drought in the Eastern Province, MINAGRI took measures to supply food to the drought-affected families, using the National Strategic Grain Reserves. Through the arrangement, over 1 200 MT of maize and some 800 MT of beans were distributed to 18 308 needy households. The food was given to the households through the food-for-work system in a bid to avoid the creation of a dependence mindset. The Ministry is also encouraging villages to foster self-reliance and to reduce costs and keep food reserves, rather than having to rely only on the national reserve. Regarding livestock interventions, 28 dam sheets were installed in Nyagatare and Kayonza to facilitate the water supply in the affected ropeyards. This, along with other interventions, saved an estimated 22 000 cattle in the area.

The Bugesera Natural Region Rural Infrastructure Project

In 2016, the Bugesera Natural Region Rural Infrastructure Project (PAIRB) started plot distribution in collaboration with Bugesera District authorities to allocate land to farmers, who were selected through a tombola system. Each beneficiary would get 0.25 ha and would be from sectors surrounding the marshland. In collaboration with the Rwanda Agriculture Board, these farmers have been trained through Farmer Field Schools (FFS) in modern farming techniques for yield improvement. They are organized into a cooperative (KODUMUGA) for production and marketing purposes and a water users' organization (UDUAGIGA) for equipment and infrastructure maintenance including collection of water fees. The rationale for investing in marshland development is to facilitate rice production, one of the main staple foods in Rwanda and identified as a priority crop by the government. A large part of the scheme (515 ha) is dedicated to rice growing and will be mainly occupied by ordinary farmers while the remaining (165 ha) will be used to grow vegetables and fruits

for export.

Development of the new agricultural policy

In December 2016, MINAGRI kicked off a series of consultative meetings meant to upgrade the new agricultural policy. The new policy is intended to promote sustainable water management for climate resilience in farming and rural areas through development of more efficient irrigation systems, dams and soil water management; and promotion of cultivars and animal breeds adapted to the impacts of climate change. To be implemented in 2017, the new policy is being developed to replace the one implemented since 2004, and takes into consideration the Sustainable Development Goals (SDGs). The new policy will also put emphasis on value-addition to agricultural produce through setting up agroprocessing units and enabling proper post-harvest handling to avoid losses. The policy will also improve availability and access to affordable and nutritious food in rural areas for farmers and the new policy will promote the growing of crops that are rich in nutrients to improve nutrition.

Initiatives to maintain healthy soils

In 2016, Rwanda committed to maintaining healthy soils. MINAGRI has been investing substantially in several initiatives meant to maintain healthy soils and the Ministry remains committed to increasing year by year the proportion of arable area under effective erosion control systems in a bid to unlock Rwanda's agricultural potential. For the fiscal year 2015/2016, the achievements were 895 ha and 21 492 ha, for radical and progressive terraces, respectively. The targets in 2017/2018 for land husbandry and soil conservation are 10 000 ha for radical terraces and 20 000 ha for progressive terraces. In addition, the Ministry also keeps promoting the use of fertilizers in a bid to improve soil fertility. Enhancing agricultural productivity through the Integrated Soil Fertility Management (ISFM) approach is one of Rwanda's strategies for soil management through the proper use of fertilizers, improved seeds and scaling up agroforestry and evergreen agriculture practices for climate change adaptation in drought-prone areas.

Rwanda Agriculture Livestock Inspection and Certification Services (RALIS) online portal

In August 2016, the Minister of State in charge of Agriculture officially launched the Rwanda Agriculture Livestock Inspection and Certification Services (RALIS) online portal that will reduce time and costs taken to issue import and export certificates and permits for plants, animal materials and agrochemicals, by up to 45 percent. The system will also eliminate the SPS Non-Tariff Barriers (NTBs), a priority area under the Market Integration Pillar of the newly launched Tripartite Free Trade Area (TFTA); see also FAO, 2017d). The Ministry of Agriculture and Animal Resources developed the portal through a direct project funding of US$150 000 from TradeMark East Africa (TMEA), the region's leading trade facilitation institution.

