



REPUBLIC OF ZAMBIA

ZAMBIA ZERO HUNGER STRATEGIC REVIEW REPORT 2018

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REPUBLIC OF ZAMBIA

ZAMBIA ZERO HUNGER STRATEGIC REVIEW REPORT 2018

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Contents

List of Figures	i
List of Tables	ii
List of acronyms and abbreviations	iii
Foreword	iv
Acknowledgements	v
Executive Summary	vii
CHAPTER 1: Introduction	viii
1.1. Background	1
1.2. Objectives	2
1.3. The Review process and approach	2
1.3.1. Funding, Management and Coordination	2
1.3.2. Strategic Review Process and Methodology	2
CHAPTER 2: Situation Analysis	3
2.1. Country Context	4
2.2. Access to adequate food all year round	4
2.3. Zero stunted children < 2 years	7
2.4. Sustainable food systems	8
2.4.1. Standards for sustainability established for agricultural value chains, governments, and civil society	9
2.4.2. Sustainable and climate-resilient agriculture	9
2.4.3. Cross-sectoral policy coherence on food security, industry, tourism, climate change, energy, water, trade policy and land use	10
2.4.4. Integrated approaches to natural resource management	10
2.5. Smallholder productivity and income	14
2.6. Zero food loss and waste	19
CHAPTER 3: Response Analysis	20
3.1. Legal framework and policy environment	21
3.2. Institutional analysis	23
3.2.1. National and international entities	23
3.2.1.2. Sustainable food systems, natural resource management	24
3.3. Financial landscape for food and nutrition security	28
3.3.1. Budgets for nutrition interventions	28
3.3.2. Budgets for agriculture	29
3.3.3. Budgets for environmental protection	30
CHAPTER 4: Gaps and Recommendations	31
4.1. Achieving Zero Hunger in Zambia	32

4.1.1	Hunger Gaps	32
4.1.2	Recommendations	32
4.2	Achieving access to adequate food all year round	34
4.2.1	Gaps	34
4.2.2	Recommendations	35
4.3	Achieving zero stunted children less than 2 years	36
4.3.1	Gaps	36
4.3.2	Recommendations	37
4.4	Achieving sustainable food systems	37
4.4.1	Gaps	37
4.4.2	Recommendations	38
4.5	Achieving increased smallholder productivity and income	39
4.5.1	Gaps	39
4.5.2	Recommendations	41
4.6	Eliminating food loss and waste	43
4.6.1	Gaps	43
4.6.2	Recommendations	44

CHAPTER 5 : Coordination and Implementation Arrangements 45

5.1	Coordination	45
5.2	Monitoring and Evaluation	46
5.3	Road map	47

References	48
Appendix	53

List of Figures

Figure 1:	Zero Hunger Challenge Pillars	2
Figure 2:	Strategic Review Process and Methodology	3
Figure 3:	Factors Affecting Household and Community Food and Nutrition Security	5
Figure 4:	Proportion of cultivated area devoted to various crops by Province	6
Figure 5:	Household dietary diversity of rural households	6
Figure 6:	Prevalence of stunting by province in 2007 and 2013 in Zambia	8
Figure 7:	Trends in Stunting, Zambia	8
Figure 8:	Conservation areas in Zambia	11
Figure 9:	Dynamics in Forest Cover in Zambia (1990-2015)	12
Figure 10:	Fish production trends from capture fisheries and aquaculture in Zambia	13
Figure 11:	Trends in fish imports and exports in Zambia	13
Figure 12:	Trends in FISP and FRA share in agricultural sector public spending	15
Figure 13:	Trends in maize and cotton productivity among smallholder farmers in Zambia	15
Figure 14:	Trends in rural poverty and smallholder incomes by gender	16
Figure 15:	Trends in Maize Prices in Zambia and South Africa	18
Figure 16:	Effects of export bans on maize and maize products	18
Figure 17:	Per capita food losses and waste at consumption and pre-consumption stages in different regions	19
Figure 18:	Trends in budgetary allocations per child between 2013 and 2017	28
Figure 19:	Nutrition budget allocation by key line Ministry from 2013 to 2017	29
Figure 20:	Share of agriculture budget in national budget	30
Figure 21:	Trends in budgetary allocations towards FISP and environmental protection between 2010 and 2018	30
Figure 22:	ZHSR Proposed coordination structure	45

List of Tables

Table A1:	List of Stakeholders Consulted	62
Table A2:	Pillar I-Summary of key legislative and, or policy provisions	62
Table A3:	Pillar I-Summary of key legislative and, or policy provisions	63
Table A4:	Pillar III-Summary of key legislative and, or policy provisions	64
Table A5:	Pillar IV-Summary of key legislative and, or policy provisions	65



FOREWORD

In a bid to accelerate the development of its citizens, Zambia has been a signatory to various progressive regional, continental and international commitments. These include among others, Agenda 2030, Agenda 2063, and the Malabo Declaration. The country has further, at the local level, developed Vision 2030, the Seventh National Development Plan, and other relevant strategic plans.

Notwithstanding, Zambia still faces high poverty levels, food, and nutrition security challenges. In realisation of this, the government has undertaken a strategic review that is aimed at identifying gaps in the current implementation plans and has formulated recommendations on what actions are required to ending hunger, achieving food and nutrition security, and promoting sustainable agriculture hereinafter referred to as Zero Hunger Strategic Review.

The Zero Hunger Strategic Report highlights: the drivers of food and nutrition security; the progress that the country has made to date; identifies gaps in national response strategies and implementation, as well as strategic actions; and initiatives to sustainably end hunger in Zambia. This review entailed a comprehensive literature review including government policy and strategy documents, and the national consultative process by all stakeholders including Government Ministries, Development Partners, Civil Society, Private Sector, and Farmers.

Given that hunger is a multi-faceted problem, addressing hunger challenges, therefore, requires integrated and collaborative efforts by Government, Development Partners, and other stakeholders. I would like to urge all partners to pay attention and support implementation of the recommendations of this strategic review. The Government of the Republic of Zambia will provide strong leadership and support in this respect.

Her Honour **Inonge Wina**
The Vice President of the Republic of Zambia



ACKNOWLEDGEMENTS

The Office of the Vice President wishes to register its gratitude to the Special Committee of Permanent Secretaries on Nutrition for their leadership and oversight role in the process of developing the Zero Hunger Strategic Review document. Special thanks go to the Indaba Agricultural Policy Research Institute (IAPRI) for their research and technical assistance in producing this important report.

We also wish to thank all the stakeholders for their contributions, candid responses, and patience in the national, provincial and district stakeholder consultations, strategic review meetings and the validation workshop. Among the stakeholders consulted were: the Ministry of Health; Ministry of Finance; Ministry of Agriculture; Ministry of Fisheries and Livestock; Ministry of National Development Planning; Ministry of Community Development and Social Services; Ministry of General Education; Ministry of Lands and Natural Resources; Ministry of Water Development, Sanitation and Environmental Protection; other quasi-government institutions; National Food and Nutrition Commission; National Assembly; Non-Governmental Organisations (NGOs); Civil Society; academia; UN agencies; other Development Partners; and the private sector to mention but a few. This stakeholder input established the need for a multi-sectoral approach to eliminating hunger in Zambia.

Lastly, but not least, we wish to thank the United Nations through the World Food Programme (WFP) and the International Fund for Agricultural Development (IFAD) for their financial and technical support.

The Government of the Republic of Zambia is deeply indebted to the support from all the aforementioned partners for producing the high-quality report.

Roland Msiska
Secretary to the Cabinet

Executive Summary

INTRODUCTION

Achieving Zero Hunger is central to the 2030 Sustainable Development Agenda, to which Zambia is a signatory. Sustainable Development Goal 2 (SDG 2) calls on the Member States of the United Nations to end hunger, achieve food security and improved nutrition and promote sustainable agriculture. In particular, SDG 2 aims to end hunger and ensure all people have access to safe, nutritious and sufficient food all year round; end all forms of malnutrition; double the agricultural productivity and incomes of smallholders; maintain the genetic diversity of seeds; increase investment in rural infrastructure, agricultural research and extension services, and technology development; correct and prevent trade restrictions and distortions in agricultural markets; and promote functional food markets in order to control food price volatility.¹

The Zero Hunger Challenge is a mechanism that allows countries to systematically articulate how they plan to achieve SDG 2 by 2030. It identifies five key areas or pillars, which countries must achieve in order to effectively end hunger and malnutrition. These pillars include ensuring 100% access to adequate food all year round; zero stunted children under the age of two; all food systems are sustainable; 100% increase in smallholder productivity and income, and zero loss or waste of food.

The Government of the Republic of Zambia (GRZ) is committed to achieving the 2030 Agenda for Sustainable Development and to reporting on progress towards the SDG 2 goals and targets. These global goals and targets are consistent with the African Union's commitment to eliminate hunger and food insecurity by 2063, and Zambia's priorities in the Seventh National Development Plan (7NDP). The 7NDP lays out national strategies to address food and nutrition challenges in the first development outcomes under economic diversification and human development. These strategies are consistent with the five pillars of the Zero Hunger Challenge and are pertinent to ending hunger and malnutrition by 2030. The Zambia Zero Hunger Challenge is thus effectively anchored at the highest political level in the Country.

The GRZ commissioned the Zero Hunger Strategic Review (ZHSR) to lay out in a comprehensive manner the status, trends, responses and gaps in the five pillars of the Zero Hunger Challenge. The review recommends actions needed to achieve SDG 2 by 2030.

OBJECTIVES

The review provides a situational analysis of food and nutrition security in Zambia to contextualise the challenges and opportunities of achieving Zero Hunger by 2030. Based on this overview, a number of priority actions and milestones are recommended as the basis of a Road Map to Zero Hunger. This provides clarity on the specific roles that the private sector, civil society, and other non-governmental stakeholders would play in helping Zambia achieve Zero Hunger by 2030. The proposed strategic objectives and initiatives will strengthen Government efforts in ensuring the country achieves the food and nutrition security outcomes of the Seventh National Development Plan. The specific objectives of the review are as follows:

1. To provide a comprehensive understanding of the food security and nutrition context of Zambia, including strategies, policies, programmes, institutional capacities, and resource flows;
2. To highlight progress made and identify the challenges Zambia must overcome if the country is to sustainably achieve zero hunger in line with the targets of SDG 2;
3. To identify and prioritise actionable areas where partners – including government, the private sector development agencies, and civil societies can better support Zambia to make significant progress toward achieving zero hunger.
4. To recommend milestones for a Zambia Zero Hunger Roadmap and follow-up measures to monitor progress towards the milestones.

¹<https://sustainabledevelopment.un.org/sdg2>

THE ZERO HUNGER CHALLENGE IN ZAMBIA

Over the past two decades, Zambia has put in place several measures in various sectors of the economy to address poverty, hunger, malnutrition, and income inequality. However, progress in addressing these challenges has been slow. While Zambia's Gross Domestic Product (GDP) grew at an impressive 5.9 percent per annum on average over the last two decades, this has not, however, translated into reduced poverty, which is estimated at 54.4 percent nationally and 76.6 and 23.4 percent in rural and urban areas respectively (LCMS, 2015). Hunger is intimately intertwined with poverty.

Zambia has some of the highest rates of malnutrition in Africa. About 40 percent of children under five years of age are stunted (ZDHS, 2013-14). Stunting is slightly higher among male children at 42 percent, compared to 38 percent for females (ibid). Child stunting rose from 46 percent in 1992 to a high of over 50 percent of children in 2002, falling back to 40 percent in the most recent national survey. Nearly 15 percent of children are underweight; at 16 and 14 percent respectively for male and female children (UNICEF 2015). In addition, 11 percent of children have low weight-at-birth (ZDHS, 2013-14).

Micronutrient deficiencies are also prevalent, with a 2014 survey in two northern provinces finding that 98 percent of the women in the sample were deficient in vitamin B12, 92 percent in folate, 55 percent in zinc, and 19 percent in iron; while 97 percent of children were deficient in vitamin B12, 84 percent in folate, up to 34 percent in zinc, and 26 percent in vitamin A (Alaofe et al. 2014).

While undernutrition is reducing slowly from very high levels and hunger persists, overweight and obesity and non-communicable chronic diseases are increasing. Overweight in women in urban areas has risen from 19.7 percent in 2002 (of whom 5.7 percent were obese), to 31.9 percent in 2014 (of whom 10.8 percent were obese). The statistics on overweight were not disaggregated by rural/urban before 2002, but overall, 10.6 percent of women nationally were overweight or obese in 1992 (CSO, 2014).

Many economic and demographic drivers of the nutrition transition are present in Zambia, including high urbanization and increasing supermarket penetration (CSO, 2012). Changing food intake is related to risk of nutrition-related chronic diseases such as obesity, type 2 diabetes, dyslipidemia, hypertension and cardiovascular diseases, and some cancers, with stagnating high burdens of micronutrient deficiency (Gillespie and van den Bold, 2017).

HIV prevalence remains high at 13 percent overall, with rates higher among women at 15.1 percent compared to 11.3 percent men (ZDHS, 2013-14). HIV and AIDS remains a critical social and public health issue that affects the health and well-being of those affected or infected.

Many of these food and nutrition security challenges are related to persistent income inequality that affects access to food and investments in productivity enhancers for the most vulnerable. Zambia is one of the most unequal countries in the world with a GINI coefficient of 57.5, ranking the country number 141 out of 187 countries on income equality (UNDP, 2016).²

Low productivity of smallholder farmers (estimated at less than 2 metric tonnes per hectare (MT/Ha)), food loss and waste, natural resource degradation, and low dietary diversity exacerbate these issues. Natural resources such as land and water are not sustainably managed to increase productivity, and the uptake of environmentally friendly farming practices remains low. Managing natural resources is important for the sustainable development agenda because it preserves biodiversity and ecosystem functions, mitigates climate change, and sustains livelihoods and food systems. Fish, an important source of protein, is depleting at rapid rates, as are forest resources, which are important sources of livelihoods.

Notwithstanding, the agricultural sector remains one of the key economic sectors in Zambia. It contributes approximately ten percent of GDP and is the source of livelihoods for nearly two-thirds of the population. However, low productivity and low farm income for the majority of smallholders perpetuates poverty and income inequality and negatively affects nutrition outcomes. Low agriculture diversification limits availability of protein-rich foods. Indeed, maize-centric policies hinder dietary diversity and by de facto, promote the less nutritious starch-based diets.

Underlying the poor performance of the agriculture sector include inadequate access to appropriate inputs, extension services, poor road and market infrastructure, lack of access to financial services, and over-reliance on rain-fed agriculture.

²UNDP Human Development Report 2016. <http://hdr.undp.org/en/content/income-gini-coefficient>

Increased incidences of extreme and unpredictable weather events expose farmers to additional climate risks, adding more stress to smallholder farming systems. Moreover, reliance on rain-fed agriculture exposes smallholders to climate risk and low ex-ante mitigation and ex-post coping and adaptation capacities exacerbate vulnerability. Although Zambia has become known for progress with climate-smart agriculture, large gaps remain between what is known and what is utilized.

Food safety standards, which are important to promote health and nutritious food systems, should be better enforced. More broadly, food loss and waste remain significant problems, where approximately 30-40 percent of food is lost between production and consumption, further reducing food availability, accessibility, and utilization. Several institutional, financial and legal challenges that affect food and nutrition security in Zambia are highlighted throughout the report.

In sum, the foregoing food and nutrition challenges present paradoxes of poverty amidst sustained economic growth, and hunger and malnutrition amidst recurrent bumper harvests and per capita income growth. Not only does the country need an agriculture revolution, there is a need for a dietary revolution in order to embrace diverse diets, and switch from starchy and less nutritious foods to nutrient dense foods such as legumes, pulses and a variety of animal source proteins. If left unaddressed, the issues highlighted in this report will be formidable challenges in the way to achieving SDG 2.

THE REVIEW PROCESS AND APPROACH

The Strategic Review was achieved through a consultative process involving all relevant stakeholders across the five (5) Zero Hunger pillars. The review set out to identify challenges and gaps impeding sustainable achievement of food and nutrition security and promoted a consensus on priority actions required to achieve Zero Hunger by 2030. The review entailed a comprehensive literature review including government policy and strategy documents, and a national consultative process by all stakeholders including Government Ministries, Development Partners, Civil Society, Private Sector, and Farmers.

HUNGER GAPS AND CHALLENGES

The Zero Hunger Strategic Review and other studies identified four key gaps that may hinder Zambia from achieving zero hunger by 2030:

- **Policy incoherence:** Despite the many policy documents and pronouncements towards addressing hunger, many existing policies are not aligned with one another. Importantly, there is need to revise the 2008 Nutrition Policy to align it to the SDGs, the country's Vision 2030 and the 7NDP.
- **Weak coordination:** Poor coordination among sectors, ministries and different stakeholders remains one of the impediments to achieving zero hunger in Zambia.
- **Resource and Capacity constraints:** Despite having strong policy frameworks to support attainment of the SDGs, limited resource allocation to key drivers of development and towards key sectors, as well as limited capacity-both institutional and human have continued to affect implementation of programmes at all levels of the economy to help attain food and nutrition security.
- **Fragmented social programmes:** Zambia has several social protection schemes, targeting the elderly, orphans and vulnerable children, disabled individuals, school children, marginalized communities and populations affected by hunger. These programmes however, have been characterized by poor funding, inefficient beneficiary registration and targeting systems, weak monitoring, inadequate coverage and information leading to exclusion and inclusion errors. Their fragmented nature has contributed to high administrative and delivery costs which also compromise their scalability.

KEY RECOMMENDATIONS

To achieve Zero hunger by 2030, Zambia requires an integrated and collaborative approach across a wide range of

sectors and including a number of stakeholders from the public, private, development and civil society sectors.

The GRZ should take the lead and prioritize allocating public resources to enable policies and programmes that will stimulate development and investments in sub-sectors that are key to unlocking sustainable agricultural growth, industrialisation, and associated service industries to achieve food and nutrition security.

The country needs to urgently develop and implement a holistic and coherent Food and Nutrition Security Policy that strengthens and aligns interventions to the 7NDP.

Coordination of these activities must be done at a higher level to foster an integrated implementation model to operationalize the recommendations from the strategic review. It is recommended that the Office of the Vice President (OVP) or Cabinet Office should use its statute and convening power to coordinate all stakeholders to take part in the implementation of the Zero Hunger roadmap. This will help ensure that all government and non-government actors, policies, and programmes are effectively implemented and coordinated to sustainably deal with the complex and inherent issues of food and nutrition security. It is envisaged that sub-national structures to help implement and monitor the strategic initiatives agreed upon by the national coordinating committee comprising of key stakeholders will be strengthened where they exist and established if not existent.

Capacity and skills strengthening of the coordinating board and related government and non-government actors is critical and should be part of the national food and nutrition strategy. The supporting structures of the coordinating office both at national and sub-national levels should possess a wide range of skills including technical, strategic and management skills. Last but not least, the country should put in place an effective system to collect, analyse, monitor and evaluate the progress of all policies and programmes put in place to address the hunger issues facing the country.

Some of the key recommendations emerging from the strategic review are discussed below:

Policy coherence: There is a need to review the current policies to ensure that they are effective in addressing the challenges being faced by Zambians. There is need for monitoring of cross-sectoral policies and ensure policy coherence between different sectors and a national framework to monitor and evaluate the implementation and the performance of existing policies. In addition, inconsistent policy pronouncements especially around the maize sector, have hampered progress towards attaining zero hunger.

Several key strategic initiatives are required to ensure that Zambia creates an enabling environment for all people to enjoy their right to food and to effectively address poor nutrition outcomes, including:

1. Reviewing and updating the 1967 National Food and Nutrition Act and the 2008 National Food and Nutrition Policy to align with current nutrition challenges;
2. Capacitating the National Food and Nutrition Commission (NFNC) to better oversee nutrition activities across ministries and to enable the institution to decentralize to provinces and districts;
3. In order to link coherence in policy with coordination of implementation, the institutions governing nutrition need to commit both attention and resources to the various issues embedded in each pillar;
4. Revising the Statutory Instrument on Marketing of Breast Milk substitutes, the maternity and paternity leave policy, and realigning the go-back-to school policy for young mothers who are still in school in order to encourage the recommended 6-month exclusive breastfeeding;
5. Developing national food-based dietary guidelines and integrating these into a national policy framework to make consumption patterns more diverse and to promote appropriate and nutritious complementary food given to the children under two years of age;
6. Increasing Government funding for nutrition interventions in line with the 2012 Government commitment to spend ZMW 300 per child per year from the current low levels of less than ZMW 20 per child per year, and
7. Re-examining with a view to elaborate benefits and re-energise stakeholder engagement for enacting the

Agricultural Marketing Bill which will facilitate consistent policies immune to political influences.

Strengthen coordination: In view of the multi-dimensional nature of the factors that impede sustainable elimination of poverty, food and nutrition security, there is need to devise a coordination mechanism to ensure enhanced synergies across sectors. To address coordination challenges, as well as the poor communication and information sharing, the country has for instance recently launched the National Food and Nutrition Strategic Program (NFNSP 2017-21), to offer guidance and promote synergy among a broad set of nutrition-specific interventions and the nutrition-sensitive plans and programs of national stakeholders. In addition, the country needs to urgently develop and implement a holistic and coherent Food and Nutrition Security Policy that strengthens and aligns interventions to the 7NDP. Coordination of these activities should be done at a higher level.

For efficient and effective coordination of implementation of nutrition interventions across the sectors, NFNC needs to be placed under a more multi-faceted institution, and its operations decentralized to all provinces and districts. This will enable NFNC deal with coordination problems. There is also need to release parliamentary appropriation directly to NFNC as well as develop a mechanism to ensure that development partners provide predictable financial or other forms of support in a coordinated manner. In addition, Government funding for nutrition interventions need to be increased in line with the 2012 Government commitment in order to scale-up nutrition education programs, home grown school feeding programs, enhance poverty reduction strategies including women empowerment and strengthen existing community based programs.

Resource and Capacity strengthening: There is a need to allocate more resources to the key drivers of development and to effectively fund the various ministries implementing several programmes. There is also to strengthen the capacity of relevant government institutions and personnel who are at the core of designing, planning, resourcing, and monitoring to deliver higher quality and cost-effective assistance to households and individuals that do not have adequate access to food.

Enhancing monitoring system: The country should establish an effective system to collect, analyse, monitor and evaluate the progress of all policies and programmes instituted to address the hunger issues in Zambia. In most policy documents there is limited information on how programmes are performing in relation to food security due to limited monitoring capabilities and lack of embedded monitoring systems. This is crucial if progress is to be measured and for the country to be able to learn and adapt how to address the complex nature of food insecurity and nutrition. This is additionally important in light of the cross-sectoral nature of the challenges affecting hunger.