Senegal

Policy orientation on nutrition

The National Nutrition Development Policy (PNDN), validated in November 2015, aims to promote human capital development through its four pillars, namely, (1) production of foods with high nutritional value; (2) processing, pricing, distribution; (3) education, hygiene and sanitation; and (4) essential health and nutrition services. The multisectoral Nutrition Strategic Plan (PSMN 2017–2021), which is currently being finalized, is the instrument for operationalizing the PNDN. The PSMN is structured around five strategic axes: (1) prevention and management of malnutrition; (2) control of micronutrient deficiencies and non-communicable foodborne diseases; (3) strengthening of the availability and accessibility of foods with high nutritional value; (4) research, training and innovation; and (5) nutrition governance.

A new food security strategy

In January 2016, Senegal adopted a National Strategy for Food Security and Resilience (SNSAR). The objective is to achieve sustainable food security and better resilience to shocks by 2035. To achieve this goal,

SNSAR is built around four major strategic axes: (1) sustainably improving availability of diversified, healthy and nutritious foods; (2) enhancing the physical and economic accessibility of vulnerable populations to diverse, healthy and nutritious food; (3) strengthening governance and information systems for food security and resilience; and (4) building capacity for coordination, prevention and management of food crises.

The National Allowance for Family Security Programme (PNBSF)

The National Allowance for Family Security Programme (PNBSF) is a conditional cash transfer programme introduced in Senegal in 2013 that aims to reach 300 000 vulnerable families by 2017 in all the communes of the 14 regions of Senegal. Targeted at mothers, the transfer is for CFAF25 000, irrespective of household size, every three months for five years.

The "Senegal Digital 2025"strategy

In October 2016, the government developed the "Senegal Digital 2025" strategy based on the guidelines set by the Plan Sénégal Émergent (PSE). The strategy aims to accelerate the spread of digital technology in the priority sectors identified in the PSE, fostering access to basic social services (health, education, and financial services) on the one hand, and significantly increasing productivity by focusing on increased use of digital technology in agriculture, livestock, fisheries and trade, on the other hand. The cost of the action plan, consisting of 28 reforms and 69 projects, is about CFAF1 361 billion (about US$2.3 billion).

South Africa

Import tariff changes for wheat

On 31 March, the government announced a reduction of the wheat import tariff by 25 percent to 1 190 Rand (R) – about US$92 – per tonne. Tariff adjustments are implemented when the benchmark US No.2 Hard Red Winter wheat export price deviates from the set base price of US$193 per tonne by more than US$10 for three consecutive weeks. In the first two months of the year, the US wheat export price averaged consistently above the base price on account of concerns about the 2017 wheat production outlook due to unfavourable weather. South Africa imports around half of its annual wheat consumption requirements and also exports small quantities to neighbouring countries.

Introduction of sugar tax to improve public health

The government has announced that on 1 April 2017, the sugar tax is planned to take effect. This tax is designed to reduce sugar intake from sugar-sweetened beverages by raising the price by 20 percent. This tax is part of the strategic plan of the South African National Department of Health to prevent and control non-communicable disease, and obesity. South Africa has one of the highest rates of overweight and obese adults in Africa.

The National Sanitation Policy

In February 2016, the National Department of Water and Sanitation (DWS) drafted a new National Sanitation Policy (2016) which includes hygiene and end-user education. The policy aims to, *inter alia*, support equity in the sanitation sector, strengthen sanitation institutions and, ensure sustainable sanitation provision in the country. It addresses gaps in current sanitation policies, which may also require legislative amendment.

Introduction of the minimum wage

The government will introduce a minimum hourly wage of R20 (approximate US$1.5), effective from May 2018. For the first year, workers in the agriculture sector are entitled to 90 percent of this level.

The State programme "Operation Phakisa"

In February 2017, the Government of South Africa launched "Operation Phakisa", which focuses on agriculture, land reform and rural development. The programme will review existing producer support models and develop finance models aimed at fast tracking land reform, given the urgent need for the government to make progress in food security. It also seeks to address constraints in ensuring equitable access to land, both towards economic development and agrarian transformation. The "Operation Phakisa" programme is modelled around the Malaysian Big Fast Results methodology. It is used by government to intensively focus on a sector, bringing together government, businesses, labour institutions and academia to dissect and find solutions to delivery

problems. Similar programmes, in concept, have successfully been implemented in education, health and the ocean economy.

Uganda

Duty-fee rice imports allowed

On 30 March 2017, the government approved duty-free paddy rice imports, eliminating the 75 percent (or US$345 per tonne) import duty on paddy and husked rice, applicable under the Common External Tariff of the East African Community, effective from 1 January 2017. The import license of rice will be limited to a specific quantity of up to 5 000 tonnes per miller and will be valid for a period of four months. The measure aims to boost supplies and stabilize prices which have been on an increasing trend since early 2017 and were at record highs in early April.

Relief food aid in response to drought and subsequent famine

In November 2016, the government started delivering relief food aid to the districts of Bukomansimbi, Rakai and Kalungu which were adversely affected by drought and famine. In February 2017, the government allocated 15 billion Uganda Shillings (USh) – about US$4.1 million – more towards addressing the food crisis in several parts of Uganda. This now brings to USh25 billion (about US$6.9 million) the amount of money so far allocated to food relief, out of the total USh52.6 billion (about US$14.5 million) required. Rain failure has driven many Karamojong southwards from the northeast in search of food, pasture and water, especially for livestock. Up to 1.6 million Ugandans need relief food due to the prolonged dry spell, according to the Ministry of Agriculture.

The United Republic of Tanzania

Productive Social Safety Net 2012–2017

The Tanzania Productive Social Safety Net (TASAF III – PSSN) programme is making progress in mainstreaming nutrition and health (hygiene and sanitation) in the implementation, and linking with nutrition and sanitation services. The programme has made remarkable progress in meeting the plan to target, enrol and deliver timely Conditional Cash Transfer (CCT) payments to all 1.1 million extreme poor households.

The National Five-Year Development Plan (FYDP II) 2016/17–2020/21

In June 2016, the government approved the National Five Year Development Plan (FYDP II) 2016/17–2020/21, promoting Banks for Social Policies (BSP) to reduce poverty. BSP provide soft loans for poor households for income generation, disadvantaged students and access to quality education service, among others. PSPs are in most parts state-owned. The FYDP II has integrated frameworks of the FYDP I (2011/2012–2015/2016) and the National Strategy for Growth and Reduction of Poverty (NSGRP/MKUKUTA II, 2010/2011–2014/2015), which had been extended to 2015/2016. This integration implemented a government decision taken in 2015 to merge the two frameworks to improve efficiency and effectiveness in implementation by organizing and rationalizing national resources under one framework.

The FYDP II sets new targets for agriculture by 2020, including a real GDP growth rate of 6 percent. The Plan identified the following key interventions in the sector: increasing the use of modern technologies, including ICT, strengthening extension services to increase productivity; skills promotion along the value chains, commercialization, quality and standards, R&D, improving infrastructure; and, promoting producer groups. The FYDP II also identifies water supply and sanitation services as strategic development sectors, setting the following key targets for 2020: 85 percent access to safe water in rural areas, 75 percent proportion of rural households with improved sanitation facilities; and 25 percent non-revenue water (NRW) for regional centres. The main interventions in this sector include, but are not limited to, conservation and protection of water resources and water sources, construction of water harvesting infrastructure and capacity-building/skills development of staff. Furthermore, the FYDP II identifies natural resource management, environment and climate change as a strategic development sector, and set the following key targets: a share of 10 percent GDP accrued from sustainable utilization of forest, water and marine resources; 50 percent of energy derived from renewable green energy; an increase of 130 000 ha in natural forest

cover; 100 million trees planted countrywide; a 60 percent reduction in charcoal consumption in urban areas; and 60 percent of districts with climate change and disaster-risk reduction strategies. The key interventions include, but are not limited to, intervention to strengthen natural resource management, interventions to prevent environmental degradation and climate change-related interventions. The FYDP II also recognizes the importance of the agriculture risk managements and identifies key interventions that will aim at minimizing risks using insurance schemes.

Zambia

The E-Voucher System

In 2017, the government will promote diversification to cash crops such as cotton, cashew nuts, soya beans, cassava and rice through the full migration to the E-Voucher System. The E-Voucher System will be used for all beneficiaries under the Farmer Input Support Programme (FISP) in the 2017–2018 farming season. In addition, the E-Voucher System will help reduce excessive overheads and wastage associated with the current FISP arrangement. The government has allocated nearly 2.9 million Zambian Kwacha (ZK) – about US$309 000 – to the FISP.