Enhancing the provision of social programmes: There is need to enhance the provision of social protection interventions to the people living in areas prone to the cyclic effects of climate related shocks, and to the rural and urban poor and vulnerable households through food assistance to improve access to, and utilization of, safe and nutritious food. To achieve this, budgetary allocation to social protection programmes should be increased. In particular, there is need to revise the targeting of social protection to include nutrition vulnerable target groups. A single registry which tracks beneficiaries on various programs for purposes of coordination and records would not only enhance program effectiveness but also save resources.

ROADMAP AHEAD

Given that hunger is a multi-faceted problem, it requires a well-integrated and collaborative multi-sectoral approach by a wide range of stakeholders including Government, Development Partners, and other stakeholders, coordinated at the highest level. It is recommended that the OVP or Cabinet Office convene a process (roadmap) to operationalise the recommendations that came out of this review.

The revisions of the Food and Nutrition Policy should be finalised in line with the 7NDP and should address the challenges and opportunities identified in the Strategic Review. There is a need for a high-level process to review and agree on the Zambia Zero Hunger Strategy in terms of strategic initiatives, resource mobilization, implementation, and monitoring and evaluation. This process will begin with the launch of the ZHSR Report and subsequently the announcement of the roadmap to the nation. The high-level commitment will stimulate other stakeholders to pave a shared vision on eradicating hunger in Zambia by 2030.

The background of the entire page is a dense, repeating pattern of lentils. The lentils are a light brown or tan color, and the entire image is overlaid with a semi-transparent blue filter. The lentils are scattered across the frame, creating a textured, organic background.

Introduction

1.1 BACKGROUND

Over the past two decades, Zambia has instituted several measures in various sectors of the economy in order to address poverty, hunger, malnutrition, and income inequality. However, progress in addressing these challenges has been slow. Zambia's GDP grew at an impressive 5.9 percent per annum and on average, over the last two decades. This has had, however, minimal effects on reducing poverty, which is estimated at 54.4 percent nationally and respectively, 76.6 and 23.4 percent in rural and urban areas (LCMS, 2015).

Zambia has one of the highest levels of malnutrition in Africa. Chronic malnutrition, manifesting as stunted growth, is far beyond the acceptable limits at 40 percent: almost one out of two children in stunted in Zambia (ZDHS, 2013-14). With this high prevalence of stunting in children, Zambia mirrors other lower-middle-income countries in having an increasing prevalence of overweight and obesity in women, which has risen from 19.7 percent in 2002 to 31.9 percent in 2014 (CSO, MoH, 2014), and high levels of deficiency in multiple micronutrients (NFNC, 2013). The co-existence of stunting, overweight and obesity in Zambia leads to what is known as the 'triple-burden' of malnutrition in large parts of the country.

Stunting is slightly higher among male children at 42 percent, compared to 38 percent for females (ZDHS, 2013-14). Nearly 15 percent of children are underweight overall, and respectively, 16 and 14 percent of male and female children (UNICEF 2015). Additionally, 11 percent of children have low weight-at-birth in Zambia (ZDHS, 2013-14). HIV prevalence remains high at 13 percent overall, with rates higher among women than men at 15.1 percent and 11.3 percent, respectively (ZDHS, 2013-14). High income inequalities, low productivity among smallholder farmers (estimated at less than 2 MT/Ha), food loss and waste, natural resource degradation, and the lack of dietary diversity drive the foregoing food and nutrition challenges in Zambia.

Recognising the food and nutrition challenges in Zambia, the GRZ undertook a strategic review (herein also Zero Hunger Strategic Review (ZHSR)) aimed at identifying gaps related to all-year access to food, malnutrition, sustainable food systems, natural resource management, smallholder productivity and income, and food loss and waste. The ZHSR process recommends actions required to end hunger, achieve food and nutrition security, and promote sustainable agriculture in line with SDG 2 in Zambia. This will culminate into Zambia developing and implementing sustainable strategies and programmes that will help accelerate progress towards achieving SDG 2 and end hunger and malnutrition by 2030. The Review is also consistent with the commitment by the African Union (AU) to eliminate hunger and food insecurity by 2063.

A cornerstone of Agenda 2063, a set of aspirations for Africa facilitated by the AU, is that the continent's future economic success lies in increasing human capital - schooling, knowledge, and skills - that will allow Africans to compete and thrive in a global economy. Hunger and malnutrition in all its forms - undernutrition, micronutrient deficiencies, and overweight and obesity - continues to be one of the main barriers that prevent African children and societies from realising their full potential.

The strategic review has established a baseline based upon the most current indicators pertaining to elements of the five pillars that link appropriate national priorities enshrined in the 7NDP to the SDG 2 targets. The proposed strategic objectives and initiatives will strengthen Government efforts in ensuring the country achieves the food and nutrition security outcomes of 7NDP. The Zero Hunger Challenge is anchored on five pillars as shown in Figure 1. The five pillars are intertwined and are all key to ending hunger and malnutrition in Zambia through building inclusive and sustainable food systems.



Figure 1: Zero Hunger Challenge Pillars

1.2 OBJECTIVES

The main objectives of the ZHSR were to:

1. Provide a comprehensive understanding of the food security and nutrition context of Zambia, including strategies, policies, programmes, institutional capacities and resource flows;
2. Highlight progress made and identify the challenges Zambia must overcome if the country is to achieve zero hunger in line with the targets of SDG 2;
3. Identify and prioritise actionable areas where partners – including government, the private sector, development agencies and civil societies can better support Zambia to make significant progress toward zero hunger; and
4. Recommend milestones for a Zambia Zero Hunger Roadmap and follow-up measures to monitor progress towards the milestones.

1.3 THE REVIEW PROCESS AND APPROACH

1.3.1. Funding, Management and Coordination

The OVP through the Special Committee of Permanent Secretaries on Nutrition coordinated the review process. The UN through the World Food Programme (WFP) and the International Fund for Agriculture Development (IFAD) provided financial and technical support to enable Indaba Agricultural Policy Research Institute (IAPRI) to carry out the research and produce this important report.

1.3.2. Strategic Review Process and Methodology

The ZHSR was developed through a consultative process involving all relevant stakeholders that could engage with each pillar and more holistically across the SDG 2. The review entailed a comprehensive literature review including government policy and strategy documents combined with a national consultative process involving a range of stakeholders including government ministries, development partners, civil society, private sector and farmers. Figure 2 summarises the strategic review process and methodology.



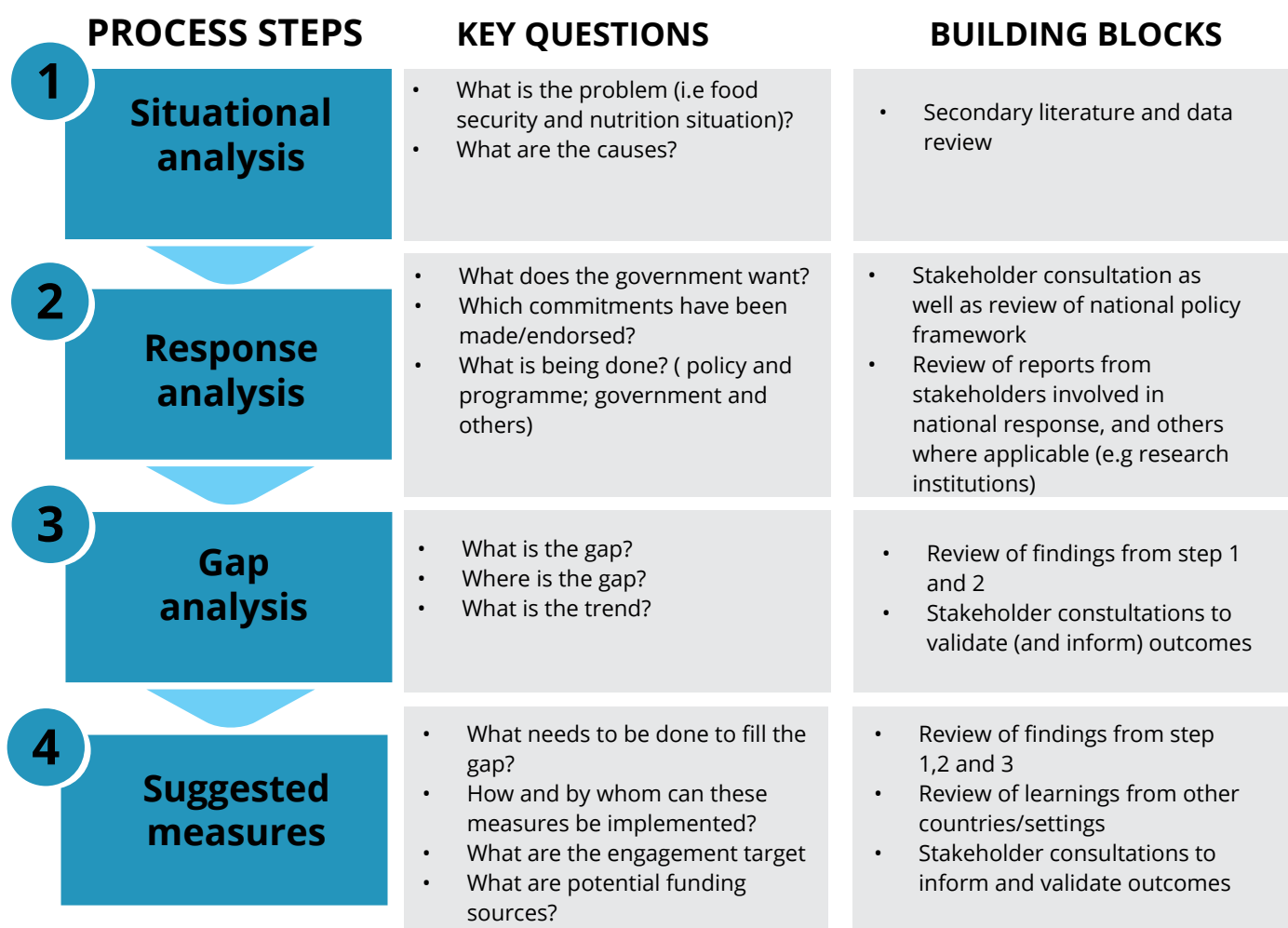


Figure 2: Strategic Review Process and Methodology

A workshop was held in Lusaka with key stakeholders to validate the findings with a particular emphasis on the strategic initiatives required to eliminate hunger in Zambia. After this workshop the draft report was updated to produce this consolidated strategic review report for submission to the OVP's office. Longer versions of the reports by each pillar are available as a source of additional technical details related to each of the pillars.

The remainder of this report is organized as follows. Section 2 presents the situation analysis and country context in terms of food security and nutrition, the sustainability of food systems, sustainable natural resource management, smallholder productivity, and food loss and waste. Section 3 analyses the responses, while section 4 presents the gaps and recommendations. Section 5 concludes and briefly discusses the coordination and implementation arrangements.

A young boy with short dark hair is shown in profile, looking down at a blue plate of food. He is wearing a light-colored shirt. The entire image is overlaid with a semi-transparent red color. The text 'Situation Analysis' is written in white, sans-serif font, positioned to the right of a vertical white line with small circular endpoints at the top and bottom.

Situation Analysis

2.1 COUNTRY CONTEXT

The Zambian economy grew by approximately 6 percent per annum between 2000 and 2005, and by 7 percent between 2006 and 2015 (GRZ 2017). Agriculture contributed about 7 percent to this growth. The per capita GDP increased from around US\$ 800 in 1990 to just over US\$ 1,600 in 2016 (World Bank, 2017), implying that there would be more disposable income available to households to purchase or grow diverse and nutritious foods (Chisanga and Zulu-Mbata, 2017). Despite the sustained economic growth, poverty remained high at 54 percent in 2015, compared to 79 percent in 1991. The 25-percentage point reduction in national poverty between 1991 and 2015 masks the dynamics in rural and urban poverty rates. Over the same period, urban poverty reduced by nearly 26 percentage points but rural poverty reduced marginally by approximately 11 percentage points from 88 percent in 1991 to 77 percent in 2015 (GRZ 2017).

There has been very little improvement in access to food, both economically and physically, for the poor in the country. For example, the 2018/2019 season projections suggest that Zambia, alongside Malawi and Zimbabwe, will have the largest increases in the number of people affected by food insecurity compared to the previous years (SADC 2018). The Global Hunger Index deems the current hunger situation in Zambia as critical with chronic malnutrition estimated at 40 percent (CSO, 2014; von Grebmer et.al. 2017).

Combined with the high prevalence of stunting in children, Zambia mirrors other lower middle-income countries in having an increasing prevalence of overweight and obesity in women, and high levels of deficiency in multiple micronutrients, creating a 'triple burden' of malnutrition in large parts of the country. Many economic and demographic drivers of the nutrition transition are present in Zambia, including high urbanization and increasing supermarket penetration. Changing food intake is related to risk of nutrition-related chronic diseases such as obesity, type 2 diabetes, dyslipidemia, hypertension and cardiovascular diseases, and some cancers, with stagnating high burden of micronutrient deficiency.

These food and nutrition challenges are related to persistent income inequalities, low productivity of smallholder farmers across different crops, food loss and waste, natural resource degradation and the lack of dietary diversity. Natural resources such as land and water are not sustainably managed to increase productivity and the uptake of environmentally friendly farming practices remains low. Food safety standards, which are important to promote health and nutritious food systems, should be better enforced. More broadly, food loss and waste remain significant problems, where approximately 30-40 percent of food is lost between production and consumption, further reducing food availability, accessibility, and utilization.

In sum, the foregoing challenges present paradoxes of poverty amidst sustained economic growth, and hunger and malnutrition amidst recurrent bumper harvests and per capita income growth. If left unaddressed, these will be formidable challenges in the way to achieving SDG 2, which seeks to ensure there is Zero Hunger and Malnutrition in Zambia by 2030.

In what follows, we review Zambia's situation with regards to the five SDG 2 pillars: all-year access to food, malnutrition, sustainable food systems, smallholder productivity and income, and food loss and waste.

2.2 ACCESS TO ADEQUATE FOOD ALL YEAR ROUND

The high poverty incidence estimated at 76.6 percent in the rural areas affects access to food and consequently worsens hunger for the most vulnerable to food and nutrition insecurity. Approximately half (54 percent) of rural households have adequate food provisions all year round (Chapoto and Zulu-Mbata., 2016), while about 38.2 percent of the population suffer from hunger. The country's status on the global scale, as measured by the Global Hunger Index, is rated as alarming (von Grebmer et.al. 2017). Despite record maize harvests in recent agricultural seasons, food availability for most food groups (kg/capita/day) has declined significantly since the 1960s in Zambia. This has led to Zambia being classified as one of the three most undernourished countries in the world, with 46 percent of the population said to be food insecure at certain times of the year (FAO 2017). Though these data have previously been questioned by various stakeholders including Government, the rates are broadly in the range found by other food security and nutrition-related computations (Mofya-Mukuka and Mofu, 2016).

The main drivers of food insecurity and malnutrition are multi-sectoral in nature, as depicted in Figure 3. The nutrition status at household and community level is affected in three main ways: household food security (food quality and quantity); care and feeding practices; and the health services available and environment, including

exposure to pathogens and access to health care (Richards and Bellack, 2016). Household food access is influenced by available incomes and the quality of available food; and the individual needs are met by nutrition behaviour and sanitation and hygiene practices. Structural societal norms that reinforce these factors include access to land, affordable agricultural inputs, credit, education, employment and gender dimensions that affect food access, utilization and availability (SADC, 2018).

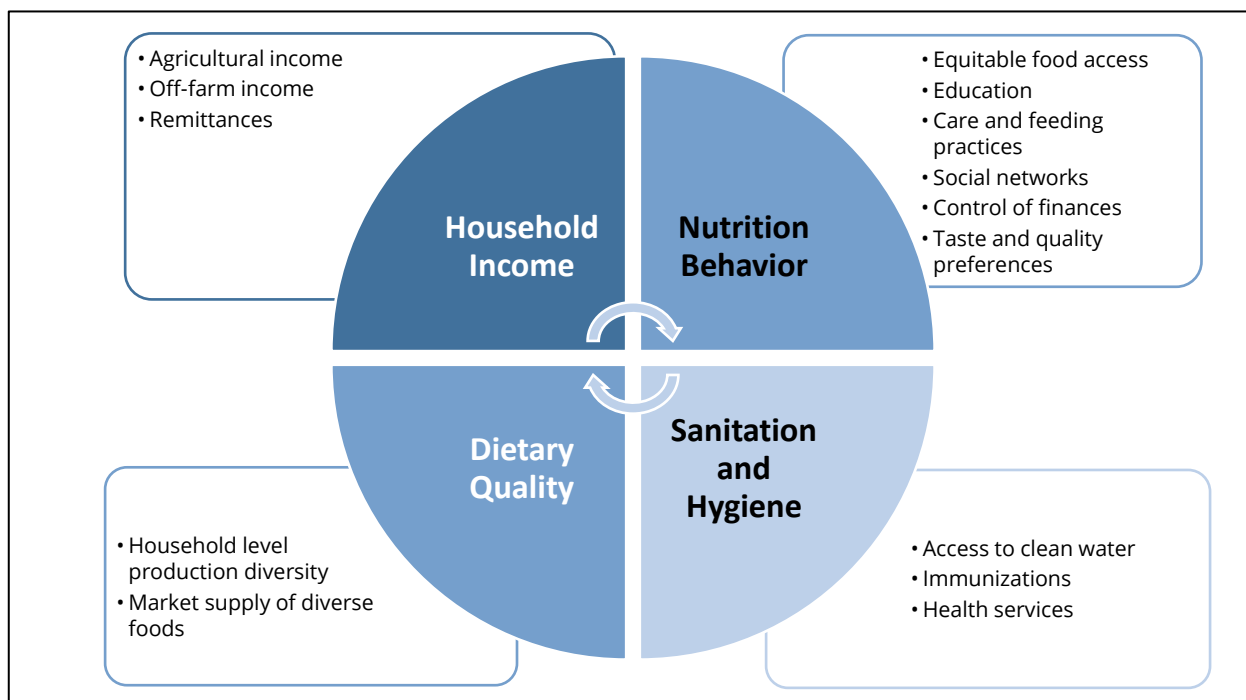


Figure 3: Factors Affecting Household and Community Food and Nutrition Security
 Source: Adapted from Pingali and Ricketts (2014)

The agriculture sector is Zambia’s major employer, with approximately 55 percent of the population involved in farming in the formal and informal sectors (World Bank, 2018)³; 75 percent of farmers are classified as small-scale farmers producing food crops at subsistence level, 20 percent as emergent farmers producing some crops for sale as well as household food, and around 5 percent as medium or large-scale commercial farmers.⁴ A vibrant agricultural sector of resilient and mixed farming with strong value chains is recognised as an important way to sustainably deal with challenges in food access and decent employment. Land is thus an important productive asset and access to land is critical in addressing food and nutrition security. Land with secure property rights, in whatever institutional form most appropriate to particular areas, is key to facilitate access to agricultural finance and investments (Samboko, 2017).

The agricultural sector in Zambia is largely rain-fed and thus vulnerable to weather variability. Government policy has for many years focused on becoming self-sufficient in maize production. Public funding to the sector has largely ignored agricultural diversification into more nutritious crops, and livestock and fisheries while, research and extension have been underfunded. The majority of the rural farmers predominantly produce maize across all the provinces (Figure 4). The major staple food in Zambia is maize, and Zambian food policy aims at achieving national self-sufficiency in this staple crop, with large input and output subsidies for its production taking up around 80 percent of the agricultural budget (Chapoto, Zulu-Mbata et al, 2015). The cereal (maize) centric production system has resulted in limited household dietary diversity to the effect that cereals and protein-rich foods are the most and least consumed, respectively (Figure 5).

³ <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS>

⁴ FAO country fact sheet: http://www.fao.org/ag/agp/agpc/doc/counprof/zambia/zambia.htm#_Toc131995460

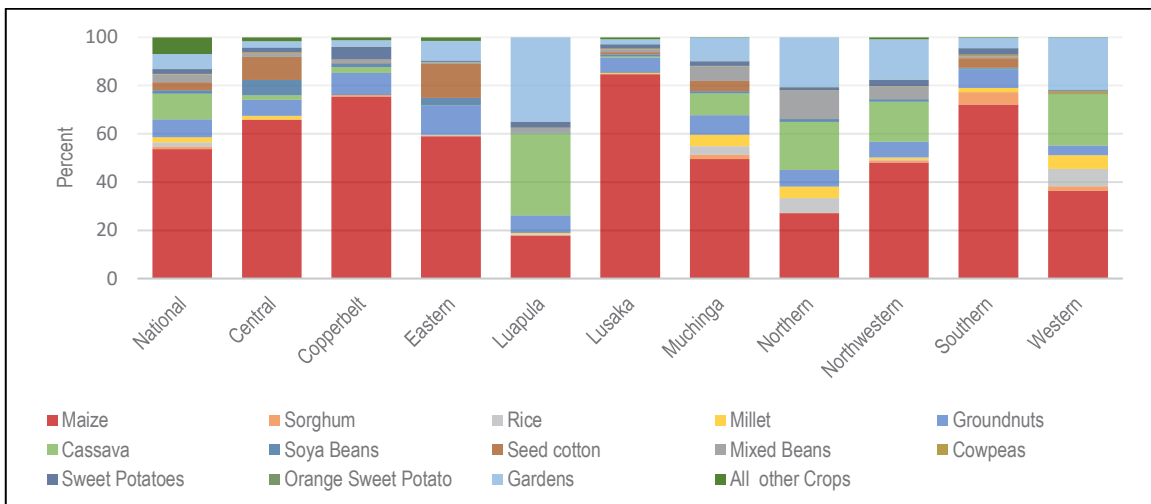


Figure 4: Proportion of cultivated area devoted to various crops by Province
 Source: Chapoto and Zulu-Mbata (2015)

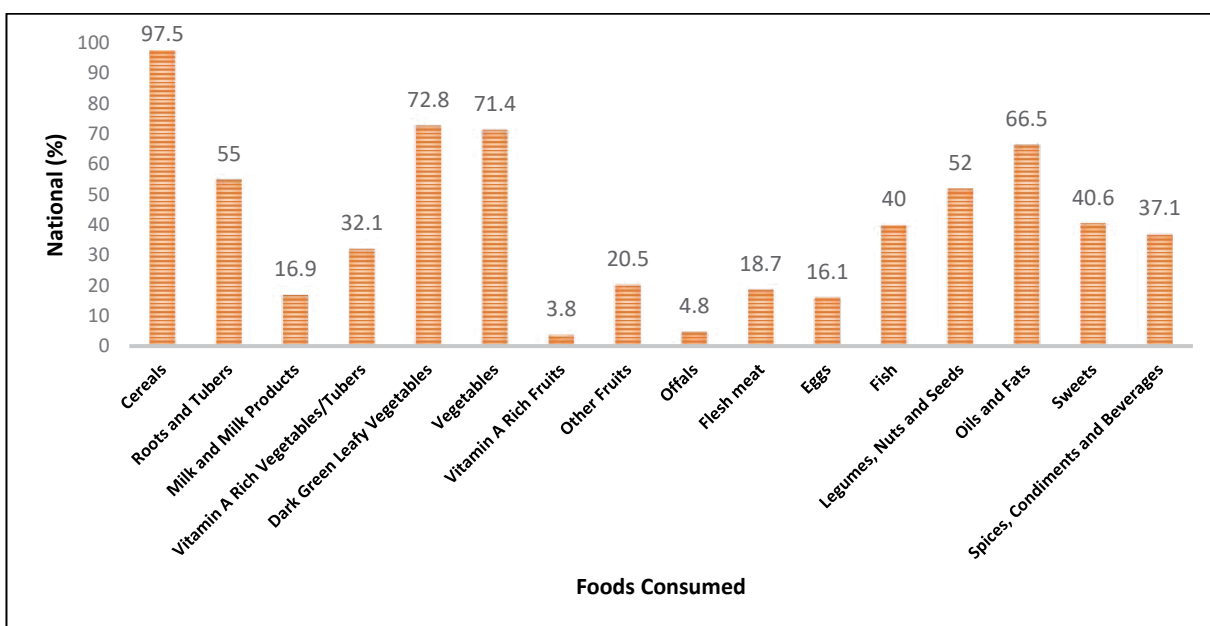


Figure 5: Household dietary diversity of rural households
 Source: CSO/MAL/IAPRI (2015)

Climate change and climate variability, which disproportionately affect women, the youth, and other vulnerable small-scale producers, further worsen food production and accessibility. Rainfall and seasonality play a large part in subsistence food production. At certain times of year, even subsistence households need to purchase food. This makes most farming households both producers and consumers, and vulnerable to climate related shocks at different times. For example, in 2010 an average of 70 percent of food was purchased, 25 percent home produced, and 5 percent gifted, by monetary value (though not by volume) in Zambia (Global Panel on Agriculture and Food Systems for Nutrition, 2016).

To meet the diverse and rising food demands, Zambia imports a number of food commodities. However, price volatility due to exchange rate fluctuations and market instability has resulted in an uneven access to food through these import markets with the result that the poorest urban and rural consumers are often most directly affected. Food acquisition is varied in Zambia. In addition to subsistence production, small-scale trade, and traditional wet-markets, the Zambian food environment over the past two decades has been altered in some contexts by the rise of rural stores, small chain shops, commercial urban supermarkets and restaurants.

Challenges in food access are further exacerbated by the low levels of education that have contributed to the high unemployment rates and high informal sector employment. Education plays a critical role in the ability of an individual to have a decent job or livelihood options, which in turn is important to facilitate access to food all year

round. Currently, the informal sector employs about 84 to 89 percent of the population, and 48.9 percent of the population depend on agriculture for their livelihoods. Unemployment remains high at about 45 percent overall. Compared to men, a larger proportion of women and the youth are unemployed, and unemployment tends to be higher in rural areas than in the urban areas (CSO, 2018).

Many social protection programmes based on social security, protection, social assistance and livelihoods and empowerment are being implemented in Zambia (MCDMCH, 2014). However, these programs are not sensitive to nutritional needs of the target groups which could be addressed by targeting nutrition vulnerable households among the poor population such as those with children below the age of two and women in the reproductive age group. Further, the programs have been characterized by poor funding, inefficient beneficiary registration, and targeting systems, weak monitoring, inadequate coverage and information leading to errors of exclusion and inclusion.

2.3 ZERO STUNTED CHILDREN <2 YEARS

Nutrition is often called a ‘cross-cutting issue’, with relevance to and implications from multiple sectors. Its cross-cutting nature is often cited as a rationale for cross-sectoral coherence in policy and cross-sectoral coordination in action. As Zambia faces a triple burden of malnutrition – high stunting rates, micronutrient deficiencies and increasing overweight and obesity – these policy and coordination issues are pertinent.

Stunting (low height-for-age) is one of the greatest public health challenges in Zambia. Nearly 47 percent and 40 percent of children were stunted in 2007 and 2013, respectively, in the country. Stunting rates are higher in rural areas at 42 percent compared to 36 percent in urban areas. The rates are higher in Luapula, Northern, Central, Muchinga, and Eastern provinces than the rest of the country (Figure 6). As indicated earlier, overall stunting increased from 1992 to 2001 and then reduced by 12 percentage points from 2002 to 2014 (CSO, 2014). The rate still remains unacceptably given the long term consequences of stunting in education and health outcomes of the next generations of Zambians.

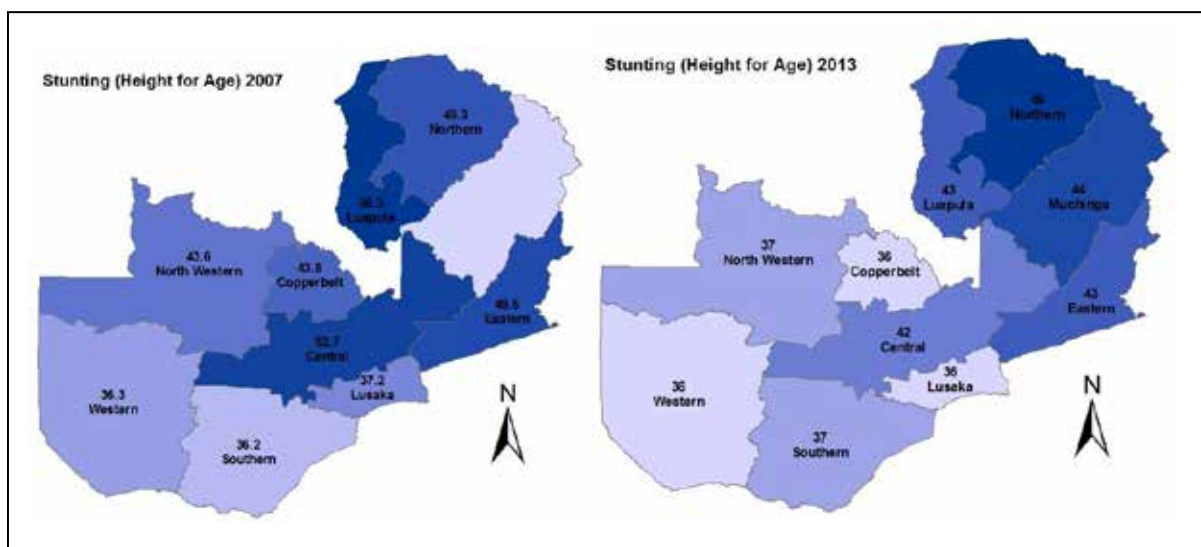


Figure 6: Prevalence of stunting by province in 2007 and 2013 in Zambia
Source: CSO (2015)

It is also worth noting that although Zambia drastically reduced stunting rates in the 2000s, the country failed to attain the Millennium Development Goal of reducing stunting to 25 percent by 2015. In 2014, Zambia signed the African Union Malabo declaration committing to improve nutritional status and eliminate child undernutrition by reducing stunting to 10 percent by 2025. Zambia is, however, unlikely to achieve her 2025 target and SDG 2 by 2030 given the slow pace at which stunting is addressed in the country (Figures 6 and 7).

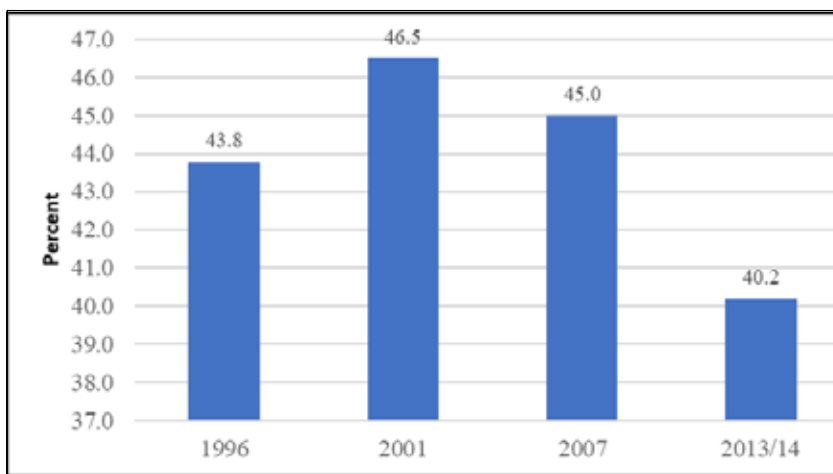


Figure 7: Trends in Stunting, Zambia

Source: CSO (1996, 2001, 2007 and 2013)

Stunting has high social and economic costs: African economies lose between 3 and 16 percent of Gross Domestic Product (GDP) annually (Hoddinott, 2016). Child undernutrition is responsible for GDP losses as high as 19 percent according to the Cost of Hunger Studies in Africa (COHA) (AU, 2014). The economic consequences are demonstrated in associations between height and outcomes in the labour market. Stunted children are at a higher risk of mortality and poor health, growth, and development.

Recognising the societal and economic costs of malnutrition, it becomes clear that the issue is much more complex than simply the lack of food. It extends to deficiencies in essential nutrients, inadequate knowledge about proper nutrition, inadequate health and care, and a lack of effective and adequate delivery channels. Although crucial to address, stunting remains one of three key issues within the domain of malnutrition that Zambia must address.

High levels of deficiency in multiple micronutrients are one such issue. Several factors including the lack of sufficient protein and energy, deficiencies in vitamins A and B-12, folate, iron, zinc, and calcium, caused in part by low consumption of protein-based foods such as milk, meat, fish, and dairy products are the main challenges in fighting malnutrition in Zambia (Alaofe et al. 2014). The high hunger prevalence means there is insufficient dietary supplies to meet individual energy requirements (FAO, IFAD, and WFP, 2014). Secondary causes of malnutrition include gender inequality (e.g., the low socio-economic empowerment of women), poor water and sanitation, insufficient maternal and child care and poor health, and poor environmental and sanitary conditions (NFNC, 2006).

The third domain is that of overweight and obesity. There is mounting evidence of a nutrition transition in Zambia associated with economic development and urbanisation (Steyn and Mchiza, 2014). This nutrition transition is leading to increases in over-nutrition and diet-related non-communicable diseases (NCDs). Thus, alongside stunting and micronutrient deficiency, Zambia is increasingly burdened with an additional malnutrition challenge; obesity.

Beyond SDG 2, it has been argued that countries such as Zambia are unlikely to meet the Sustainable Development Goals as a whole, partly due to the pervasive effects of hunger and malnutrition (GNR, 2017). A more intentional focus on nutrition can have a powerful multiplier effect across the SDGs. According to the Global Nutrition Report (GNR) and NEPAD Africa Nutrition Scorecard, these effects include 1) promoting sustainable food production, 2) increasing economic development such as brain development, 3) decreasing the burden on health systems, 4) fostering equity and inclusion - nutrition acts as a platform for better outcomes in education, employment, female empowerment, and poverty reduction, and 5) promoting stability, ensuring peace and security (GNR, 2017).

2.4 SUSTAINABLE FOOD SYSTEMS

There is a direct link between sustainable food systems and ending hunger and malnutrition. Food systems refer to the whole range of processes and infrastructure involved in satisfying people's food security requirements (Porter et al., 2014). It is the process through which health and nutritious foods are produced, distributed, processed, marketed, and made available to final consumers. Food systems can be made sustainable in a number of ways, including through: 1) establishing food safety standards for entire food system chains from farm to folk, and

for farmers, processors, consumers and governments; 2) promoting sustainable and climate-resilient agriculture; 3) ensuring cross-sectoral policy coherence on land, energy, trade, industry, climate change and environment, agriculture, water, and forestry, and 4) fostering integrated natural resource management (NRM).

The status of each of these four elements is briefly reviewed in so far as they are in support of SDG 2 on achieving zero hunger by 2030.

2.4.1. Standards for sustainability established for agricultural value chains, governments, and civil society

Food safety standards in Zambia are administered by the Zambia Bureau of Standards (ZABS) and the Zambia Compulsory Standards Agency (ZCSA), which are statutory organizations mandated, respectively, by the Standards Act of 2017 and the Compulsory Standards Act of 2017 to determine, enforce and regulate food safety standards in the country. The Standards Act of 2017 mandates ZABS to develop, publish, maintain or withdraw Zambian national standards and provide inspection services, testing services, and system and product certification.

As of 2016, ZABS working with industry had developed 41 compulsory standards, 11 of which relate to food. Within the agricultural sector, ZABS working with the Ministry of Agriculture (MoA), helped develop voluntary standards for aflatoxins in groundnuts, rice, orange-fleshed sweet potatoes and cassava. Standards development for cereals is on-going. There are currently no mandatory standards for agriculture production. However, there are mandatory sector regulations based on voluntary standards from ZABS. Examples in agriculture include the Plant Quarantine and Phytosanitary Services (PQPS) offered by the Zambia Agriculture Research Institute (ZARI) for imports and exports, seed certification offered by the Seed Control and Certification Institute (SCCI), and regulations on aflatoxin in groundnuts and groundnut products.

2.4.2 Sustainable and climate-resilient agriculture

The gains made in ending hunger and malnutrition are being eroded by climate variability and exposure to more complex, frequent and intense climate extremes. Hunger is significantly worse in countries with agricultural systems that are highly sensitive to rainfall and temperature variability and severe drought, and where the livelihood of a high proportion of the population depends on agriculture. If Zambia is to eliminate hunger and malnutrition in all its forms by 2030, it is imperative that the country accelerates and scales up actions to strengthen the resilience and adaptive capacity of food systems and people's livelihoods in response to climate variability and extremes.

Various farming systems such as sustainable agricultural practices, climate smart agriculture (CSA), conservation agriculture (CA) or ecosystem-based adaptation approaches to agriculture contribute to sustainable food systems while helping smallholder farmers raise productivity, build resilience, adapt to, and mitigate against climate change (Arslanet al., 2015; Vignola et al., 2015). CA for smallholders was introduced in Zambia around the mid-1990s as a means to address recurrent droughts and declining land productivity and the resultant food insecurity (Haggblade and Tembo, 2003; Kabwe and Donovan, 2005). CA is based on three main principles of minimum soil disturbance, crop rotation, and residue retention. These practices are increasingly promoted for their perceived biodiversity, environmental, climate and food security benefits.

CA is integral to CSA and is widely considered a necessary condition to increase crop productivity to meet food and nutrition security goals, build household resilience and adapt to, and mitigate climate change (Haggblade and Tembo, 2003; GRZ, 2016; GRZ, 2016; GRZ, 2017). However, adoption rates remain low, and dis-adoption is widespread despite nearly two decades of promoting the technologies. More could be done to promote the contribution of CSA towards a climate-resilient and sustainable agriculture production system.

Building climate resilience will require climate change adaptation and disaster risk reduction and management to be integrated into short-, medium- and long-term policies, programmes and practices.

2.4.3. Cross-sectoral policy coherence on food security, industry, tourism, climate change, energy, water, trade policy and land use

In line with the 2002 decentralization policy, implementation frameworks for various sectoral policies such as the Second National Agricultural Policy (SNAP) and the National Forestry Policy, and multi-sectoral policies such as the National Policy on Climate Change (NPCC) highlight inter-sectoral coordination as a means to improve policy coherence. Similarly, nutrition is often called a 'cross-cutting issue', with relevance to and implications from

multiple sectors, hence its cross-cutting nature is often cited as a rationale for cross-sectoral coherence in policy and cross-sectoral coordination in action.

The Ministry of National Development Planning (MNDP) was created to among other things coordinate development planning and promote inter-sectoral linkages. While the ideals of inter-ministerial coordination are positive and important to enhance policy coherence in food systems, it remains to be seen how implementation will proceed. There are still some gaps as recent policy assessments conclude that stakeholder participation and engagement in agricultural and food security policy processes can be improved (Martin and Chileshe, 2014; Ngoma et al., 2017). Inter-ministerial and cross-sectoral coordination in the implementation of activities remains polarized, especially at lower levels of Government structures.

Coherence in policy with coordination of implementation requires that the institutions governing nutrition need to commit both attention and resources to an issue, and the importance of sustained commitment of different forms (Harris et al., 2017). In assessing commitment, important distinctions should be made between political attention (often at a high level, such as mention in presidential speeches), political commitment (such as executive directives or setting of targets or policy), and system-wide commitment (such as allocation of the necessary authority and financial and human resources to relevant bodies, and the exercise of oversight and accountability) (Harris et al., 2017). It is at the level of all three that remain crucial for Zambia to achieve SDG 2

2.4.4. Integrated approaches to natural resource management

Managing natural resources is important for the sustainable development agenda because it preserves biodiversity and ecosystem functions, mitigates climate change, and sustains livelihoods and food systems. The discussion in this section is restricted to forests and woodlands, wildlife, capture fisheries, land, and water resources in line with the goal of attaining Zero Hunger by 2030.

Sustainable Forest Management: Sustainable Forest Management (SFM) is the process of managing forestland to achieve stated objectives in a manner that does not compromise the current and future integrity of forest resources and their productivity, and without undesirable effects on the physical and social environment. SDG 15 which seeks to protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss aptly reflects the importance of SFM in the sustainable development agenda. Increasing climate risks and the close linkages among climate change adaptation/mitigation, agriculture and rural livelihoods necessitate SFM. Forests are an important carbon sink and are vital for livelihoods.

Zambia is richly endowed with natural resources, with an estimated 65 percent forest cover (GRZ, 2014). There are 480 forest reserves, of which 175 are national forests and 305 are local forests, covering a total area of 74,361 km² (GRZ, 2015). National forests are those of national importance and managed by the Forestry Department. They protect water catchments or other natural resources. Local forests are managed by the government but provide services to the local communities. There are also regional, local, and industrial forest plantations which are mostly managed by the Forest Department and private sector stakeholders such as the Zambia Forests and Forestry Industrial Corporation (ZAFFICO). Forest plantations are usually planted with pines and eucalyptus tree species. Figure 8 shows the spatial distribution of forest reserves and other conservation areas of importance in Zambia.

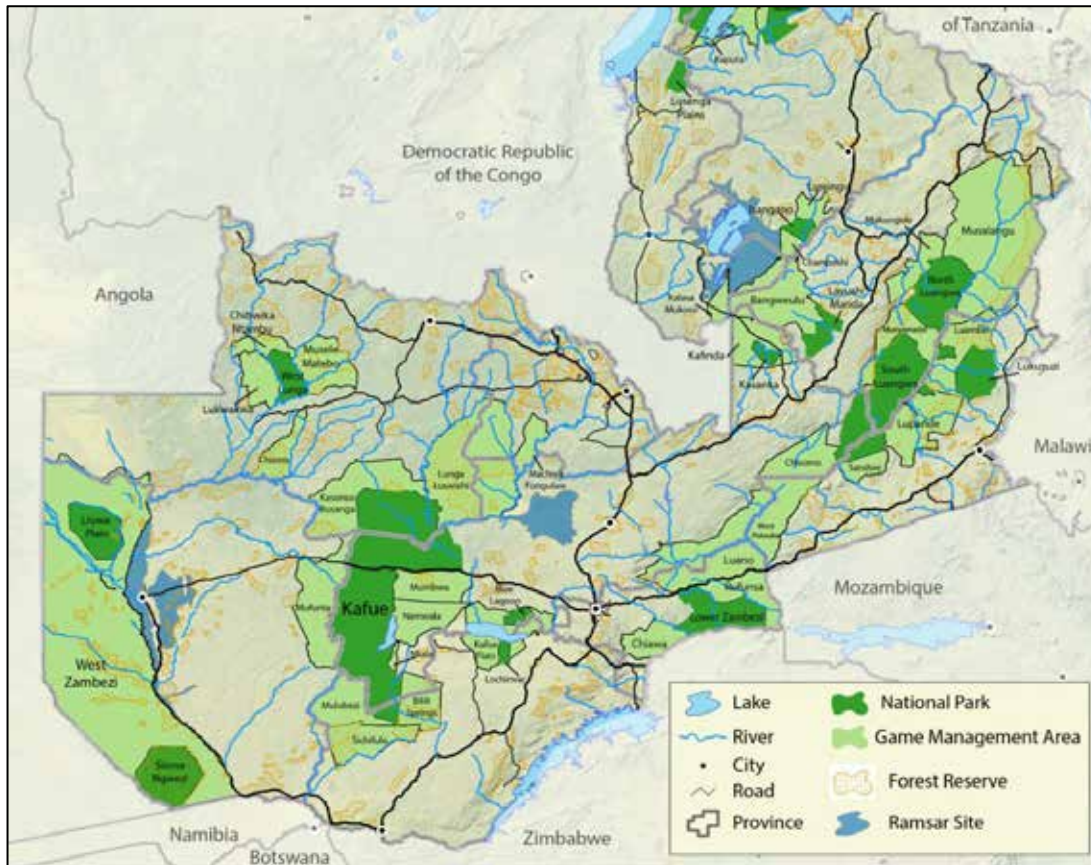


Figure 8: Conservation areas in Zambia

Source: Biodiversity Finance, Zambia

Forest resources in the country are increasingly under threat with the annual deforestation rate estimated to range between 167,000 and 300, 000 hectares (Ha) (Kalinda et al., 2013; FAO, 2015). Forest cover reduced from about 71 percent in 1990 to about 65 percent in 2015 (Figure 9). Deforestation rates vary at the provincial level, with Central, North-Western, Western, and Copperbelt provinces accounting for higher forest loss (Mulenga et al., 2015; Sommerville, 2017).

The main drivers of deforestation in Zambia include agricultural land expansion and unsustainable agricultural practices, infrastructure and mining developments particularly in the North-Western province, and urbanization (Syampungani et al., 2011; Day et al., 2014). Charcoal production is the single most important driver of forest cover loss in areas close to urban centres. Charcoal and firewood (also called fuelwood) is the most important source of energy in urban areas, accounting for some 76-90 percent of household energy expenditure in the region (Brigham et al., 1996; Hibajene and Kalumiana 2003; Syampungani, 2008), and used by some 51 percent of urban and rural households in Zambia (Tembo et al., 2015). Several underlying factors including power shortages, low uptake of energy efficient technologies, population growth, poverty, legal and institution failures, immigration and limited alternative livelihood options underlie the main drivers of deforestation in Zambia (Syampungani et al. 2011; Zulu and Richardson, 2013, Day; Gumbo et al., 2014; Dlamini et al., 2016; Samboko et al., 2017).