Increase in the maize purchasing price

In July 2016, the Food Reserve Agency (FRA), which is the government parastatal mandated to manage the national strategic stock and engage in market facilitation, increased the maize purchasing price by 13 percent, from ZK75 (US$8) set in May to ZK85 (US$9.1) per 50-kg bag for the 2016/17 marketing year. The adjustment was made to reflect higher maize production costs which farmers faced following the depreciation of the local currency in 2015. In the current marketing year, the FRA has targeted the procurement of one million tonnes of maize, the country's main staple food and grown by approximately 80 percent of smallholder farmers.

Maize exports allowed

The government lifted the suspension on maize exports on 21 April. Shipments were halted in mid-October to ensure sufficient supplies until the 2017 harvest and ease price pressure due to the heightened export demand from neighbouring countries. The recent suspension of the ban follows expectations of an above-average output this year.

Increased budget allocation for social protection in 2017

According to the 2017 National Budget Speech, the Government of Zambia has increased the allocation for social protection by 85 percent, to ZK2.7 billion (US$288 million). The government has allocated ZK552 million (US$59 million) to the Social Cash Transfer Scheme and ZK1.7 billion (US$181 million) for the payment of pension benefits under the Public Service Pension Fund. Furthermore, in 2017, the government will scale-up social cash transfers, increasing the number of beneficiary households from 242 000 to over 500 000, and the monthly amounts given to each household will rise by 28 percent.

The Government of Zambia also increased funding to the Social Cash Transfer Programme (SCTP) from ZK180 million (US$19 million) in 2015 to ZK302 million (US$32 million) for 2016. The objective of the programme is to reduce extreme poverty and its intergenerational transfer. With these measures the government intends to reach 189 000 beneficiary households, compared to the current 145 698.

The Food Security Pack Programme

The government will continue to implement the Food Security Pack (FSP) programme – a production support programme targeted to the poor – in all the ten provinces to alleviate hunger and poverty among vulnerable but viable farmers. The programme was initiated by the government in November 2000 to assist farming households who had suffered the negative effects of reduced access to inputs and market because of economic liberalization and erosion of resource base due to recurrent droughts and floods. The programme is being scaled-up from the current 30 000 beneficiaries to 40 000 by end 2017.

Scaling up the Home-Grown School Feeding Programme

The government will also scale up the Home-Grown School Feeding Programme to enhance the learning

abilities of schoolgoing children, increase their attendance rates and combat malnutrition. Furthermore, the government has allocated ZK35.6 million (US$3.8 million) for the rolling out of the School Feeding Programme and will increase the support by expanding the coverage from one million learners in 2016 to 1.25 million learners in 2017 and 2 million by 2020.

Agriculture policy

The government launched its Second National Agricultural Policy covering the period 2016–2021. The policy will form part of the revised National Agricultural Investment Plan (NAIP) which, among other issues, aims at accelerating agricultural production and ultimately eradicating poverty. About US$2.73 billion is required for the implementation of the NAIP over the 2014–2018 period, which will increase productivity through research and irrigation as well as support infrastructure such as roads and bridges, among others.

Zimbabwe

Removal of specified food supplies from zero rating and exemption

From 1 February 2017, the Zimbabwe Revenue Authority removed specified food supplies from zero rating and exemption. This means that the supply of several basic foodstuffs now attracts VAT at the rate of 15 percent. Some of the items that have been previously removed from the zero-rated VAT are potatoes, rice, margarine, *mahewu* (fermented liquid mealie-meal porridge), meat and fish.

The "Buy Zimbabwe" campaign/stringent import regulations

In 2016, the Government of Zimbabwe put in place stringent regulations meant to control the importation of goods that are available locally. The long list includes food products such as baked beans and potato crisps, cereals, bottled water, mayonnaise, salad cream, peanut butter, jams, mahewu, canned fruits and vegetables, pizza base, yoghurts, flavoured milks, dairy juice blends, ice creams, cultured milk and cheese. The "Buy Zimbabwe" campaign held a summit in June 2015 aimed at promoting the purchase of local products and services, arguing that this would enable local businesses to grow, thereby encouraging economic growth and job creation.