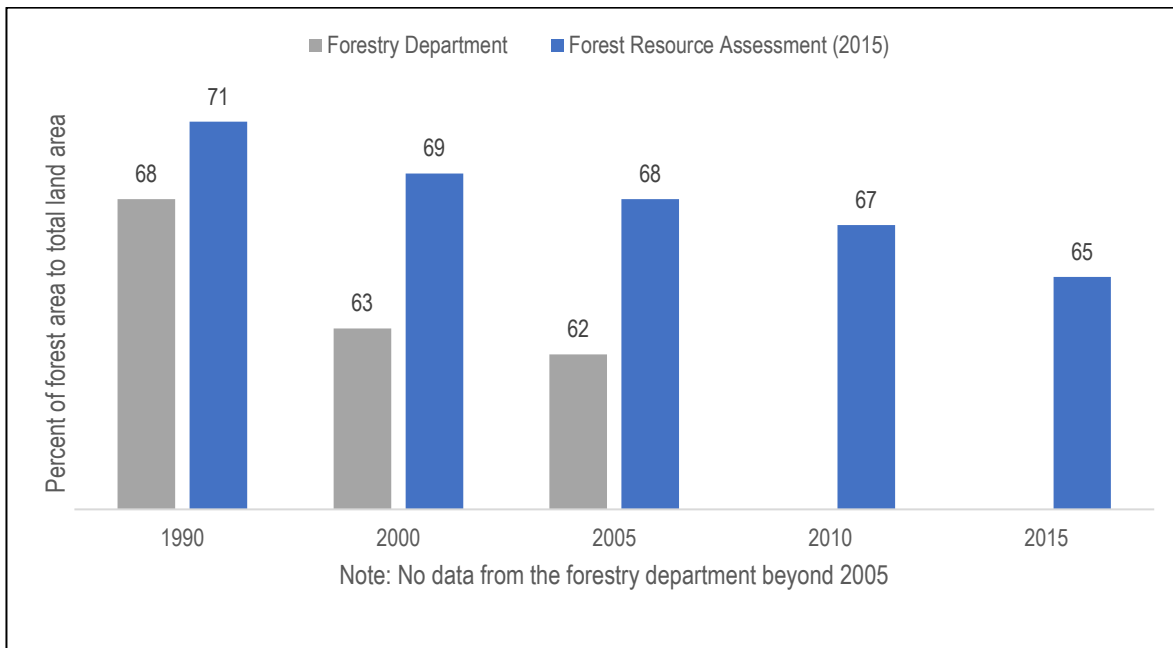


Figure 9: Dynamics in Forest Cover in Zambia (1990-2015)

Source: Ngoma (2016), based on FAO (2015)

Land Management: Land Management: Land is a key productive asset in Zambia that is increasingly under pressure from population growth, changes in farm size structures, elite land grabs and large-scale land acquisitions. Despite these dynamics and projected population growth, Zambia, with an estimated 40 million hectares of arable land, will still have one of the highest arable land to person ratio at 1.5 Ha per person in 2035 (Samboko et al., 2017). However, most of this land remains largely inaccessible as public investments in infrastructure restrict settlements to the line of rail (Sitko and Chamberlin, 2016).

Several changes are occurring in the land sector in Zambia and around sub-Saharan Africa. There is a surge in the large-scale land acquisition and elite land capture, leading to growing land inequality and the emergence of both land sales and rental markets (Deininger et al., 2011; Deininger and Byerlee, 2011; Chamberlin and Ricker-Gilbert, 2016; Jayne et al., 2016; Matrix, 2016). The combined effects of these changes in the land sector could disenfranchise the poor. The future outlook suggests that about 48 million people in rural Sub Saharan Africa (SSA) lived on degraded land between 2000 and 2010 (Jayne et al., 2017).

Wildlife Resources: The sustainable management of wildlife and its habitats is promoted through national parks. Game management areas (GMAs) were established to control the hunting of game and protect animals through a licensing monitoring system. There are 20 national parks and 36 GMAs in Zambia, representing 196,259 Ha or 26.12 percent of the total surface area. However, the wildlife numbers are declining due to poaching, and the failures in game governance institutions. GMAs are underperforming ecologically, economically and sociologically, and hunting blocks are no longer viable (Lindsey et al., 2014). Other problems faced by GMAs include wildfires and deforestation, which destroy habitats for wildlife. Local people around GMAs do not fully participate in wildlife conservation because they perceive that the benefits of such efforts accrue mainly to outsiders or investors. In other cases, human-wildlife conflicts act as a disincentive for community-based natural resources management (CBNRM) efforts. Figure 8 shows the spatial location of national parks and GMAs and other conservation areas in Zambia.

Fisheries resources: Zambia has 9 main capture fishery areas. These include Lake Tanganyika, Lake Mweru-Wantipa, Lake Bangweulu, Lukanga Swamps, Kafue flats, Itezhi-Tezhi flats, Upper Zambezi, Lake Kariba and Lower Zambezi. The fisheries sub-sector in Zambia is managed through annual fish bans, which are imposed during the breeding season, co-management with fisher communities, and through the issuance of fishing licenses. Total fish production from both capture fisheries and aquaculture estimated at 100,000mMT in 2014 falls short of the annual fish demand estimated between 135,000 and 145,000 MT in Zambia. Figure 10 shows that fish production from capture fisheries has stagnated between 60,000 and 80,000 MT over the last 10 years. Aquaculture production has increased by over 200 percent from about 5,000 MT in 2005 to about 19,000 MT in 2014 (GRZ 2016).

Fish imports have been on the rise to meet the increasing demand for protein in Zambia, while exports are negligible

(Figure 11). Several factors including overfishing, use of inappropriate fishing methods, and laxity in implementing fisheries regulations account for the decline in fish stocks. Chronic inadequate funding to the fisheries department underlie the challenges facing the fisheries sub-sector in the country. The fisheries department has limited capacity to monitor fish stocks and to enforce fisheries regulations such as annual fish bans and fishing quotas. As such, fishers continue to fish illegally even during fish bans and in most cases, capture even the small fish because of wrong fishing gears.

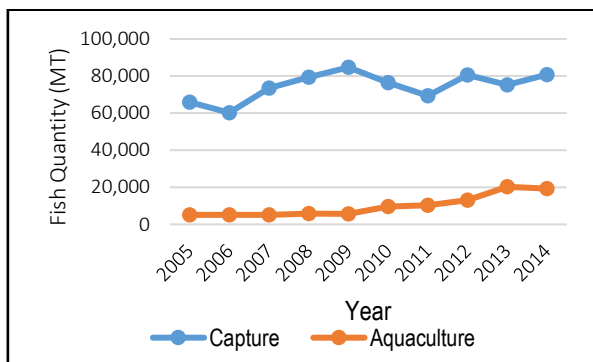


Figure 10: Fish production trends from capture fisheries and aquaculture in Zambia
Source: GRZ (2016)

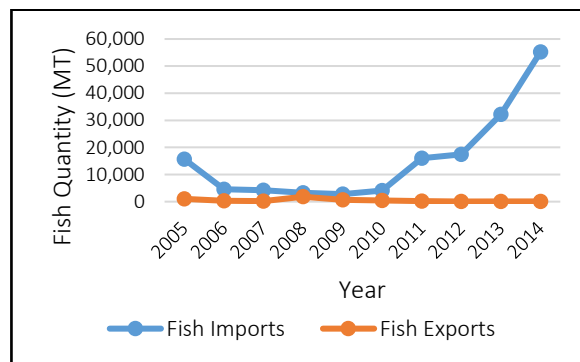


Figure 11: Trends in fish imports and exports in Zambia
Source: GRZ (2016)

Water Resources: Zambia is richly endowed in water resources, holding about 40 percent of fresh water in southern Africa and an estimated renewable surface water potential of 100 km², and a groundwater recharge potential of 49.6 km³ (GRZ, 2013). Agriculture remains the single largest user of water resources at 73 percent of current withdrawals, followed by municipal and industrial uses at 19 percent and 8 percent, respectively (GRZ, 2013). However, the capacity to store water and manage it is limited, even the cost for mass water transfer from surplus to deficit areas constrains the potential to translate water availability into use (Samboko et al., 2017; Hamududu and Ngoma, 2018). While seemingly abundant, the increasing demands for water for irrigation and electricity generation, and the negative impacts of climate change on water availability will pose significant pressure on water resources in Zambia (Hamududu and Killingtveit, 2012; Hamududu and Killingtveit, 2016; Ngoma et al. 2017; Hamududu and Ngoma, 2018). Water use is regulated by the issuance of water user rights, but this is yet to be fully embraced by smallholder irrigators. Local level regulatory institutions such as water catchment councils and water user associations are non-existent in most areas (Ngoma et al., 2017).

2.5 SMALLHOLDER PRODUCTIVITY AND INCOME

Low agricultural productivity: Zambia's agricultural productivity has remained low compared to the genetic potential of most crops and livestock for decades. This has been attributed to among other factors: limited funding to key drivers of agricultural growth; policy inconsistencies in agricultural marketing and trade; low technology adoption; low resilience to climate change and other risks and disasters; poor land administration and management of forestry resources; and limited and/or poor smallholder farmers' agribusiness skills. Also, a number of projects and programmes implemented by donors with the aim of increasing productivity and incomes of smallholder farmers are hardly continued when the donor support comes to an end.

Increasing agricultural productivity is crucial in achieving sustainable economic transformation, food security, and the SDGs in SSA (Rosegrant et al., 2006; Timmer, 1998; World Bank, 2007). Like most countries in SSA, productivity in Zambia remains too low to stimulate such transformation. Spending on key agricultural growth drivers such as research and development, rural infrastructure, and institutions that foster the development of effective markets, and complementary services such agricultural extension and rural credit and finance has been low.

At the heart of Zambia's agricultural growth and poverty reduction solution has been her heavy reliance on subsidy programmes—the Farmer Input Support Programme (FISP) and output price support via the FRA. Unfortunately, these programmes have been a huge drain to the treasury and ineffective at addressing high rural poverty rates and low crop productivity in the country. Moreover, they tend to disproportionately support farmers with larger land sizes and asset endowments.

The country has been spending over two percent of the nation's GDP (more than two-thirds of the total public spending in the agricultural sector as shown in Figure 12) in supporting maize production through subsidising inputs and maize price support for farmers (Hichaambwa et al, 2015). However, the majority of the smallholder farmers (70 percent) own less than 2 Ha of land and only marginally participate in the maize production expansion (Jayne et al, 2011). This means that these farmers barely benefit from the Government maize input subsidies and producer price, and actually account for only 31 percent of the total value of farm output. In spite of this, maize productivity, just like many agricultural commodities, has remained low (Figure 13). All these factors have worked in not broadly increasing smallholder incomes and not significantly reducing rural poverty (Figure 14).

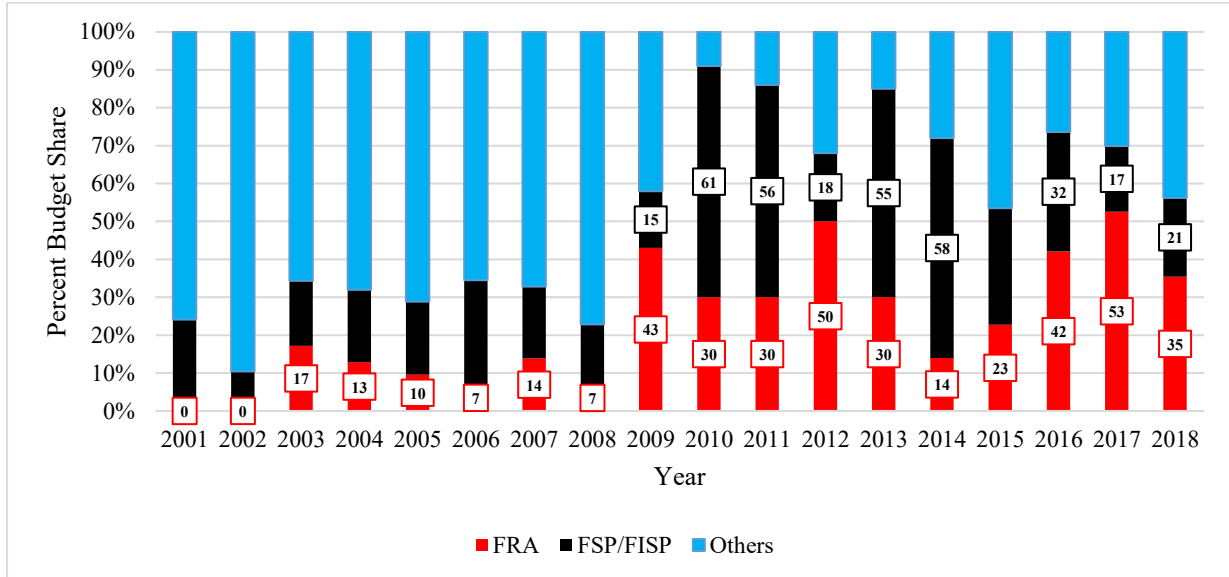


Figure 12: Trends in FISP and FRA share in agricultural sector public spending
 Source: Kuteya, various years

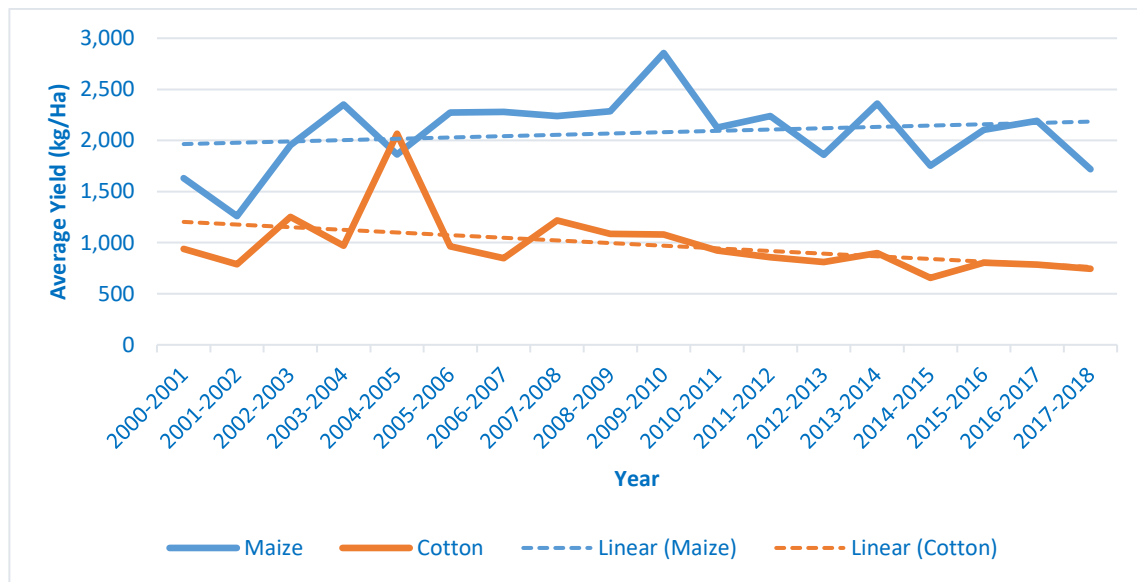


Figure 13: Trends in maize and cotton productivity among smallholder farmers in Zambia
 Source: CFS, MoA various years

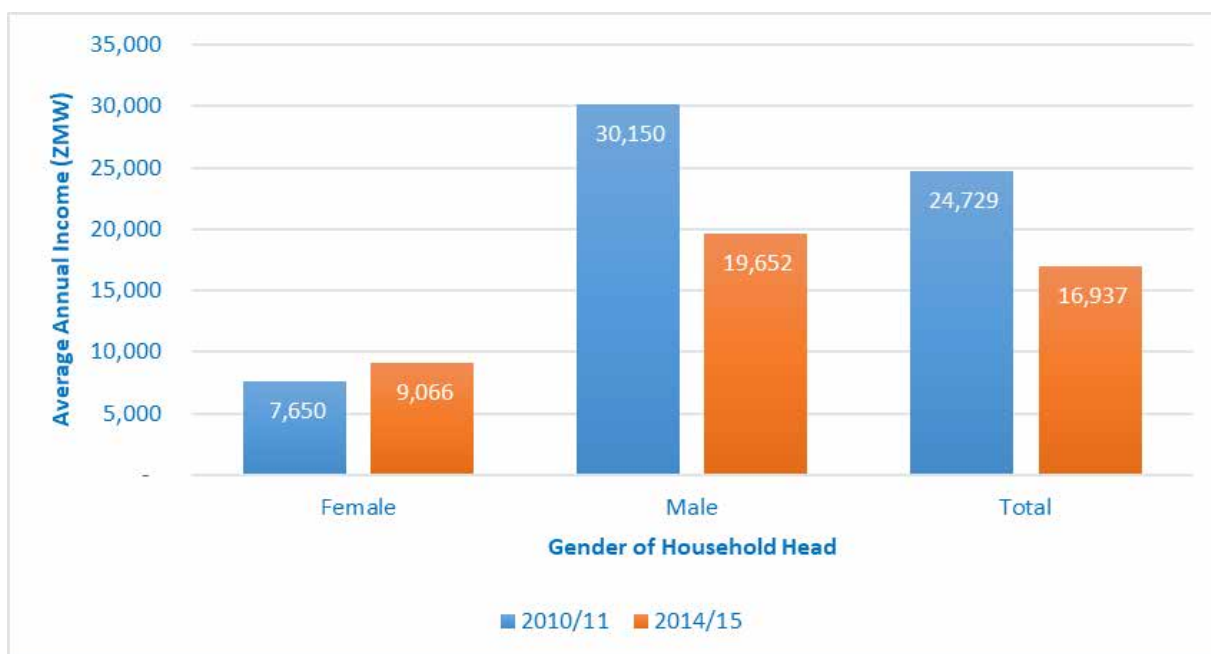


Figure 14: Trends in rural poverty and smallholder incomes by gender

Source: CSO/MAL/IAPRI (2012 and 2015)

Research and Extension: Effective research and extension plays a vital role in agricultural development through generation and dissemination of technologies that are adapted to different farming systems. If effectively disseminated and made available and fully adopted by end-users, these technologies can significantly contribute to increased smallholder productivity, production, and incomes. However, in Zambia, technology adoption for increased smallholder productivity has remained very low. This is driven in part by limited public research and extension system. There are also poor linkages between research and extension, partly because these interdependent units are treated as separate entities in the current administrative set up. Within research, farming systems research, which adapts research technologies and practices to the farmers' socio-economic conditions and is involved in extension research, is more poorly funded than is commodity research. Commodity research mostly conducts varietal trials, which are also conducted and funded by private seed companies. There is still a gap between the needs of the farmers and what agricultural research is focusing on. Very few farmers are benefiting from the research and other agricultural innovation generating services.

In efforts to harmonise and enhance research and extension service provision by Government and the private sector, Government developed an agricultural extension strategy. However, this strategy is yet to be implemented. As alternative measures to improve access to agricultural extension information, both Government and private organizations such as the International Development Enterprise (iDE) are encouraging the use of cell phones to provide/access to agriculture information such as input and output prices. However, Government has faced challenges to implement the Information and Communication Technology (ICT) based innovations. In particular, the database is outdated, rendering it less useful to track fast changing prices for fresh produce. iDE, through the Lima Links project, is implementing a better version of real time price information system for horticultural commodities in selected markets in Southern, Lusaka, Central and Copperbelt provinces. However, a lot of farmers are unaware of these innovations, hence sensitisation is required in this regard.

Markets, Trade and Marketing Policy: Over the past decade, market infrastructure in Zambia has improved tremendously but remains inadequate, and the marketing system has some weaknesses hindering growth of some key value chains, especially staple grains. Excessive crop and livestock levies and permit processes were cited as major causes for increased cost of doing business. This reduces Zambia's export competitiveness.

For grains, government interventions in the market through purchases and sales of the SGR have reduced the incentive for private investment in the sector. Inconsistencies in trade policy have been a major source of risk for the agricultural sector that usually involves ad hoc import and export restrictions, particularly for maize. The situation creates arbitrage opportunities in the local grain market, resulting in increased informal maize imports, as well as an increase in the propensity for discretionary public funding. Price volatility has resulted from such actions having negative consequences for food security, poverty, and foreign exchange earnings, and adversely

affects planning among private sector actors in grain markets (Figure 15). Figure 16 demonstrates how export bans have negatively affected exports of maize and maize products in the years in which they were implemented which negatively affected the demand side of the value chains.

Sector policies such as the SNAP and the National Social Protection Policy aim to reduce poverty and food insecurity in Zambia by supporting increased agricultural productivity and providing social assistance to disadvantaged rural populations. While the change to e-FISP was welcomed by all stakeholders in the 2017/2018 farming season and the programme scored some successes save for some teething problems, there are indications that Government is likely to revert about 40 percent of the recipients to the traditional FISP delivery system where government procures fertilizer and seed and distributes it to the farmers. This will likely undo the benefits accrued in 2018 as private sector was crowded into the distribution of various inputs to rural farmers at no cost to the government. The Food Security Pack (FSP), which targets vulnerable groups and the output subsidy through FRA will continue as before.

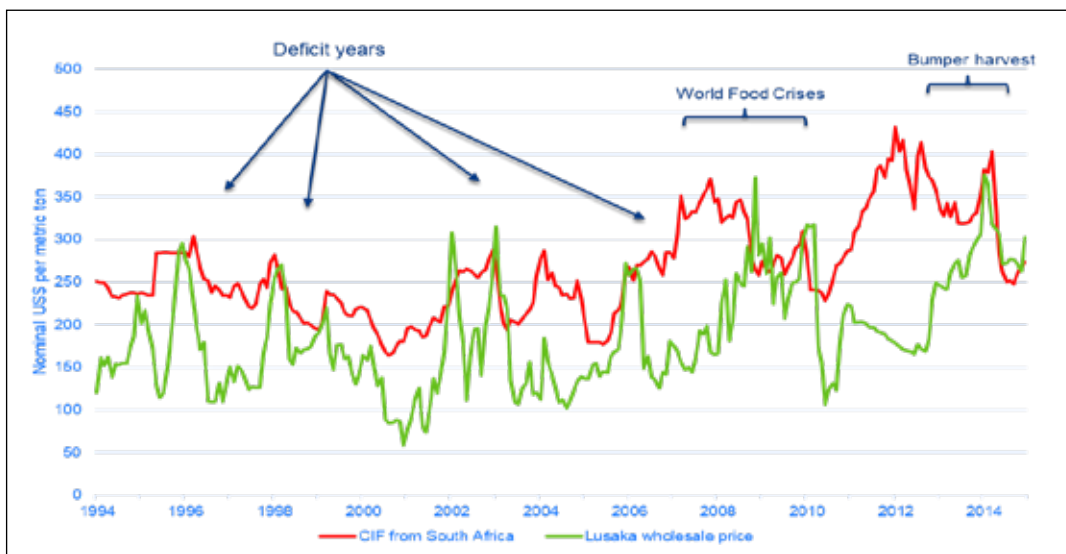
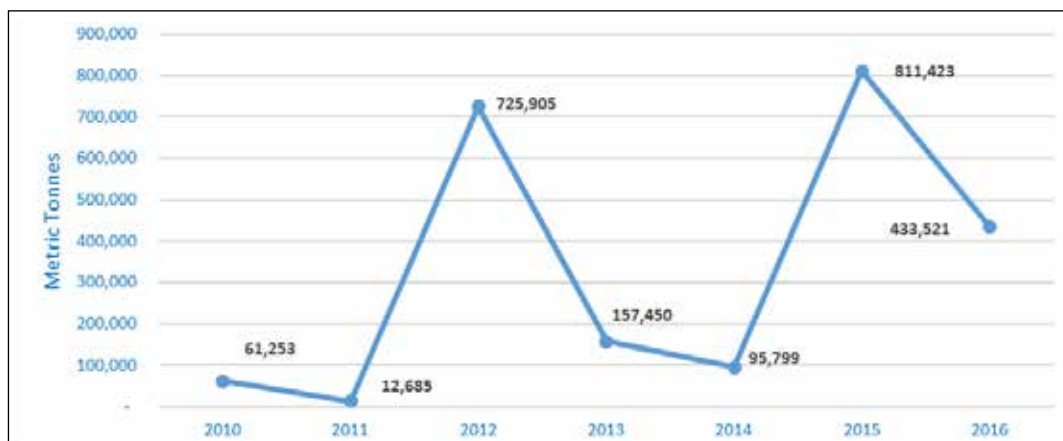


Figure 15: Trends in Maize Prices in Zambia and South Africa

Source: Updated from Chapoto and Jayne (2009)



TIMING	TRADE POLICY
December 2012	Suspension of exports of maize and products
September 2013	Exports of maize and exports banned - SI No 85
April 2014	Export ban lifted-SI No. 3
April 2016	Restrictions on exports of maize and maize products
October 2016	Export ban formally announced by Government
May 2017	Export ban lifted

Figure 16: Effects of export bans on maize and maize products

Source: CSO Foreign Trade Data, Various years and Chisanga and Chapoto, various years

2.6 ZERO FOOD LOSS AND WASTE

Reducing food loss and food waste is necessary to ensure food security for a growing population amidst climate change and growing land pressures, and to actualize SDG 2 which seeks to achieve zero hunger by 2030. Thus far, agricultural systems have focused mainly on increasing productivity with little or no attention to reducing food loss and waste (FAO, 2011; Sheahan and Barret, 2017). Large quantities of food are lost along the production – consumer supply chain. Globally, about one-third of the food produced is lost or wasted each year (FAO 2011), while in SSA and Zambia in particular, around 30-40 percent of food produced is lost between production and consumption (FAO, 2011; Hodges et al., 2011; Deloitte, 2015).

Food loss reduces available edible food mass (or food availability) at different parts of the supply chain. Food waste, on the other hand, occurs at the end of the food chain and relates to consumer and retailer behaviours (Parfitt et al., 2010). Figure 17 shows the per capita food loss and waste across the different regions of the world from production, retailing and consumption.

Food loss occurs both pre- and post-harvest. Pre-harvest losses in crops occur due to the loss of seed viability caused by poor seed storage, and pests and diseases. Post-harvest losses, on the other hand, occur from the time of harvest through processing, marketing and food preparation (Hodges et al., 2011). Post-harvest losses can also occur due to damage and/or spoilage during harvesting, at handling and storage due to spoilage, damage and degradation during handling, and during transportation between farm and retailer/consumer. Losses can also happen at processing due to damage, spillage, and degradation; at distribution in the market system e.g., wholesale markets, supermarkets, retailers, wet markets and at consumption (FAO, 2011). There are also losses from supermarkets, wholesalers, and retailers when they dispose of consumable – about to expire foodstuffs.

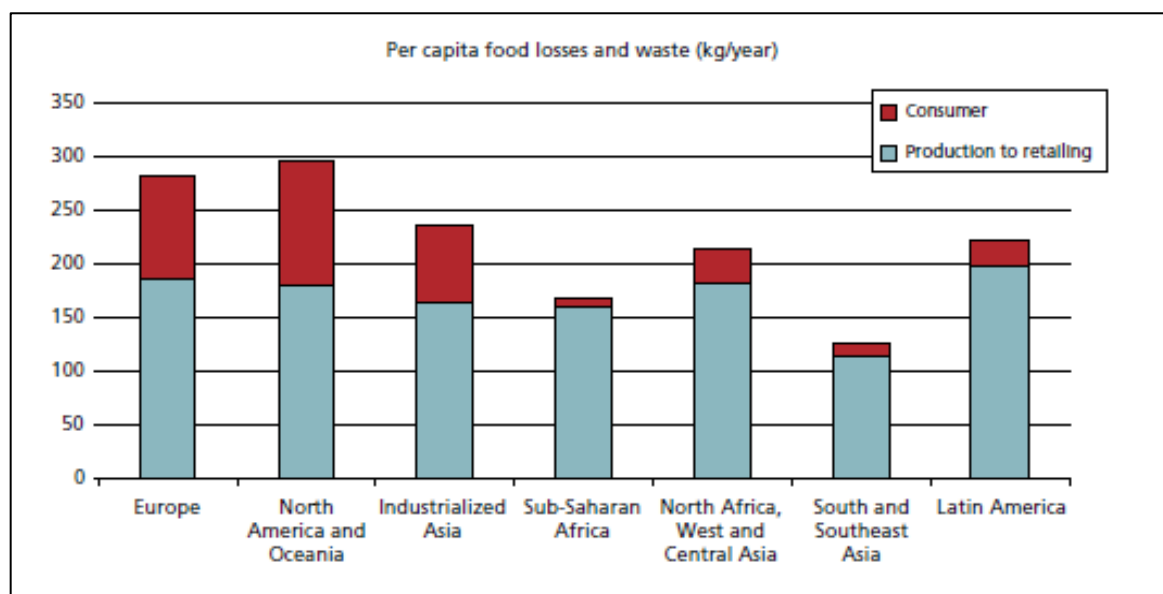


Figure 17: Per capita food losses and waste at consumption and pre-consumption stages in different regions

Source: FAO, 2011

Although there are no hard statistics on the extent of food loss and food waste in Zambia, it is likely that food loss, both pre- and post-harvest, is more of a problem than is food waste in the country. Maize, as the staple crop, is much more affected compared to other cereals. Several factors cause food loss pre-harvest in Zambia. Wildlife-human conflicts in and around GMAs is a common cause of crop loss. Pest, fungus, and rodent attacks on the crops pre-harvest also drive food losses. A prime example is the outbreak of the fall armyworm in the 2016/2017 and 2017/2018 agricultural seasons. Some crop management practices predispose crops to pest attacks. For example, the cultural practice of stocking crops in fields before threshing facilitates termite and rodent attacks. Similarly, the wetting of groundnuts to ease shelling facilitates the build-up of aflatoxins.

Handling and storage account for most of the food losses post-harvest in Zambia. The use of wrong platforms such as earthen floors for threshing and bagging predisposes produce to pest attacks. Storing produce in poorly designed and untreated storage bins or untreated storage bags leads to pest attacks, and delayed harvesting leads to significant food losses. Poor handling, storage and limited processing of milk, pork, beef, and chicken drive food losses in the livestock sector. In summary, lack of mechanization, untimely harvesting and handling, poor and inadequate storage facilities and, inadequate market structures and policies drive food losses in developing countries (Kumar and Kalita, 2017).

While food loss in grains and legumes is ubiquitous across the country, food loss in horticulture products is more pronounced in the peri-urban and urban districts, with losses reaching 50 percent in some instances. Post-harvest losses are also common in the livestock sector. Milk and beef spoilage are common in Zambia because of the limited availability of milk collection centres with cold storage facilities and abattoirs. Where these are available, they are far too dispersed and poor road infrastructure negatively affects food quality. Milk and beef spoilage also occur during transportation due to limited cold supply chains, especially at smallholder farmer level. At the retail stage, food worth between USD 1,022 and USD 5,112⁵ is lost per month due to spoilage. The high food losses are reflective of the Government policy which only emphasizes production with little attention to post-harvest handling. Compared to post-harvest losses, a considerable amount of work has been done by the Government on pre-harvest losses, including the development of drought-tolerant varieties.

⁵Assumes ZMW 9.87 per United States dollar as at July 2018.



Response Analysis

The response analysis sets to answer the question:
What has been done in response to achieving Zero
Hunger by 2030?

The response analysis sets to answer the question: What has been done in response to achieving Zero Hunger by 2030? This section first reviews the legal and policy provisions that support the five core pillars of the Zero Hunger Challenge, namely i) 100% access to adequate food all year round, ii) zero stunted children under the age of two, iii) all food systems are sustainable, iv) 100% increase in smallholder productivity and income, and v) zero loss or waste of food. The section then outlines the institutional arrangements that may be required to effectively drive this agenda with a final section considering the financial landscape for food and nutrition security.

3.1 LEGAL FRAMEWORK AND POLICY ENVIRONMENT

A number of pieces of legislation, policies and strategies have been drafted to address broader developmental objectives that have a bearing on zero hunger. These address specific issues within each of the five pillars and contribute directly or indirectly towards attainment of the aspirations in the other pillars. A brief discussion is provided below and details further summarised in the appendix A1.

In terms of reaching “100% access to adequate food all year round”, the 7NDP (2017- 2021), SNAP, National Financial Inclusion Strategy, Rural Finance Policy (2012), NPCC, and the National Social Protection Policy contribute to achieving food security, poverty reduction and income growth addressing specific and broader issues. Furthermore, other pieces of legislation have been passed in recent times to promote financial inclusion as one key element that will contribute towards food access. These include the Movable Property (Security Interest) Act, 2016 that now recognises both tangible and intangible assets as collateral, with registration of security interests done online. In addition, the Agricultural Credits Act. No. 35 of 2010 established the ZAMACE facilitating the use of warehouse receipts as a financial inclusion tool. The Agriculture Lands Act Cap 187 provides for sustainability in land management to ensure sustained food production.

In terms of addressing “zero stunted children under the age of two”, a number of policies and the creation of a key institution are important. The Governments’ attention to reducing malnutrition dates back to 1967 when the NFNC was established as a statutory Board through the National Food and Nutrition Act of 1967 (amended in 1975). The NFNC was created to coordinate nutrition interventions and track progress towards improving the nutrition status of the country. The Act was amended in 1975 to include provision for the set-up of community nutrition groups and their registration with the NFNC.

Other existing Acts related to food and nutrition include the Bio-fortification Act, MBMS Act (SI), Food and Drugs Act Cap. 303, the Public Health Act Cap 295, National Health Services Act, Bureau of Standards Act, Importation Act, Education Acts, and the Agriculture Acts. Existing policies aimed at addressing malnutrition include the National Food and Nutrition Policy of 2008 and the National Food and Nutrition Strategy (2017-2021). The National Food and Nutrition Policy (NFNP) of 2008 recognizes malnutrition as a serious public health problem in Zambia, and that good nutrition has a positive bearing on social and economic development. It seeks to achieve sustainable food and nutrition security and to eliminate all forms of malnutrition in order to have a well-nourished and healthy population that can effectively contribute to national economic development. This policy takes special recognisance of those who are nutritionally vulnerable among them; women, children, orphans and the vulnerable children, adolescents, elderly, disabled, refugees, displaced persons and those who are living with HIV and AIDS. The policy’s principle commitments include elimination of all forms of malnutrition, improved food security, care for the nutritionally vulnerable persons and gender. The Zambia National Food and Nutrition Strategic Plan of 2017 aims at eliminating all forms of malnutrition by 2030 and aligns itself with the 7NDP and Vision 2030. This strategy was recently launched as the second multisector five-year strategic response to combatting malnutrition following the National Food and Nutrition Strategic Plan (NFNSP) of 2011-2015.

The NFNSP 2017-2021 offers guidance and promotes synergy among a broad set of nutrition-specific interventions and the nutrition-sensitive plans and programs of national stakeholders. One of the strategic directions of the NFNSP 2017-2021 is the implementation of the 1st 1000 Most Critical Days Programme (MCDP) II, a successor programme to the MCDP I, and outlines the Government’s desired programme priority actions and targets to guide multi-sectoral action. MCDP I was successfully implemented from 2011-2015 although its contribution to the marginal reduction in stunting rates is yet to be established. Additionally, the strategy gives special recognition to chronic malnutrition or stunting among children under two years of age due to its long-term effect on adult health and productivity.

The strategy further stresses the need for a multisectoral response to addressing both direct and indirect causes of malnutrition. In responding to high levels of stunting in Zambia, the strategy has nine core strategic directions that guide its implementation. These are: Chronic malnutrition in children less than two years of age; inadequate accessibility and use of nutritious foods; micronutrient deficiencies among various groups; gaps in prevention, early

detection and management of severe and moderate acute malnutrition; limited integration of nutrition knowledge and skills learning; issues of hygiene and sanitation that affect nutritional status, particularly of young children; nutrition and HIV/AIDS; increasing rates of obesity, overweight and diet-related non-communicable diseases; and nutrition issues in emergency preparedness and response.

Looking back at these policy frameworks, in the decade since the release of the NFNP, a cascade of strategic plans, program documents, multisectoral district plans and guidance notes have followed, giving Zambia- on paper at least- one of the strongest policy environments for nutrition in southern Africa (Harris et al., 2017). However, putting all of this nutrition-relevant policies into practice requires the commitment of attention and resources. Funding allocation to the activities and targets set out in written policy is an important marker of system-wide commitment, but is notoriously difficult to track due to the dispersed nature of nutrition activities across ministries. By current estimates, around 0.1 percent of the national budget, or just under US\$ 1 million, constituted government spending towards nutrition in the 2015–2016 budget (Francis et al., 2016 cited in Harris et al., 2017), with a disconnect between budget allocations and the lower amounts subsequently disbursed.

In seeking to achieve the aspirations of “all food systems are sustainable), a number of pieces of legislation exist; these include the Standards Act of 2017 and the Compulsory Standards Act of 2017 which focus on the determination, enforcement and regulation of food safety standards in the country. Further, the Standards Act of 2017 mandates ZABS to develop, publish, maintain or withdraw Zambian national standards and provide inspection services, testing services and system and product certification. As of 2016, ZABS working with industry had developed 41 compulsory standards, 11 of which relate to food. The sustainable management of natural resources is provided for by several pieces of legislation including the Environmental Management Act of 2011 which established the Zambia Environmental Management Agency as the institution responsible for enforcement of environmental regulations. Other important legislation includes the Forest Act No. 4 of 2015 and the revised National Forestry Policy form the basis of SFM. In 2018, the Forest Act No. 4 of 2015 was amended through Statutory Instrument (SI) No. 11 of 2018 to promote CBNRM. In fisheries, the Fisheries Act of 2011 provides the overarching policy regulations for the sector, while the Water Act No. 21 of 2011 empowers the Water Resources Management Authority to regulated water use in the country. This was amended in 2018 through SI No. 18 of 2018 to include charges and fees that facilitate water resources management. Different policies seek to contribute towards sustainable natural resources management including the 2014 National Forestry, and agricultural-related policies such as the Draft Land Policy of 2017, and the SNAP.

In addition, in an effort to respond to the need to sustain food systems, a number of legislations have been enacted, with the overarching piece of legislation being the national constitution.

Attaining “100% increase in smallholder productivity and income” cuts across most pillars and is in line with aspirations of the SNAP. The SNAP provides the overall vision and policy framework for the sector and serves as a guide to Government, the private sector, Civil Society Organisations (CSOs) and development partners in developing the agriculture sector. One of the SNAP's key objectives is to increase agricultural production and productivity for crops, livestock and fisheries (MoA and MFL, 2016). The SNAP which is also guided by the 7NDP of 2017 also incorporates technological advancements and skills development for employment creation through the advancement of livestock production; aquaculture, adding value to agricultural goods, and high-value crops (Ministry of National Development Planning, 2017).

In reviewing “zero loss or waste of food”, it is clear that there is an extreme dearth of related policy and legislation in the country.

3.2 INSTITUTIONAL ANALYSIS

3.2.1 National and International Entities

Several institutions, both government and non-government entities, and programmes have been developed and implemented to deal with the core challenges related to malnutrition, food insecurity, hunger, low smallholder productivity, poverty, sustainable natural resource management and food loss and waste in Zambia. Social protection programmes are also implemented to offer social security and empowerment to the vulnerable, and protection to those close to the poverty line so that they do not fall into poverty. Because of its cross-cutting nature and its central role in food production, agriculture is one of the key sectors for the country to achieve broad based poverty reduction and food and nutrition security. The agricultural sector (crops, livestock and fisheries) is the main source of income and employs about 48.9 percent of all Zambians (CSO, 2016).

3.2.1.1. Nutrition Sensitive Interventions

The NFNC oversees all nutrition activities supported by eight key line ministries namely; the Ministry of Health (MoH), MoA, MFL, Ministry of Local Government and Housing, Ministry of General Education, Ministry of Community Development and Social Services, Ministry of Water Development Sanitation and Environmental Protection, Ministry of Chiefs and Traditional Affairs (MCTA), and Ministry of Gender (MoG).

As indicated, the NFNC, established by an Act of Parliament in 1967 is mandated to provide technical leadership and promote food and nutrition activities whilst advising government on matters related to nutrition. Despite its weak institutional framework (limited functional powers), NFNC has undertaken several nutrition activities. In the past five years, the NFNC endorsed and operationalised the 1st 1000 Most Critical Days Programme (MCDP) in Zambia. MCDP targets the reduction of stunting rates among children less than two years. In addition, NFNC is in the process of facilitating other strategic programmes aimed at reducing stunting including (1) increasing food availability, accessibility and use of nutritious foods; (2) addressing the dangers of micronutrient deficiencies among vulnerable groups; (3) early identification, treatment and follow up of acute malnutrition; (4) improving the role of schools in ensuring well-nourished learners; (5) development of water and sanitation and hygiene; (6) nutrition and HIV/AIDs; (7) prevention and management of nutrition-related to non-communicable diseases, and (8) food and nutrition in emergence preparedness and response.

The MoH is a key line ministry which has played a significant role in improving the status of nutrition in Zambia. In line with the Zero Hunger Challenge, the Ministry has implemented a number of programmes to respond to the current undernutrition status. These include health care activities such as primary health care (immunization), exclusive breastfeeding promotion, complementary feeding, growth monitoring and promotion, adolescent health and nutrition, maternal nutrition during pregnancy, and micronutrient supplementation. These programmes have led to high levels of breastfeeding and exclusive breastfeeding up to six months, now estimated at 98 percent and 73 percent, respectively.

The Ministries of Agriculture, and Fisheries and Livestock are among the key line ministries ensuring that enough food is available at household level. They cover the production side of nutritious food and to a larger extent its utilization, storage and preservation (NFNP, 2008). Both ministries have a small nutrition department, with at least one nutrition expert at district level. They promote consumption of nutritious foods through the home-grown gardens and livestock pass-on programmes.

As noted in the 2008 National Food Nutrition Policy, the Ministry of General Education (MoGE) offers an opportunity to provide nutrition education and to spread nutrition behavioural change among young learners. In the last few years, the MoGE and NFNC have collaborated to improve nutrition through curriculum reviews. Additionally, WFP has been supporting the MoGE through its Home Grown School Meals and School garden programmes.

A number of international development agencies have supported nutrition and food security programmes in Zambia. These nutrition activities range from relief and food assistance, food production, processing and handling, provision of health care services to mothers and children and nutrition education. A number of illustrative examples are provided below.

World Food Programme (WFP): WFP in Zambia provides direct technical assistance to the Government by supporting social protection, nutrition governance on nutrition-sensitive programming, and building disaster resilience among disaster affected households. These activities are in line with the Zambian Government programmes on reducing poverty and undernutrition. In responding to high stunting levels in Zambia, the current WFP strategic plan has mainstreamed nutrition, gender, protection and HIV related issues in all its activities to achieve SDG 2 (Zero Hunger).

Food and Agricultural Organization (FAO): FAO has been working with the government of Zambia since 1965 supporting mainly small scale farmers under various programmes in crop, livestock, fisheries and forestry sub-sectors. Some of the recent programmes aimed at helping to reduce hunger and malnutrition nutrition include the Conservation Agriculture Scaling Up (CASU), UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD), CSA, Integrated Land Use Assessment (ILUA), Zambia Green Jobs Programme and the Joint Programme on Sustainable Livelihoods for Young People through the Development of rural medium, small and micro enterprises (MSME). FAO has also supported programmes in rice production and marketing, the development of the aquaculture and the dairy industry. In its Country Programming Framework for 2017-2021, FAO has prioritised (i) improved production

and productivity of crops, livestock, fisheries and forestry in Zambia (ii) sustainable management of the natural resource base and increasing resilience and uptake of climate smart agriculture (iii) enhanced food security and nutrition status and (iv) improved market access and sanitary measures. These strategic areas are in line with National Agriculture Investment Plan, the Second National Agriculture Policy, Seventh National Development Plan and the UN Sustainable Development Partnership Framework for Zambia.

The United Nations Children’s Fund (UNICEF): UNICEF in Zambia provides support to the Ministry of Community Development and Social Services through provision of social protection (Social Cash Transfers) to the most vulnerable children and households. The social protection programmes aim to increase household food productivity, nutrition outcomes and food security. Under the Ministry of Health, UNICEF supports children and mothers through several health care programmes such as immunization, Water, Sanitation and Health (WASH) programmes, breastfeeding and supplementary breastfeeding programmes in selected districts.

World Health Organization (WHO): WHO has been supporting the monitoring and evaluation framework of the health system in Zambia. It recently upgraded the District Health Information System (DHIS) to DHIS-2, now with improved features and functions. It has also in recent years supported key surveys such the Zambia Demographic Health Survey (ZDHS), National Malaria Indicator Survey (MIS) and the National Tuberculosis prevalence (TB) survey so as to improve on monitoring key child, women nutrition and health indicators. Among the many notable areas where WHO has scored are in health systems strengthening, prevention of communicable and non-communicable diseases, maternal and child health, and health promotions.

The Private sector: The private sector has a role in the provision of nutritious foods. According to Chilufya (2015), the private sector can contribute to improved nutritional outcomes by providing quality and nutritious food supplemented with vitamin A, folic acid and iron. The private sector can also participate by ensuring that all foods they produce are safe and have shelf lives that do not compromise the nutritional contents. Businesses can also support and promote local food production by contributing to skills training and providing production finance to help local farmers grow, cultivate and distribute locally grown fresh produce.

To coordinate and enhance the role of the private sector, the UN Scaling Up Nutrition (SUN) movement launched its Business Network in 2014 aimed at improving nutrition for 127 million people annually, by year 2020. The SUN Business Network was launched in Zambia as a Government initiative led by the NFNC and coordinated by WFP. However, despite this initiative, the role of the private sector in promoting nutrition in Zambia remains low. Chilufya (2015) observes that most companies do not understand their role in addressing malnutrition and that businesses are only driven by the 5P concept (product, place, promotion, price and profit).