The Presidential Inputs Support Scheme

The distribution of agricultural inputs under the Presidential Inputs Support Scheme began in October 2016 with 600 000 households benefiting. Each household received two bags of fertilizer, a 10-kg pocket of maize or 5-kg of small grain seed. The scheme, which will target about 1.4 million communal farmers and vulnerable families complements the special programme on maize production for import substitution (Command Agriculture) under which the government financed 400 000 ha of maize this season.

Support to irrigation infrastructure in Masvingo Province and Lupane District

The Tokwe–Mukosi dam was inaugurated in May 2017. The dam is expected to transform Masvingo Province into an industrial hub, supporting key sectors such agriculture, tourism and energy. Upon completion, the Tokwe–Mukosi dam would become Zimbabwe's largest inland lake with potential to irrigate an additional 25 000 ha of land in the Lowveld, which represents almost 50 percent of the land currently under irrigation in the area.

The government is also in the process of establishing an irrigation scheme in Lupane that will utilize water from the Bubi–Lupane dam. The scheme will provide employment opportunities and sustain livelihoods.

National Social Protection Policy

In 2016 government launched the National Social Protection Policy Framework which seeks to strengthen mechanisms for reducing poverty and vulnerability by improving the coverage and effectiveness of various social protection programmes that are in place.

Land-use planning and land management

In February 2017, the Government of Zimbabwe announced that it would embark on another agricultural programme called "Super Agriculture" that will put swathes of idle land countrywide under crops, following the success of Command Agriculture. Domiciled under the Command Agriculture programme, the mechanism will see the establishment of dryers, mills and silos at central locations countrywide.

Export incentive scheme

The Reserve Bank of Zimbabwe (RBZ) is giving a five percent incentive bonus to all exporters under the bond notes facility as part of measures to incentivize productivity in the economy and increase export receipts. An amount of US$29.9 million was allocated to tobacco growers as an export incentive, as tobacco is an important source of foreign exchange. In February 2017, this scheme was also extended to cotton farmers. The export incentive scheme is coming under the US$200million facility guaranteed by the African Export–Import Bank.

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REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

THE FOOD SECURITY AND NUTRITION–CONFLICT NEXUS: BUILDING RESILIENCE FOR FOOD SECURITY, NUTRITION AND PEACE

This year's edition of the *Africa Regional Overview of Food Security and Nutrition* reports that after a prolonged decline hunger appears to be on the rise. In sub-Saharan Africa there were about 224 million undernourished people in sub-Saharan Africa in 2016, up from 200 million in 2015. In many countries, the worsening situation in 2015 and 2016 can be attributed to adverse climatic conditions, often linked to the El Niño phenomenon, resulting in poor harvests and the loss of livestock. Conflict, sometimes in combination with drought or floods, also contributed to severe food insecurity in several countries. Lower commodity prices and a difficult global economic environment have furthermore contributed to the worsening food security situation.

The worrying trend in undernourishment is not yet reflected in the series of indicators referring to nutritional outcomes in the region, with the prevalence of stunting and wasting for children under the age of five continuing to decline gradually. However, progress towards the World Health Assembly global nutrition targets has been generally poor. While a relatively large proportion of countries are on track to meeting the target for overweight in children, the rates for adult obesity are soaring in all regions and are especially high in Southern Africa.

The report also finds that across the board, countries have developed and are developing policy frameworks and investment plans that are aligned, or efforts are being made to align them, with the goals of the Malabo Declaration and SDG 2. Through CAADP, policy processes are coherent, and this initiative has raised the profile of agriculture and heavily influenced agricultural policy at regional and national levels. However, the worrying trends in undernourishment underline the need for even greater efforts to achieve the SDG 2 by 2030.

The thematic part of the report focuses on the food security and nutrition–conflict nexus. Conflict is not only an increasingly important cause of food insecurity and malnutrition but food insecurity and malnutrition can also become conflict multipliers. Addressing the causes of conflicts and supporting food security and livelihoods can help build resilience to conflict and contribute to sustaining peace.

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