In terms of food safety issues, which have a direct bearing on health and nutrition outcomes, a number of international organizations such as FAO and the World Bank-led Global Food Safety Partnership (GFSP) are supporting Zambia to strengthen food safety regulatory frameworks. These efforts complement activities by statutory bodies like ZABS and ZCSA which develop and enforce standards and certify products and production systems in the country. MoA through its extension network ensures that food safety provisions are adhered to in production by offering guidelines on agro-chemical usage and general crop husbandry both pre- and post-harvest. ZARI under MoA promotes food safety in crop value chains. For example, stakeholder consultations showed that ZARI, working with ZABS has developed standards for rice, groundnuts, cassava, orange-fleshed sweet potatoes, and cassava. The PQPS under ZARI is mandated to regulate the transmission of pests and diseases through imports and exports of agriculture products. The MFL provides inspection services for all livestock and fish products. Where necessary, the MFL regulates livestock movement and sales to control disease transmission across the country, and from livestock to humans. In some instances, mass culling of livestock is conducted as a preventive measure. Public awareness and sensitization campaigns on food safety are carried out by local councils, Ministry of Health (MoH), ZABS, the National Agricultural Information Services (NAIS), the Competition and Consumer Protection Commission (CCPC), and other non-governmental organizations across the country.

3.2.1.2. Sustainable food systems, natural resource management interventions

Promotion of sustainable and climate-resilient agriculture systems: Sustainable agriculture or more broadly Climate Smart Agriculture practices (CSAs) such as Conservation Agriculture have been traditionally promoted in the low rainfall agro-ecological regions I and II. CSAs are promoted through projects implemented by different stakeholders including MoA, Conservation Farming Unit (CFU), Community Markets for Conservation (COMACO) and various development and non-government organizations across the country. Some recent and

current CSA projects include the Conservation Agriculture Scaling up for increased Productivity and Production (CASPP), Farmer Input Support Response Initiative (FRSRI), and the CASU under the MoA and FAO, and CFU's Conservation Agriculture Program and now Conservation Farming and Climate Smart Agriculture program.

Forest Resources: As provided for in the Forest Act of 2015 and the revised National Forestry Policy, interventions in the forest sector in Zambia use joint or participatory management approaches to promote SFM. Various interventions by donor-funded projects have been implemented to encourage SFM in Zambia. Notable interventions include the Decentralised Forest and other Natural Resources Management Programme (DFNRMP) jointly implemented by the Government of Zambia and Finland in North Western and Muchinga Provinces, the recent Nyimba Forest Project implemented by the Centre for International Forest Research (CIFOR) in Nyimba District, Eco-charcoal production in the lower Zambezi National park by Bio-Carbon partners, and the Bio-Carbon partners Luangwa Community Forest project.

Fisheries sub-sector: There have been different interventions in the fisheries sub-sector in Zambia and there are different nuances from the main fish producing provinces. The Fisheries Act of 2011 provides the overarching policy regulations for the sector. The MFL and other development partners are involved in various projects aimed at restocking fish in natural water bodies and to promote fish farming. For example, Government through the Department of Fisheries promotes and supports cage culture fish farming in Luapula Province. As in other fish-rich provinces, restocking is an integral part of interventions in the fish sub-sector in Luapula. The Zambia Aquaculture Enterprise Development Project is a USD 50 Million project that aims at stimulating a viable aquaculture subsector in Zambia in order to promote economic diversification, food security, and sustainable employment generation. The project is implemented in the Aquaculture High Potential Zones of Siavonga and Chipepo in Southern Province, Rufunsa in Lusaka Province, Bangweulu in Luapula Province, Kasempa in North-Western Province, and Mungwi in Northern Province.

Water resources sub-sector: Water use in Zambia is regulated by the Water Resources Management Authority (WARMA) as provided for in the Water Act of 2011. So far, water management in the country has been restricted to surface water. Examples of activities carried out to improve water resource management include but are not confined to water quality monitoring, sensitization of drilling companies and communities, mapping of groundwater points, the setting of water quality standards, water quality management, and pollution control, inspections and verification of water permits, and harmonization of water quality sampling protocols

Smallholder productivity enhancing programmes

There are a number of donor supported development projects and programmes promoting smallholder productivity, production and income that have been implemented over the years. However, their activities are hardly assimilated in normal annual work plans and budgets of responsible line ministries, despite their documented effectiveness. This has denied the sector the opportunity to build up on development momentum created by these projects as would pilots for scaling up and/or working capital injection in enterprises would be needed. Of critical importance in this environment of market liberation are efforts aimed at increasing smallholder agribusiness skills so that they can be better equipped to navigate the not so favourable agribusiness environment currently obtaining in the country.

A number of donor supported programmes have been undertaken in the past and present to train smallholder farmers in farming as a business (FaaB). The largest intervention was the Swedish funded Agricultural Support Programme for which activities unfortunately ended when the programme came to an end. Isolated efforts are being implemented by different development partners including CSOs, but these investments need to be increased to enhance smallholder viability, in this not-completely-favourable agribusiness environment. The Enhanced Smallholder Agribusiness Promotion Programme (E-SAPP) has been undertaken to support the development and implementation of the Zambia National Agribusiness Development Strategy (ZNADS), which will be the first step in systematically involving public and private stakeholders to work towards improving the agribusiness policy environment in the country which has never been done before.

Food loss and waste reduction programmes and interventions

While addressing low productivity is important, attention is needed to address food loss and waste. There have been several interventions implemented by both private and public-sector players to address pre- and post-harvest food losses in Zambia. The Ministry of Agriculture's Farm Power and Mechanization Department, ZARI and other cooperating partners such as IFAD, FAO, and WFP have implemented interventions around post-harvest management. For instance, improved community storage initiatives have been tried with some positive results by

the WFP. Other stakeholders involved in promoting management of food loss and waste include World Vision, Plan International, CSO-SUN, and Development Aid from People to People (DAPP).

Private sector actors such as Silva Catering have also been active in providing training in cost effective, low-tech methods of processing vegetables. Further, smallholder farmers have been exposed to several post-harvest management technologies including the Purdue Improved Crop Storage (PICS) bags, hermetic bags, metal and plastic hermetically-sealed silos, and tarp and candle equipment. The uptake of these interventions is however low because of the high initial investment cost, lack of information on available post-harvest handling options, and farmer attitudes. In part, some of these interventions are not adopted by farmers because of market preferences and perceptions. Several drought-tolerant varieties have been developed both by Government under ZARI and by the private sector. There are also efforts to respond to natural disasters such as pest and disease attacks under the Disaster Management and Mitigation Unit. Yet as observed in recent times, responses to such are seldom timely, as was evident during the outbreak of the fall armyworm in the 2016/2017 agricultural season.

3.3 FINANCIAL LANDSCAPE FOR FOOD AND NUTRITION SECURITY

Financing is key to actualise any development plans. In this section, the budgetary allocations for nutrition sensitive interventions, agriculture and natural resource management in Zambia are reviewed.

3.3.1. Budgets for nutrition interventions

The implementation of nutrition programs has been limited due to funding constraints. Despite committing to allocate at least 300 ZMW per annum per child under 5 for nutrition interventions in 2012, Government to date has allocated less than 20 ZMW per annum per child (Figure 18). In fact, nutrition expenditure, as a percentage of total national budget expenditure, dropped significantly in the last two years and averaged 0.05 percent in 2017 (Figure 19). In terms of this budget expenditure, the allocation across the line ministries reflects well the priority areas as identified in the National Food and Nutrition Strategic Plan (2011 – 2015) and the Most Critical 1st 1000 MCDP (Concern Worldwide, 2017).

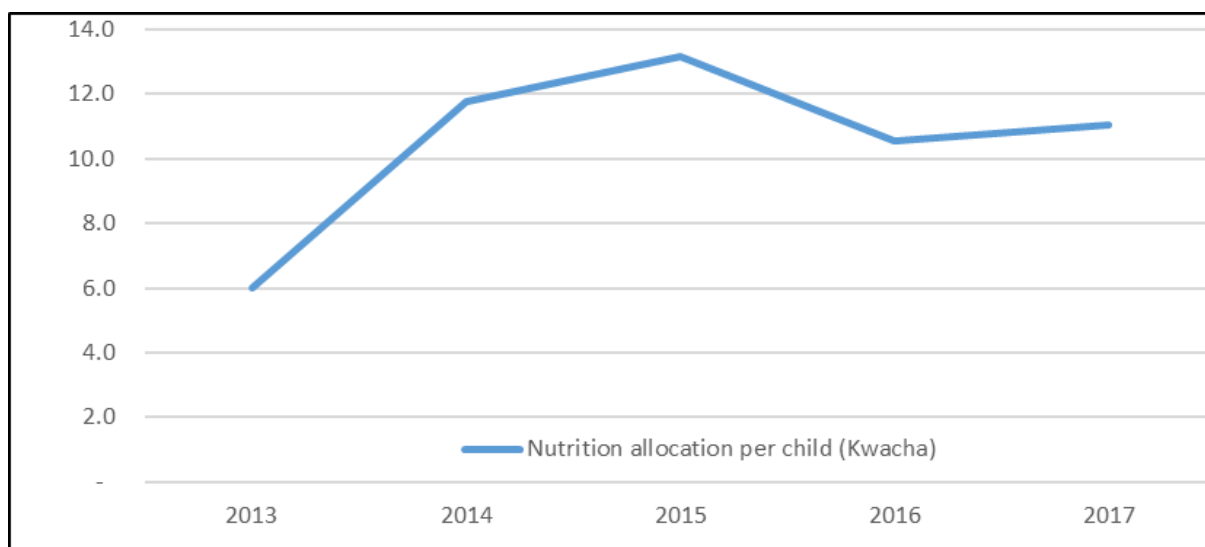


Figure 18: Trends in budgetary allocations per child between 2013 and 2017
Source: Concern World Wide 2017

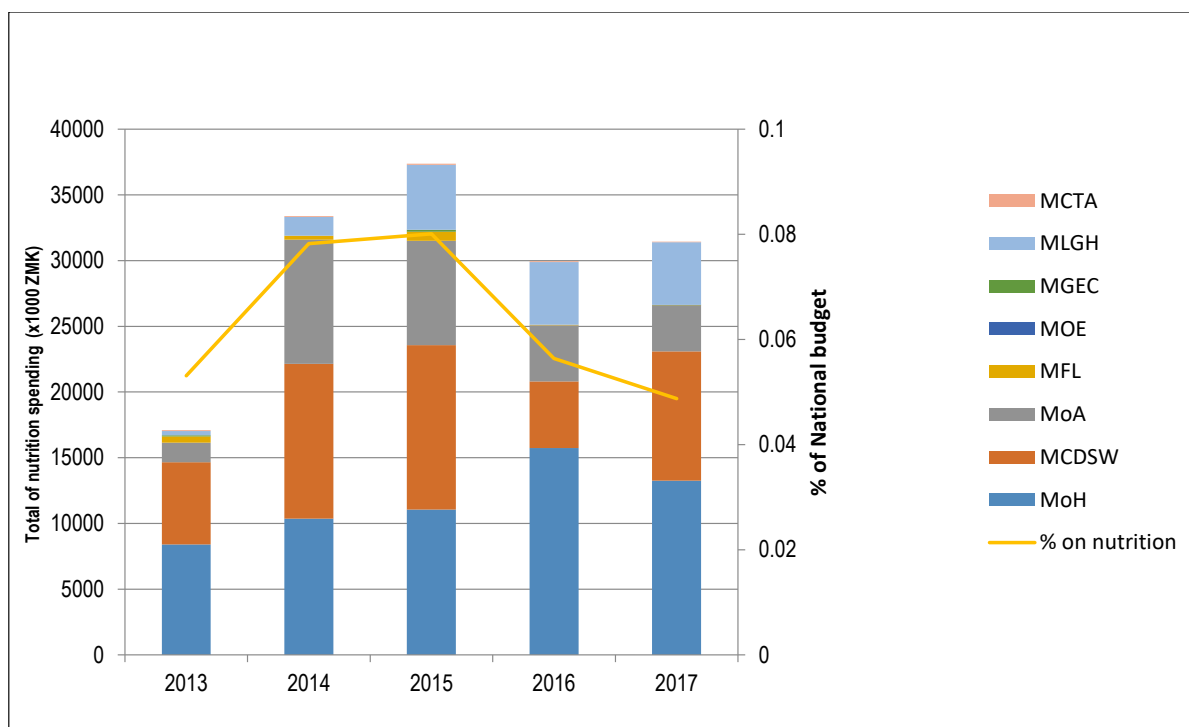


Figure 19: Nutrition budget allocation by key line Ministry from 2013 to 2017

Source: Concern World Wide 2017

3.3.2. Budgets for agriculture

The country spends about 8 percent of the nation’s GDP on agriculture (Figure 19). This expenditure is, however, below the CAADP target of spending at least 10 percent of national budgets on agriculture (see Figure 20). More than half of the total public spending in the agricultural sector goes to the farmer input support programme and output price support. The distribution of the agricultural budget from previous years shows that there has not been enough emphasis on making public investments necessary to facilitate transformation and growth (Chapoto et. al, 2017). Instead, most of the agricultural sector budget goes to support maize production through subsidising inputs and maize prices (Hichaambwa et al, 2015). The impacts of these programmes on productivity and poverty reduction have been limited due, in part, to limited investments in the key drivers of agricultural development including research, extension, infrastructure and irrigation.

The budget reveals prioritisation of maize security as equivalent to food security rather than nutrition security more generally

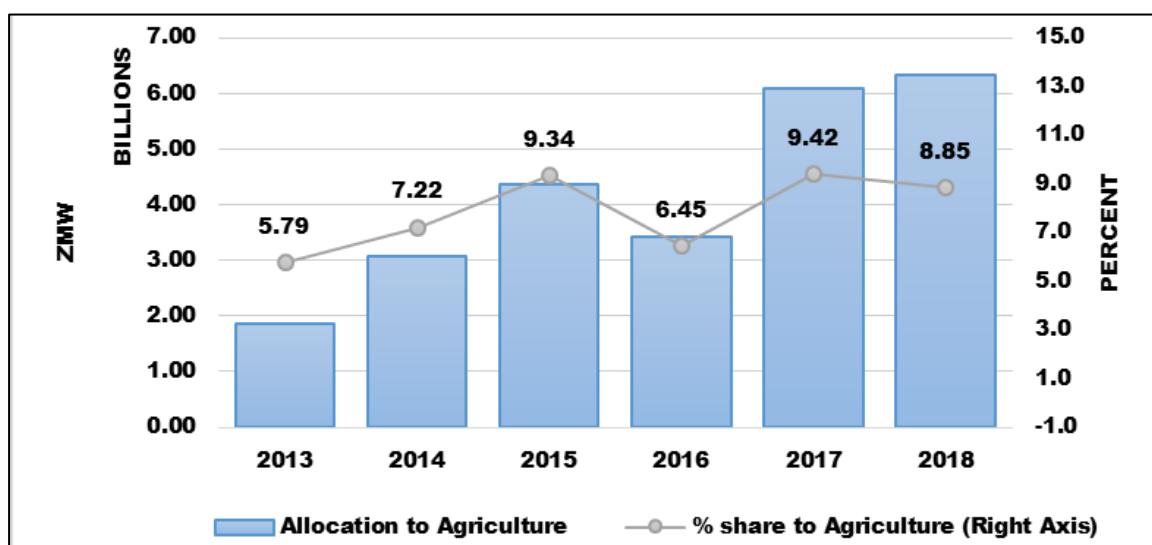


Figure 20: Share of agriculture budget in national budget

Source: MoFNP and MoA various years

3.3.3. Budgets for environmental protection

Budgetary allocations to environmental protection have remained low and have averaged 0.6 percent of the national budget between 2010 and 2018 (Mweemba, 2018). This is much lower than the 2 percent allocation to FISP and FRA over the same period (Figure 21). On a positive note, there is a rising trend in allocations to environmental protection between 2016 and 2018, but more resources are required to effectively address the numerous challenges besetting natural resource management in Zambia.

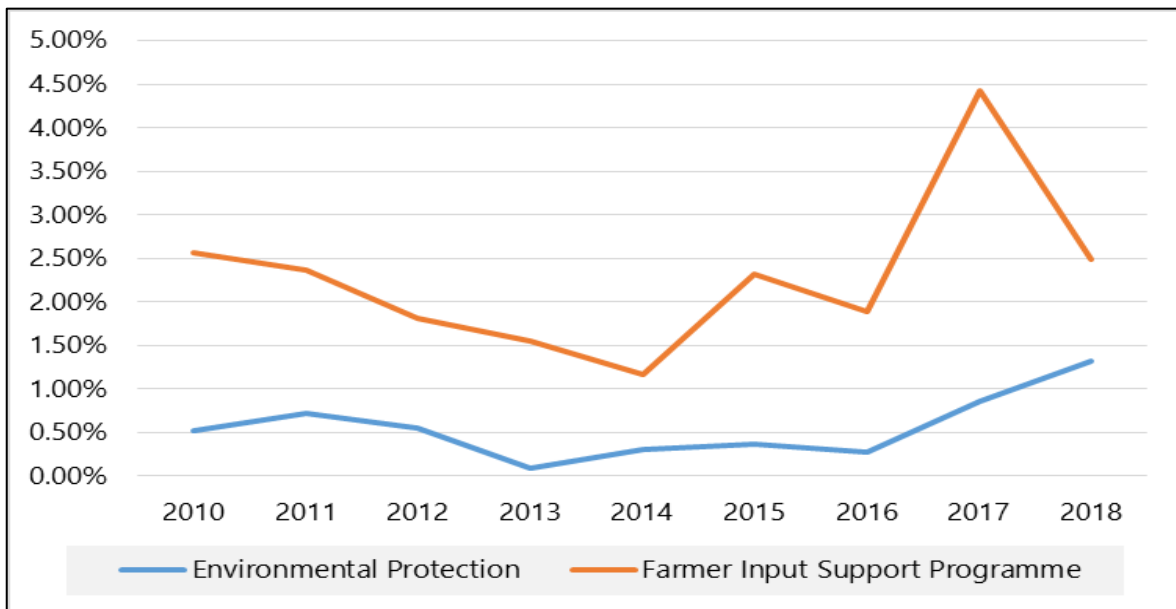


Figure 21: Trends in budgetary allocations towards FISP and environmental protection between 2010 and 2018
Source: Mweemba (2018)

A smiling woman in a field, wearing a blue and yellow striped shirt and a patterned skirt, holding a plant. The background is a soft, golden-yellow field.

Gaps & Recommendations

This section identifies gaps and makes recommendations on how various challenges can be addressed in order to effectively end hunger and malnutrition in Zambia by 2030.

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4.1 ACHIEVING ZERO HUNGER IN ZAMBIA

Hunger Gaps

The Zero Hunger Strategic Review and other studies have identified four key gaps that will hinder Zambia achieving zero hunger by 2030:

- **Policy incoherence:** Despite the many policy documents and pronouncements towards addressing hunger, some of the policies do not adequately align with each other. For instance, there is a need to revise the 2008 Nutrition Policy to align it to the SDGs, the country's Vision 2030 and the 7NDP. In addition, inconsistent policy pronouncements, especially around the maize sector, have hampered progress towards attaining zero hunger.
- **Weak coordination:** Poor coordination among sectors, ministries and different stakeholders remains a key impediment to achieving zero hunger in Zambia
- **Resource and Capacity constraints:** Despite having strong policy frameworks to support the attainment of the SDGs, limited resources and their allocation to key drivers and sectors, as well as limited capacity - both institutional and human - have affected implementation of programmes at all levels to help attain food and nutrition security.
- **Fragmented social programmes:** Despite several social protection schemes, their fragmented nature has contributed to high administrative and delivery costs which have compromised their scalability. These schemes target the elderly, orphans and vulnerable children, disabled individuals, school children, marginalized communities and populations affected by hunger. These programmes, however, have been characterized by poor funding, inefficient beneficiary registration, and targeting systems, weak monitoring, inadequate coverage and information leading to errors of exclusion and inclusion.

4.1.2. Recommendations

To achieve Zero hunger by 2030, Zambia requires coordinated and collaborative efforts including a wide range of sectors and stakeholders including public, private, development partners, and civil society. The GRZ is compelled to provide leadership and prioritize policies and public resources to stimulate investments in sub-sectors that are key to achieving food and nutrition security. Key general recommendations emerging from the strategic review are as follows:

Policy coherence: There is a need to review the current policies so that they are effective in addressing the challenges faced by Zambians. The country needs to urgently develop and implement a holistic and coherent Food and Nutrition Security Policy that strengthens and aligns interventions to the 7NDP. Monitoring of cross-sectoral policies is required to ensure policy coherence between different sectors and a national framework to monitor and evaluate the implementation and the performance of policies. In addition, inconsistent policy pronouncements, especially around the maize sector, have hampered progress towards attaining zero hunger.

Strengthen coordination: In view of the multi-dimensional nature of food and nutrition insecurity, there is need to institute a coordination mechanism to ensure synergies across sectors. To address coordination challenges, as well as the poor communication and information sharing, the country has recently launched the National Food and Nutrition Strategic Program (NFNSP 2017-21) to offers guidance and promote synergy among a broad set of nutrition-specific interventions and the nutrition-sensitive plans and programs of national stakeholders. However, the country needs to move beyond a program approach and develop and implement a holistic and coherent Food and Nutrition Security Policy that strengthens and aligns interventions to the 7NDP. Coordination of these activities must be done at a high level to ensure an aligned and coordinated implementation model to operationalize the recommendations from the strategic review.

It is therefore recommended that OVP should use its statute and convening power to coordinate stakeholder to take part in the implementation of the Zero Hunger roadmap. This will ensure that all government and non-government actors, policies, and programmes are effectively implemented and coordinated to sustainably deal

with the complex and inherent issues of food and nutrition security. It is envisaged that sub-national structures to help implement and monitor the strategic initiatives agreed upon by the national coordinating committee comprising of key stakeholders will be strengthened where they exist and established if not existent.

For efficient and effective coordination of implementation of nutrition interventions across the sectors, NFNC needs to be placed under a more multi-faceted institution than MoH, and its operations decentralized to all provinces and districts. This will enable NFNC to deal with coordination problems. There is also need to release parliamentary appropriation directly to NFNC as well as develop a mechanism to ensure that development partners provide predictable financial or other forms of support in a coordinated manner. In addition, Government funding for nutrition interventions need to be increased in line with the 2012 Government commitment in order to scale-up nutrition programs including education programs, home grown school feeding programs, enhance poverty reduction strategies relating to women empowerment and strengthening existing community based programs.

Resource and Capacity strengthening: There is a need to allocate more resources to effectively fund the various ministries implementing programmes related to addressing food and nutrition security. Capacity and skills strengthening of the coordinating board and related government and non-government actors is critical and should be part of the national food and nutrition strategy to deliver higher quality and cost-effective assistance to households and individuals that do not have adequate access to food. The supporting structures of the coordinating office both at national and sub-national levels should possess a wide range of skills including technical, strategic and management skills. The country should put in place an effective system to collect, analyse, monitor and evaluate the progress of all policies and programmes put in place to address the hunger issues facing the country.

Enhancing monitoring system: The country should put in place an effective system to collect, analyse, monitor and evaluate the progress of all policies and programmes put in place to address the hunger issues facing the country. This is vital to make progress in light of the cross sectoral nature of the challenges affecting hunger. For instance, there is need to enhance the monitoring of the implementation of the National Policy on Climate Change and the National Adaptation Programme on Climate Change (NAPA) across all sectors. In most policy documents there is limited information on how programmes are performing in relation to food security due to limited monitoring capabilities and lack of imbedded monitoring systems.

Enhancing the provision of social programmes: There is need to enhance the provision of social protection interventions to the people living in areas prone to the cyclic effects of climate related shocks, and to the rural and urban poor and vulnerable households through food assistance to improve access to, and utilization of, safe and nutritious food. To achieve this, budgetary allocation to social protection programmes should be increased. In particular, there is need to revise the targeting of social protection to include nutrition vulnerable target groups. A single registry which tracks beneficiaries on various programs for purposes of coordination and records would not only enhance program effectiveness but also save resources.

4.2 ACHIEVING ACCESS TO ADEQUATE FOOD ALL YEAR ROUND

4.2.1. Gaps

Zambia's agricultural sector is largely maize-centric and poorly diversified. The large dependence on maize is reflected in national policies and pronouncements that consider maize bumper harvests as indications of food security, and maize marketing as a sign of income generation. This is done at the expense of other more nutrient dense, and/or more profitable value chains. Moreover, land constraints are setting a limit on how much households can diversify and yet for those who are not land constrained, access to technologies that can facilitate intensified production continues to be a challenge.

Information dissemination and availability of equipment to adequately track climate parameters remain insufficient due to inadequate investment in field monitoring and dissemination (particularly the availability of downscaled and point climate information at local level, and the lack of an explicit communication platform between MoA and the Meteorology department), and funding for meteorology equipment. The system of information dissemination is not always timely or accessible to the farmers because of network challenges and the continued use of English and jargon in the dissemination of data. Disaster response also continues to be a challenge because of political interference (in terms of accessing relief food based on disaster assessments) and inadequate coordination among the various actors that can be utilised in assessment and response.

Despite recommendations from various stakeholders, agriculture market policies have remained inconsistent

leading to high price volatility of locally produced foods, which tends to affect food access. Further, provision of social services such as social cash transfers to enable the poor to have access to food is limited in coverage. Employment creation policy objectives, especially for the rural population, have not been achieved due to underdevelopment of alternative value chains as a result of the maize centric policies. There is currently no policy to guide implementation of agriculture diversification at both macro and micro levels. As such, income levels have remained very low with the majority of Zambians working in the informal sector.

4.2.2. Recommendations

In order to ensure that Zambia creates an enabling environment for all people to enjoy the right to food, a number of strategic initiatives are required. A focus on food access in terms of enabling production and enhanced ability to purchase food that is required. In particular, the country needs to:

- Realign the agriculture sector's budget and increase funding to known key agricultural growth drivers (research and development, modern extension systems, water resource management and irrigation, and rural feeder roads).
- Develop a standalone national agricultural diversification strategy which can lay out the modalities of the implementation of diversification within the sector, and how the challenges of food access in terms of market access, incomes and production can be enhanced to ensure sustained food access and
- Strengthen the relationships among research, extension, and local communities to enable farmers, especially women and youth, to actively take part in preservation of local/indigenous varieties. There is also need to invest in training on proper preservation of local/indigenous varieties at individual level.

Second, a number of institutional changes need to be affected in order to ensure sustainable agriculture and food systems, including enhanced coordination among ministries charged to deal with environmental and natural resource issues (meteorology), and food and nutrition. In terms of investments, efforts have to be directed to two main areas, climate information services enhancement and innovations to enhance smallholder farmers' financial inclusion and access to insurance.

Third, there is need to enhance the provision of social protection interventions to the people living in areas prone to the cyclic effects of climate related shocks, and to the rural and urban poor through food assistance to improve access to, and utilization of, safe and nutritious food. To achieve this, budgetary allocation to social protection programmes should be increased. In particular, there is need to revise the targeting of social protection to include nutrition vulnerable target groups. To ensure that these programmes are sustainable, the Government needs to implement a graduation mechanism of recipients based on a centralized tracking system for all social protection programmes. This graduation should be linked to safety nets such as skills training and knowledge transfer to allow the recipients to fend for themselves when they are weaned off from the programmes. Also social protection policy in the country needs to be strengthened to make it more nutrition sensitive across all the pillars.

Fourth, to enhance the marketing and trade system (of mostly staple grains) in the country where government and private sector co-exist without the fear of unpredictable and non-consistent policies, the Government needs to enact the Agricultural Marketing Act. This would lead to more sustainable private sector market development as well as allow government entities such as FRA to embrace market based mechanisms of maintaining the country's strategic reserves. For example, the Government through FRA could save a lot of public resources by procuring and disposing the strategic grain reserves through ZAMACE. The saved resources could then be spent on more effective social protection programmes such as social cash transfers. In addition, for efficient and competitive markets the government should strengthen agricultural markets and price information systems. For example, the country needs to consider investing in village text-based methods of disseminating market and food price information.

In terms of the creating access to decent and productive employment in Zambia, there is need to have incentive structures such as tax breaks for productive businesses to be set up especially in the rural areas to stimulate value chain development and ultimately decent employment. This will allow people to have income to purchase or grow nutritious food they may require. In addition, more resources need to be allocated to technical and vocational training institutes for education and skills development, and region-specific value chain development (production, processing zones and marketing) to boost decent employment options.

Finally, a major gap is that there continues to be a lack of adequate emphasis on urban food and nutrition insecurity at the national level despite the emerging evidence supporting its existence. This has implications for the rising burden of malnutrition in urban informal areas. Questions pertaining to food system transitions and

outcomes such as NCDs are complex and multifactorial with no easy solutions. New forms of knowledge are required to underpin societal change that transcends multiple complex sectors and strengthens efforts to reduce the NCD burden. In Zambia, there is a need to understand better the diets of urban citizens, a pressing data collection challenge; even better would be combining individual dietary data into datasets addressing upstream food expenditures and downstream nutrition outcomes. Documentation of nutrition-related disease is needed, perhaps using clinical records where these are available to give a picture of the pace of change. DHS should continue to document overweight and obesity in women and children, to illustrate the pace of change and keep these dimensions of nutrition on the policy agenda.

These emerging changes are not well reflected in current national food and nutrition policy, which maintains a focus on child stunting and micronutrient deficiencies as key outcomes, and on maize production as the key agricultural strategy. One implication of not addressing the nutrition transition is a negative impact in the near future on an already constrained national health budget.

The actions needed for averting undernutrition, overnutrition and NCDs are similar, involving enhancing availability, affordability and desirability of diverse nutritious diets. On the supply side, action will involve promoting diversity in the production of nutrient-rich foods and supporting supply chains which make these accessible.

4.3 ACHIEVING ZERO STUNTED CHILDREN LESS THAN 2 YEARS

4.3.1. Gaps

Despite Zambia's relative coherent policies, strategies and programs for tackling stunting in the country, there are important limitations that need to be addressed to allow for effective implementation of policies. Most of these relate to limited functional powers of NFNC and inadequate data on nutrition. Structurally, the NFNC is placed under the Ministry of Health, which limits its powers to coordinate activities across the line ministries. In addition, financial support to nutrition interventions in the line ministries remains inadequate, unpredictable and uncoordinated. Further, while the 2008 Food and Nutrition Policy suggests that nutrition information generation through research and routine surveillance system will be carried out. The national nutrition research agenda is not yet in place and a surveillance system has not yet been established. The country is also yet to put in place a National Nutrition Common Results Framework aligned to routine data collection systems. Other key policy gaps include:

- The 1967 Act is not aligned to the current nutrition needs including institutional coordination, global, regional and national targets, and current nutrition challenges. A draft bill has been developed and approved by cabinet and awaits approval by parliament.
- The 2008 National Food and Nutrition policy is outdated and not aligned to current nutrition challenges and global, regional and national targets. The review of the policy was earmarked to start in 2016 but this has not yet been implemented.
- The national micro-nutrient strategy, which provided guidance in the implementation of micro-nutrient programs such as food fortification expired in 2011 and has not yet been reviewed. Thus, current micro-nutrient interventions have no strategic guidance.
- The country has no nutrition advocacy and communication strategy.
- The 2018-2021 food and nutrition strategic plan has no monitoring and evaluation framework and it has not been costed.

In addition, there is also inadequate institutional capacity and human resources with the appropriate competencies in food, WASH and nutrition across the line ministries for enhanced service delivery in the context of a multi-sectoral approach.

4.3.2. Recommendations

For efficient and effective coordination of implementation of nutrition interventions across the sectors, NFNC needs to be placed under a more multi-faceted institution, and its operations decentralized to all provinces and districts. This will enable NFNC to deal with coordination problems. There is also need to release parliamentary appropriation directly to NFNC as well as develop a mechanism to ensure that development partners provide predictable financial or other forms of support in a coordinated manner. In addition, Government funding for nutrition interventions need to be increased in line with the 2012 Government commitment in order to scale-up nutrition education programs, home grown school feeding programs, enhance poverty reduction strategies including women empowerment and strengthen existing community based programs.

To address the problem of inadequate human resources with the appropriate competencies in all food, WASH and other nutrition related sectors, the following measures are recommended:

- Facilitate the operationalization of the updated workforce plan
- Support capacity building for community based organizations in food and nutrition education
- Strengthen the food and nutrition component of curricula in the formal and informal education sector and other relevant training institutions
- Improve availability of health personnel in the health facilities through scaling up of programs such as the Zambia Results Based Financing to improve access to health services.

On the demand side, public health messages and increasing 'nutrition literacy' among all sections of the population is required. Some key messages about the negative effects of both stunting and excess weight will have to contend with different norms, with higher social acceptability of overweight and obesity than is seen in many Western countries and a desire for so-called 'status' or 'aspirational' foods - which may include processed foods and meat - as a powerful driver of food choices. A recent assessment of Zambia's policy options for improving diet and nutrition concluded that as a low-income country with high urbanization and high market liberalization, the country should place high policy priority on incentivising fruit and vegetable production, reducing ultra-processed foods, and tackling food safety issues; a medium priority on addressing the calorie shortfall and hunger issues, incentivising animal source food production, and reducing sugar and salt intakes; and a lower priority on reducing intake of red meats and excess calories (Global Panel on Agriculture and Food Systems, 2016).

4.4 ACHIEVING SUSTAINABLE FOOD SYSTEMS

4.4.1. Gaps

Few mandatory food safety standards: There are currently no mandatory standards for agriculture production. However, there are mandatory sector regulations based on voluntary standards from ZABS. Examples in agriculture include the PQPS offered by ZARI for imports and exports, seed certification offered by SCCI and regulations on aflatoxin in groundnuts and groundnut products.

Limited use of integrated natural resource management systems: Despite efforts aimed at promoting sustainable natural resource management, several gaps remain, including a) fish depletion due to over fishing, use of wrong fishing methods and illegal fishing b) low capacity in NRM; and c) low participation in community based forest management. While Zambia has made policy and legal provisions for the sustainable management of natural resources, implementation lags behind. Sector development funds such as the Joint Forest Management fund, Forest Development Fund, Community Resources Board Fund, Fisheries and Aquaculture Development Fund, and the Wildlife Development Fund are yet to be actualized. This is despite being provided for in national legislation.

Inadequate Response to Climate and Disaster Risk and low CSA uptake: The government in collaboration with its development partners has devised and implemented a number of policies and interventions that are aimed at addressing the adverse effects of climate change and other disasters on productivity and production among smallholder farmers. These policies and interventions have been focused more on adaptation as opposed to mitigation efforts with the ultimate aim of enhancing smallholder resilience to climate change and other shocks. The major intervention that has been implemented in the context of enhancing productivity and increasing smallholder resilience to climate change is CA. This practice falls within a broader spectrum of interventions that are referred to as Climate Smart Agriculture (CSA), which also have had low uptake by smallholder farmers. Although having been widely promoted, CA adoption has remained low while dis-adoption is widespread. Based on the Rural Agricultural Livelihoods Survey (RALS) 2015, only 8.8 percent of smallholder rural households practiced CA in 2013/14 agricultural season, with 3.7 percent adopting the full CA package (Zulu-Mbata, 2016). Despite the low adoption of CA by farmers, empirical evidence shows that using elements of CA such as minimum tillage has significant yield effects on smallholder farmers (Ngoma et al, 2015).

4.4.2. Recommendations

The major recommendation from stakeholders is that there is an urgent need to develop additional standards for agricultural production to consider good agricultural practices, additional standards on food safety must also be developed. To be effective, food safety standards will need to be combined with economic incentives where

for example, farmers who meet set criteria can sell their produce at a premium price. In the absence of price premiums, producers will have no incentives to improve production standards. Besides economic incentives, standards can be promoted as tools for quality assurance, rebuttal of conflicts, and to build and preserve company image and reputation. Further, food safety standards will require public-private partnerships and policy support. For example, progress in addressing aflatoxins in the groundnuts value chain is partly because private sector stakeholders were involved in ensuring that groundnuts produced in Zambia met regional and international market standards. Further, Governments and Industry will need to commit to procure and do business with sustainable supply chains. Because of the weak enforcement of standards, institutions must be further capacitated financially and with human capital to effectively carry out their mandates. Awareness on agricultural production standards needs to be enhanced, for example, by including these aspects in school curricula.

With regards to institutions, there is need to increase funding to ZABS, ZCSA, local councils and others to carry out their mandates. Cross-sectoral collaboration must be promoted across all agencies in implementing and enforcing food safety standards among various stakeholders. Further, there is need to regularly capacitate staff in institutions mandated with agricultural production standards development and enforcement through in-service training.

To foster sustainable natural resource management in Zambia, traditional leaders must be empowered through legislation to regulate forests and other natural resources, especially in customary land areas. To that effect, the forest management benefit-sharing modalities must be finalised. The forestry department's structure must be reviewed to improve responsiveness to current sectoral challenges. Institutions charged with natural resources management must be capacitated, including the departments of forest, fisheries, and national parks and wildlife to enable them to put more wardens on the ground. There should also be increased finance flows to R&D to test the different policy instruments for forest management in Zambia. To mobilise resources for NRM, the Forest Development Fund should be actualized among other sources of funds. Investments in seedling production to support afforestation and reforestation are also crucial for addressing deforestation. Similarly, there is a need to invest and expand on incentivized forest management schemes such as REDD+ and Payment for Ecosystem Services in general. Other critical actions include investments in demonstration plots for sustainable charcoal production, and mass sensitizations on forest regulation to enhance community compliance, and participation in community forest management. There is a need to increase collaboration in land-use planning with local communities and other stakeholders to enable the forestry department to effectively manage forest boundaries. Adherence to and enforcement of forest management policies and regulations must be enhanced. Community-based natural resource management groups and sector working groups at lower levels such as the district need to be strengthened to facilitate policy coherence in implementation.

To minimize depletion of fish in capture fisheries, there is need to (i) invest in aquaculture training programs and market development for fish value chains (ii) Increase the availability of aquaculture opportunities so that fishers reduce their dependency on capture fisheries. (iii) Invest in information generation on biomass, and capture fisheries status and dynamics.

The uptake of CSAs could be improved through: enhanced monitoring of the implementation of climate change policies; improved documentation and dissemination of technologies and innovations that mitigate climate change impacts; increasing operational funds to extension for CSA information dissemination; as well as revamping the extension strategy to ensure that the beneficiaries of e-FISP receive an extension package with emphasis on CSA. All CSA activities should be coordinated through a single unit and messages harmonized. A national monitoring and evaluation system should be put in place to track progress. Given that most CSA methods have long-term benefits, there is a need to promote their adoption through linking CSAs to insurance or other financial instruments to protect farmers from production risks.

4.5 ACHIEVING INCREASED SMALLHOLDER PRODUCTIVITY AND INCOME

4.5.1. Gaps

Weak Implementation of Policies and Programmes: The policy framework in Zambia has continued to evolve. However, there are apparent inconsistencies between policy statements (such as increasing diversification, productivity and promoting the development of private input supply and output marketing) and actual policy implementation. The bulk of the public expenditure allocation to the sector has continued going to FISP and FRA denying the key drivers of agricultural growth the much-needed funding resources. Some progress is being made in re-aligning this expenditure through distributing FISP inputs through the electronic voucher and efforts to limit

the FRA activities to maintaining strategic food reserves.

The government has on a number of occasions made pronouncements aimed at restricting exports and imports in the country using Statutory Instruments and other pieces of legislation. While restriction of exports for food commodities such as maize is essential to ensure food security in the country, inconsistencies in policy pronouncements, vis-à-vis output markets, such as exports and import bans have the potential to stifle increased smallholder production, productivity and income as export bans restrict and limit market access for the produce. Therefore, there is a need for wider stakeholder consultation and coordination before such bans are implemented as they can discourage competition thereby compromising efficiencies in a free-market economy and restrict consumer choices. ZAMACE, which can help improve predictability in grain markets as well as reduce excessive price volatility, has not attracted enough transactions on the platform. Unpredictable trade policy implementation by the Government also stifles ZAMACE operations.

Limited Smallholder Access to Arable Land: Smallholder access to land is limited which significantly constrains production, productivity and income generation. Zambia has had no land policy in place, however, a draft land policy has been developed and made available for comments and submissions from various stakeholders. This is a positive development in that the policy will provide an overall guideline for land access and land tenure issues affecting smallholder farmers in Zambia. Another positive aspect from the draft policy is that it is taking a consultative approach, whereby stakeholders are already making submissions. For example, the House of Chiefs have already made their submission in which they rejected the draft policy recommending further scrutiny. Currently the draft policy is being discussed with further inputs expected from various stakeholders.

Discontinued Donor Supported Activities at Project/Programme End: There are a number of projects and programmes implemented by donors, with the aim of increasing the productivity and incomes of smallholder farmers. Even though most of these projects and programmes have recorded resounding successes with regard to increasing smallholder productivity and income, activities hardly continue when donor support ceases. This could be an effect of limited collaboration between donor programmes and Government activities, as well as the lack of coordination among the donor agencies. Yet, in other cases, it is a result of limited capacity or resources for continuing donor activities, especially that most of the public resources in the agricultural sector are allocated and used for FISP and FRA.

Ineffective Agricultural Technology Generation and Transfer for Smallholders: Agriculture research and extension in Zambia play a vital role in agriculture development through generation and dissemination of technologies that are adapted to different farming systems. If effectively disseminated and made available and fully adopted by end-users, these technologies can significantly contribute to increased agricultural productivity, production, and incomes for the sector. However, little investment and funding towards research and extension continues to be problematic and ultimately stifling smallholder production.

Poorly Diversified Smallholder Agriculture and Livelihoods: Agricultural production and livelihoods at smallholder farm level are poorly diversified and this has adversely impacted on productivity, production as well as income. Mofya-Mukuka and Hichaambwa (2016) showed that the key government policy instruments of FRA and FISP negatively affect crop diversification. Despite FISP and FRA taking up almost two-thirds of the annual agricultural budget, these programmes mostly benefit a small proportion of better off smallholder farmers. The agricultural sector offers potential to contribute significantly to national GDP through producing a diversified range of products for the local and international markets. However, current and past agricultural development policies have inclined towards promoting maize production. If the Government's spending on agriculture is to yield meaningful results especially with regards to poverty reduction, the Government needs to create an enabling environment in which alternative value chains to maize can flourish. Agricultural diversification also leads to better nutrition and resilience outcomes.

Limited Market Integration for Smallholder Farmers: Government's policy continues to embrace commercialisation of smallholder agriculture as a major driver of poverty reduction by generating sustainable incomes from farming as a business/commercialisation of agriculture. Agribusiness is encouraged to strengthen market linkages between smallholder farmers and consumers through increased private sector participation in service delivery, such as in input supply, output marketing, and agro-processing. Increased agro-processing/value addition calls for the need to improve the quality, reliability, and scale of production of the raw produce, especially from the small and medium-sized agricultural enterprises. In the absence of a holistic approach to address agribusiness issues such as taxation, export bans, trade and market development including value chain financing among others, there are alternative efforts underway. For example, E-SAPP will facilitate the development and implementation of the Zambia National Agribusiness Development Strategy (ZNADS), which will be the first step

in systematically involving public and private stakeholders to work towards improving the agribusiness policy environment in the country.

4.5.2. Recommendations

In view of the highlighted gaps constraining increased productivity and income generation. The agricultural marketing bill should be re-examined with a view to elaborate benefits and re-energise stakeholder engagement for enacting of the Agricultural Marketing Bill which will facilitate consistent policies immune to political influences. The MCTI should be mandated to be more involved in agricultural trade issues like any other and enforce regional and international trade protocols in place. In addition, the capacity of ZAMACE should be enhanced by mandating FRA purchase and sell at least 50 percent of its grain strategic reserves. This will also strengthen the WRS for improved agricultural marketing linked to input financing.

Facilitating Public-Private-Partnership (PPP) investments in a number of key areas including: a) construction of all-weather storage facilities in strategic places around the country that should be certified by ZAMACE to also be used for WRS; b) specialised commodity wholesale markets for fresh fruits and vegetables, livestock (especially small ones), and legumes among others. More funds are required for the improvement of feeder road networks to significantly ease agricultural marketing. On the policy side, there is a need to develop a policy framework that ensures that measures are built in the project/design process for the continuity of the activities through line ministries once donor support ends.

Further, there is a need to build the capacity of MoA, MFL and other concerned ministries such as MCTI to keep track of projects under implementation and to assimilate project activities in the usual ministry annual work plans after project life. Engaging farmer associations/cooperatives, MoA, MFL and MCTI in project design, development and implementation will be crucial for ensuring project ownership. This will also sustain project activities beyond project life. Further, actively involving relevant ministry staff in project/programme activities coupled with building capacity where necessary will contribute towards continuity.

Other intervention points include the introduction of specific budget lines for donor-funded projects into the yellow book before the end of the project, increasing the annual allocations to support project activities as donor funding declines, to ensure continuity. Increasing the operational funding to MoA and MFL rather than allocating the bulk of funds to FRA and FISP will be crucial to achieving increased productivity within the sector, but these resources must be made available on time, especially for critical operations.

Developing a policy framework that will enhance capacity, coordination, and synergy between all public and private sector agricultural extension organisations to be anchored around promoting sustainable agricultural practices. Devising a system of totally rejuvenating the whole public extension system especially at the provincial, district and sub-district levels including through the adequate and timely provision of funds and other resources needed for effective and efficient operations. Harmonising the messages that are reaching the farmers and also the issue of inputs provision by NGOs and private companies as it affects the public sector extension delivery needs to be effected. This calls for a Statutory Instrument that can help regulate how extension services are delivered to the farmers by all stakeholders (public, private, NGOs, and CSOs).

Capacitating farmer training institutes in providing farmer residential training in sustainable methods of agriculture, diversification, and nutrition in order to facilitate broad-based adoption and increased farmer incomes is required. There is urgent need to build the capacity of relevant MoA and MFL extension staff for effective knowledge transfer to smallholder farmers centred on sustainable agricultural practices. GART, CFU, CDT, and agro-dealers should be capacitated to provide the necessary training of trainers in both crop and livestock based sustainable production systems. Increasing research-extension integration through combining commodity research with well-funded farming system research teams at provincial levels (only specialist research activities should be domiciled at research stations). Each farming systems team should have a Research Extension Liaison Officer.

Providing funds and expertise for MoA and MFL to develop and implement a mobile phone Short Message Service based system for weather and sustainable agriculture information system to complement the face to face knowledge exchange system remains a crucial piece for enhancing extension service delivery. There should be increased funding for farmer to farmer extension approaches such as exchange visits, farmer field schools and lead-follower farmer knowledge delivery systems.

Other measures recommended to increase farmer productivity and incomes include

the following:

1. Finalising the Land Policy development and implementation;
2. Adopt and domesticate Voluntary Guidelines on the Responsible Governance of Tenure of land, Fisheries and Forests;
3. Target reducing the cost and increasing access to land for land-constrained smallholder farmers through the inclusion of more smallholder farmers in farm block development as well as general opening up of new areas suitable for smallholder commercialization through appropriate investments.
4. Broadly supporting the E-SAPP efforts in developing and implementing the agribusiness development strategy. Also, there is need to leverage efforts of E-SAPP to mainstream training of smallholder farmers in FaaB through MoA, MFL, and other concerned rural development stakeholders. Funds need to be provided for training of trainers in FaaB who will in turn train frontline extension staff to train smallholder farmers, especially women and youths in all agribusiness issues including enterprise choice and budgeting and marketing;
5. Providing funds for training of trainers in various aspects of savings and loan group formation. Lessons can be learnt from existing ones, such as the Savings and Internal lending Communities (SILCs) from CRS, and various community level implementers of the IFAD funded RUFEP.

4.6 ELIMINATING FOOD LOSS AND WASTE

4.6.1. Gaps

Limited attention to food waste and loss: Despite the highlighted policy responses to address food loss and waste, Zambia has no food loss and waste strategy to guide interventions and measure progress. There is also no strategy on post-harvest management to guide actors within the agricultural sector and across sectors. There are no binding commitments by producers, consumers, and retailers to reduce food losses and waste. There is no multi-stakeholder dialogue and consultation mechanisms established at national level to promote concerted efforts on food loss and waste and there is inadequate consumer knowledge to prevent, and/or reduce, reuse and recycle food to reduce loss and waste.

Limited institutional capacity and funding to manage food loss and waste: At the national level, relevant Government departments have limited capacity to effectively disseminate extension messages to end users. Thus, best practices are not disseminated effectively, and early warning information is not generated and disseminated on time. Further, farmer training centres are inactive, and research and development is underfunded. This undermines demand-driven technology development and dissemination to address post-harvest challenges. In-service training of extension workers to better respond to emerging challenges including pests, and diseases is weak. These factors coupled with limited funding for research in food loss and waste undermine effective management of food loss challenges in Zambia. The lack of improved storage infrastructure at household and community levels calls for investments or promotion of investments in these. These could serve as aggregation centres under the warehouse receipt system. Poor feeder roads and the lack of cold chains or organized horticultural produce markets demands investments in value chain development that deliberately targets high loss value chains.

4.6.2. Recommendations

To deal with food waste and loss, there is an urgent need to develop and implement a national food loss and waste strategy to guide actualization of policy pronouncements. Related to this, there is also a need to develop a post-harvest management guide to assist value chain actors. Any such strategies must promote investments in improved storage infrastructure through private-public partnerships; facilitate access to low-cost finance for investments in storage infrastructure and minimize the cost of these technologies, promote private and public sourcing of food from value chains committed to reducing food loss and waste – along the lines of zero deforestation supply chains. Funding for research and development must be increased to facilitate generation of appropriate post-harvest technologies to minimize food loss. There is also a need to design large-scale training programs on pre- and post-harvest commodity handling and storage to minimize post-harvest loss. To track progress, there is a need to establish a functional monitoring, evaluation and learning system and to strengthen coordination between stakeholders addressing challenges of food loss and waste. Strategic initiatives and recommendations are provided for in the annex.

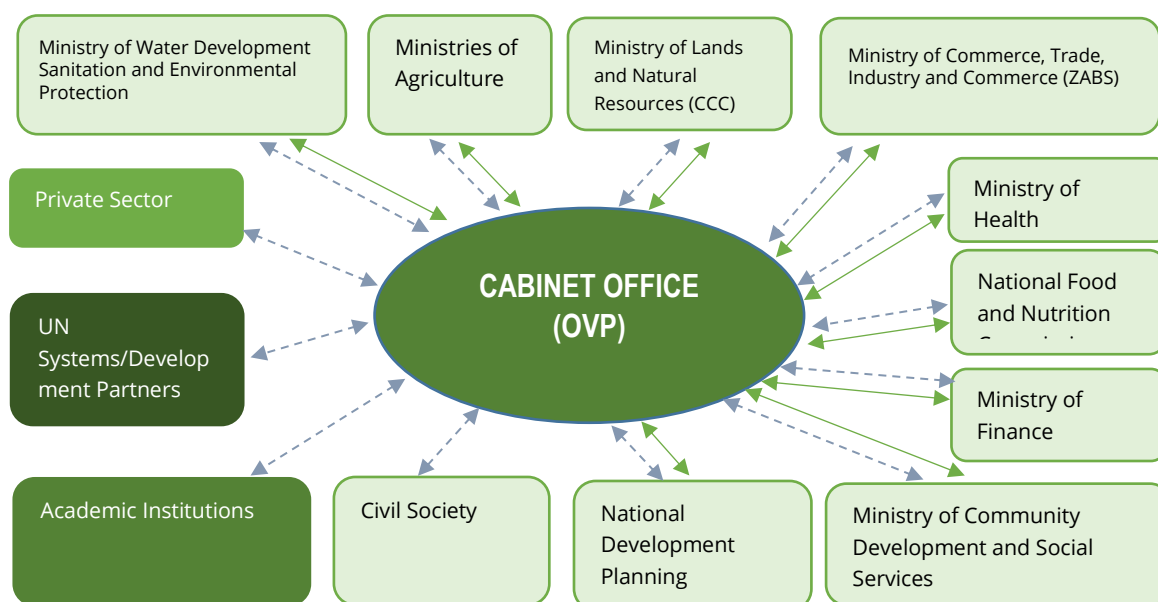
A green-tinted photograph of a group of people in an outdoor setting. In the foreground, a young girl in a light-colored t-shirt and a long, flowing orange skirt is walking towards the left. In the background, a man in a light-colored t-shirt and dark pants is captured in a dynamic pose, possibly dancing or performing a physical activity. To his right, another person in a striped shirt and shorts is standing. The background is filled with lush green trees and foliage. The overall scene suggests a community or cultural event in a rural or natural environment.

Coordination & Implementation Arrangements

5.1 COORDINATION

One of the greatest challenges facing the implementation of policies related to the Zero Hunger Challenge in Zambia is the absence of an effective coordination mechanism that can effectively align the different responses across various sectors and government departments, which has been lacking. Where coordination mechanisms are mentioned, they are vague in detail. Coordination mechanisms, in the form of various inter-governmental forums at different spheres of government remain undeveloped and ambiguous. Cooperation and coordination of a multi-sectoral nature would help generate the large-scale, sustainable change necessary to address the 'wicked problem' of food security and the growing burden of malnutrition in all its forms in Zambia.

In view of the multi-dimensional nature of food and nutrition insecurity, there is need to institute a coordination mechanism to ensure enhanced synergies across all policies and programmes pertaining to Zero Hunger Pillars as well as to ensure improved efficiency and effectiveness of the Zero Hunger Roadmap. Further, an effective coordination arrangement will help to minimize institutional conflicts, duplication of efforts, wastage of financial resources and implementation delays, and will lead to better collaboration between implementing institutions. It is envisaged that the overall coordination of the Zero Hunger Roadmap will be undertaken by the Cabinet Office through the OVP, while actual implementation will be undertaken by the relevant line Ministries with support from United Nations Systems in Zambia and other relevant non-state actors. The coordination will be anchored on existing structures laid down in the 7NDP as shown in Figure 22 below.



----- UN/CSO/Private Sector/Academia
 _____ Government

Figure 22: ZHSR Proposed coordination structure

Implementation of the recommendations enshrined in the Zero Hunger Roadmap will be the responsibility of relevant Government Ministries with technical support provided by relevant United Nations Agencies, Private Sector, Civil Society Organization and Academic Institutions. For this, the Cabinet Office through relevant Ministries will rely on partnerships with key stakeholders to implement the recommendations of the ZHSR on the five (5) pillars of Zero Hunger.⁶ The overall coordination and expected oversight of the implementation of the Zero Hunger Roadmap will build on the existing relationships and partnerships built through the 7NDP Implementation Plan (Volume II).

It is expected that Government through the relevant Ministries will collaborate and partner directly with appropriate UN Agencies and International NGOs that have effective programming experience in the areas identified in the Zero Hunger Roadmap. At sub national level, coordination of activities will be key for community mobilization and training, field monitoring of implementation of the ZHSR recommendations, which will include periodical review of recommended activities.

⁶<http://www.un.org/en/zerohunger/pdfs/ZHC%20-%20Pathways%20to%20Zero%20Hunger.pdf>

5.2 MONITORING AND EVALUATION

Implementation of the Zero Hunger Roadmap will include a rigorous and robust monitoring and evaluation assessment process to ensure the results in terms of set goals and targets are tested, validated and shared widely among stakeholders. This will include analyses of issues that impede sustainable attainment agreed targets that form part of the five Zero Hunger pillars.

A key issue emerging from this review is that there has been a lack of monitoring and evaluation across a range of related policies to gauge policy impact. This reveals a general lack of attention to learning and adjusting implementation across these complex domains, which will be required in the future.

The proposed monitoring approach to use in this regard will be Monitoring, Evaluation and Learning (MEL) system whose design already incorporates the needs and requirements of decision-makers and implementers such as UN Agencies. This MEL system will be based on Logical Framework Matrix (LFM), a simplified linear description of the expected relationships across the five (5) Zero Hunger Pillars, commonly referred to as “Results Chain”.

It is envisaged that the MEL system will be structured across two key components:

- **Monitoring** - Continuous and periodic surveillance system that provides management and main stakeholders to the Zero Hunger Roadmap implementation with early indications on progress made against planned results (Goals and Targets); and
- **Evaluation** - a more in-depth and robust exercise to systematically assess and analyse progress made towards achievement of planned outcomes for ZHSR.

ROAD MAP

Given that hunger is a multi-faceted problem, it requires a well-aligned, coordinated and collaborative multi-sectoral approach involving a wide range of stakeholders including government, development partners and other stakeholders. This collaborative process should be coordinated at the highest level to give it impetus and ensure that political commitment that translates into effective resource allocation is forthcoming. It is strongly recommended that the OVP or Cabinet Office convene a process that enables a roadmap to emerge that operationalizes these recommendations.

The revisions of the National Food and Nutrition Policy should be prioritised and ultimately finalised in line with the 7NDP. This should explicitly address the challenges and opportunities identified in the Strategic Review. There is also need for a high-level process to review and agree on the Zambia Zero Hunger Strategy in terms of strategic initiatives, resource mobilization, implementation and monitoring and evaluation. This process will be initiated with the launch of the Zero Hunger Strategic Review Report and the subsequent announcement of the process leading to the road map to the nation. The high-level commitment will stimulate other stakeholders to commit to developing a shared vision for the eradication of hunger in Zambia by 2030.

A woman wearing a red and white patterned headscarf and a green and white striped shirt is working in a field. She is leaning over, tending to a row of green plants. The background shows a dry, open landscape with sparse vegetation under a clear sky. The word "REFERENCES" is overlaid in white text on the left side of the image, with a vertical line extending upwards from the letter 'R'.

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A hand is shown holding a piece of injera, a traditional Ethiopian flatbread, over a plate. In the foreground, another plate contains injera topped with a yellow and green vegetable salad. The background is a wooden table. The word "APPENDIX" is overlaid in white text on the left side of the image.

APPENDIX

Table A1: List of Stakeholders Consulted

Government Institutions	International Partners	Local NGOs	Private Sector/Farmers
<ul style="list-style-type: none"> o Ministry of Health o Ministry of Agriculture o Ministry of Fisheries and Livestock o Ministry of Community Development and Social Protection o Ministry of Labour o National Food and Nutrition Commission o Zambia Agricultural Research Institute (ZARI) in Lusaka, Kasama and Mansa o Zambia Bureau of Standards (ZABS) o Seed Control and Certification Institute (SCCI) o Disaster Management and Mitigation Unit (DMMU) o National Assembly – Members of Parliament 	<ul style="list-style-type: none"> • International Labour Organisation (ILO) • World Food Programme (WFP) • Food and Agriculture Organisation of the United Nations (FAO_) • International Fund for Agricultural Development (IFAD) • UNICEF • WHO • JICA • World Bank • European Union 	<ul style="list-style-type: none"> o Programme Against Malnutrition (PAM) o World Vision o People in Need o Care International 	<ul style="list-style-type: none"> o Grain Traders Association of Zambia (GTAZ) o Smallholder farmers at district level in all provinces o Individual nutrition consultants'

Table A2: Pillar I-Summary of key legislative and, or policy provisions

Pillar 1	Act or Policy	Legal or policy framework provisions in support of pillar
Pillar 1: 100% access to adequate food all year round	1. Second National Agricultural Policy (SNAP)	<ul style="list-style-type: none"> - SNAP promotes food and nutritional security, agricultural production and productivity, agricultural diversification, agricultural research and extension services, - SNAP also promotes sustainable resource use, irrigation, agro-processing and value addition, agricultural marketing and trade, livestock and fisheries development
	2. National Policy on Climate Change (NPCC)	<ul style="list-style-type: none"> - NPCC provide a coordinated framework for implementing existing, and future initiatives while taking into account climate change in order to achieve sustainable development in the long term. - It recognises that climate change is and will negatively affect food security particularly for groups that are already vulnerable
	3. National Social Protection Policy	<ul style="list-style-type: none"> - The National Social Protection Policy aims to ensure that the country's social protection agenda stimulate pro-poor growth and increases in systemic efficiency. It contributes towards 100 percent equitable access to food by supporting human capital development, breaking the intergenerational linkages of poverty, and reducing the social and economic inequalities that exacerbate poverty
	4. The Seventh National Development Plan (7NDP) 2017- 2021	<ul style="list-style-type: none"> - The Seventh National Development Plan aims to attain the long-term objectives of the vision 2030. The plan has as one of the development outcome, <i>diversified and export-oriented agricultural sector with a focus on: improving production and productivity; improving access to finance; enhancing agriculture value chains; promoting diversification; enhancing investment in agricultural infrastructure; and promoting small-scale agriculture</i>
	5. National Financial Inclusion Strategy 2017-2022	<ul style="list-style-type: none"> - The strategy aims to facilitate universal access to the use of a broad range of affordable financial products and services. The lack of access to finance in the agricultural sector is identified and advocates for the set-up of a well-developed credit information system and movable collateral registry to help fuel
	6. Agriculture Lands Act Cap 187	<ul style="list-style-type: none"> - The Act highlights the sustainable practices, development, investment and management in the agricultural sector

Table A3: Pillar I-Summary of key legislative and, or policy provisions

Pillar I	Act or Policy	Legal or policy framework provisions in support of pillar
Pillar II: zero stunted children under the age of two	1. National Food and Nutrition (NFN) Act of 1967, amended in 1975	<ul style="list-style-type: none"> - The HFN Act of 1967 is Governments' flagship legal instrument for addressing malnutrition in Zambia. It provides for the establishment of the National Food and Nutrition Commission (NFNC) as a statutory Board created through Cap 41 of the Laws of Zambia. NFNC coordinates nutrition interventions and track progress towards improving the nutrition status of the country. - The NFN Act was amended in 1975 to include a provision for the set-up of community nutrition groups and their registration with the NFNC. - The Act, however, does not give NFNC enough power and clout or responsibility for nutrition activities implemented in other line-ministries due to its placement within the Ministry of Health. - Other existing Acts related to food and nutrition include the Bio-fortification Act, Marketing of Breast Substitutes (MBMS) Act (SI), Food and Drugs Act CAP 303, the Public Health Act 195, National Health Services Act, Bureau of Standards Act, Importation Act, Education Acts, and Agriculture Acts.
	1) The National Food and Nutrition Policy (NFNP), 2008	<ul style="list-style-type: none"> - Government through NFNP of 2008 recognizes malnutrition as a serious public health problem in Zambia. - NFNP also recognizes that good nutrition has a positive bearing on social and economic development. - NFNP aims to <i>achieve sustainable food and nutrition security and to eliminate all forms of malnutrition in order to have a well-nourished and healthy population that can effectively contribute to national economic development.</i> - The policy recognises those who are nutritionally vulnerable among them; the women, children, orphans and the vulnerable children, adolescents, elderly, disabled, refugees and displaced persons and those who have HIV/AIDS. - NFNP's principal commitments are to eliminate all forms of malnutrition, improve food security, and care for the nutritionally vulnerable persons and gender
	2) National Food and Nutrition Strategic Plan (NFNSP, 2017-2021)	<ul style="list-style-type: none"> - The Zambia National Food and Nutrition Strategic Plan of 2017 aims at eliminating all forms of malnutrition by 2030 and aligns itself with the Seventh National Development Plan and Vision 2030. - This strategy was recently launched as the second multisector five-year strategic response to combatting malnutrition following the NFNSP 2011-2015. - The NFNSP 2017-2021 offers guidance and promotes synergy among a broad set of nutrition-specific interventions and the nutrition-sensitive plans and programs of national stakeholders. One of the strategic directions of the NFNSP 2017-2021 is the implementation of the 1st 1000 MCDP (Most Critical Days Programme) II, a successor programme to the MCDP I and outlines Government's programme priority actions and targets to guide multi-sectoral action. - NFNSP 2017-2021 gives special recognition to chronic malnutrition or stunting among children under two years of age due to its long-term effect on adult health and productivity. The strategy further stresses the need for a multi-sectoral response to addressing both direct and indirect causes of malnutrition.

Table A4: Pillar III-Summary of key legislative and, or policy provisions

Pillar 1	Act or Policy	Legal or policy framework provisions in support of pillar
	1. Second National Agricultural Policy (SNAP)	- Identifies CSAs as a key strategy to raise productivity and increase climate resilience for smallholder farmers
	2. National Agricultural Investment Plan (NAIP)	- Identifies required investments in support of sustainable agriculture practices and natural resource management to increase agricultural production and productivity
	3. Seventh National Development Plan (7NDP)	- Identifies CSAs as a key strategy to buffer against climate change shocks to increase the climate resilience of the small-scale farmers - Promotes integration of climate-smart techniques to buffer against natural shocks, such as droughts
	4. National Policy on Climate Change (NPCC)	- Identifies the promotion of CSA practices in all agro-ecological zones to improve agricultural production and productivity. - Provides for stakeholder participation and partnership in natural resources management at all levels and the mainstreaming of climate change in all national policies and programs - Identifies required investment in climate-resilient pathways
	5. National Forestry Policy	- Promotes sustainable forest management, reduction in deforestation and forest degradation and identifies sustainable agriculture as key in managing land resources - Provides for the creation of community forests, joint forest management, and supports Sustainable Forest Management
	6. Forest Act of 2015	- Provides for the creation of the Forest Development Fund, the Joint Forest Development Fund and regulates forest resource use
	7. Fisheries Act of 2011	- Provides for the creation of the fisheries and aquaculture fund, community-based fisheries management and regulates the fish resource use
	8. Water Resources Management Act of 2011	- Provide for the creation of joint water management plans with other sovereign states/shared water bodies, water development trust fund, community water use, and management and regulate the water resource
	9. Zambia Wildlife Act of 2015	- Provides for the creation of the wildlife development fund, the community partnership parks co-management and regulates the wildlife resources
	10. Draft Land Policy of 2017	- Provides for equitable access to land for all, and effective and efficient management to ensure sustainable development
	11. Statutory Instrument on boreholes 2018 – Water Resource Management Regulation (Groundwater & Boreholes)	- The statutory instrument focuses on efficient and effective utilization of groundwater resources by licensing of drillers and revision of raw water fees and charges
	12. Statutory Instrument on Community Forest Management 2018- Forests (Community Forest Management) Regulations, 2018	- Promotes sustainable forest management through Community forest management - Provides for regulations to guide the creation of CFM and for benefit sharing mechanisms
	13. Energy Policy of 2008	- Promotes sustainable exploitation of energy from various sources, by ensuring such sources are dependable as well as cost-effective in terms

		of economic costs, financial costs, social costs and environmental costs consistent with national development goals.
	14. Environmental Management Act of 2011	- Provides for the creation of the environmental fund and the integrated environmental management and the protection of the environment and the sustainable management and use of the resource
	15. Second National Biodiversity Strategy and Action Plan (2015-2025)	- Recognizes the need for sustainable natural resources management (and hence food production) by stating <i>“By 2025, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy environment and delivering benefits essential for all Zambians and the Zambian economy</i>
	16. National REDD+ Strategy	- Provides a sustainable landscape approach to reduce key driver of drivers of deforestation in both the forestry and other identified key sectors of agriculture, water, wildlife, energy, mining and land use.

Table A5: Pillar IV-Summary of key legislative and, or policy provisions

Pillar IV	Act or Policy	Legal or policy framework provisions in support of pillar
Pillar IV: 100% increase in smallholder productivity and income	1. Draft Agricultural Marketing Bill	- A bill intended to be a forerunner to the Agricultural Marketing Act, which is intended to regulate agricultural marketing policies in order to avoid Government policy inconsistencies by intervening in especially grain markets through the FRA and marketing restrictions using Statutory Instruments. - Progress towards enacting the Act has stalled and urgently needs to be revitalised
	2. Second National Agricultural Policy (SNAP)	- SNAP aims to increase agricultural production and productivity for crops, livestock and fisheries - It also promotes the use of modern technologies to improve smallholder productivity
	3. National Agricultural Investment Plan (NAIP)	- In identifying requisite investment to increase productivity, the NAIP supports pillar IV aspirations of raising productivity and incomes.
	4. Seventh National Development Plan (7NDP)	- The 7NDP promotes the use of modern technologies and skills development for productivity growth and employment creation through enhanced livestock production, aquaculture, value addition in agricultural and for high-value crops



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