

SDG 2 – ZERO HUNGER

CONCISE GUIDES TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

Series Editors

Walter Leal Filho

World Sustainable Development Research and Transfer
Centre, Hamburg University of Applied Sciences

Mark Mifsud

Centre for Environmental Education and Research,
University of Malta

This series comprises 17 short books, each examining one of the UN Sustainable Development Goals (SDGs).

The series provides an integrated assessment of the SDGs from an economic, social, environmental and cultural perspective. Books in the series critically analyse and assess the SDGs from a multi-disciplinary and a multi-regional standpoint, with each title demonstrating innovation in theoretical and empirical analysis, methodology and application of the SDG concerned.

Titles in this series have a particular focus on the means to implement the SDGs, and each one includes a short introduction to the SDG in question along with a synopsis of their implications on the economic, social, environmental and cultural domains.

SDG 2 – ZERO HUNGER: FOOD SECURITY, IMPROVED NUTRITION AND SUSTAINABLE AGRICULTURE

AMBE EMMANUEL CHEO

United Nations University, Germany

KUGEDERA ANDREW TAPIWA

Great Zimbabwe University, Zimbabwe



United Kingdom – North America – Japan – India
Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2021

© 2021 Ambe Emmanuel Cheo and Kugedera Andrew Tapiwa.
Published under an Exclusive License by Emerald Publishing
Limited

Reprints and permissions service

Contact: permissions@emeraldinsight.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. No responsibility is accepted for the accuracy of information contained in the text, illustrations or advertisements. The opinions expressed in these chapters are not necessarily those of the Author or the publisher.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-78973-806-3 (Print)

ISBN: 978-1-78973-803-2 (Online)

ISBN: 978-1-78973-805-6 (Epub)

Disclaimer

The views expressed in this book do not reflect the views of any organization, agency or programme of the United Nations



ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.

Certificate Number 1985
ISO 14001



INVESTOR IN PEOPLE

CONTENTS

<i>List of Tables</i>	vii
<i>About the Authors</i>	ix
<i>List of Abbreviations</i>	xi
1. Introduction to SDG-2	1
2. The Importance of SDG-2	7
2.1. Zero Hunger and the Economic Benefits	8
2.2. Zero Hunger and the Social Benefits	11
2.3. Zero Hunger and the Environmental Benefits	12
3. Applying SDG-2	15
3.1. SDG-2 Targets and Indicators	16
3.2. Tracking SDG-2	31
3.3. Case Studies – Country Priorities and Policies	33
3.4. Application of the SDG-2 Targets and Indicators	37
4. Understanding the Interlinkages Between SDG-2 and the Other SDGs	43
5. Achieving SDG-2 – Opportunities and Challenges	49
6. Examples – Best Practices in Achieving SDG-2	57

7. Conclusion and Recommendations	73
7.1. Conclusions	73
7.2. Recommendations	75
<i>Bibliography</i>	83
<i>Index</i>	97

LIST OF TABLES

CHAPTER 3

Table 1	Positive and Negative Effects of Each Identified Challenge Regarding the Implementation of SDGs at the Local Level	17
Table 2	Previous and Updated Targets and Indicators	19
Table 3	Review of the SDG-2 Targets and Indicators Proposed by the United Nations	24
Table 4	Overview of the Three Selected Countries	33
Table 5	Application of SDG-2 Targets and Indicators in Nigeria, Ghana, and the Gambia	38

CHAPTER 4

Table 6	Interdependencies of SDG-2 with Other SDGs	44
---------	--	----

This page intentionally left blank

ABOUT THE AUTHORS

Dr Ambe Emmanuel Cheo holds a PhD in Environmental and Resource Management (ERM) from the Brandenburg University of Technology Cottbus-Senftenberg, Germany. His PhD thesis *Integrated Water Resources Management (IWRM): Case study of the Far-North region, Cameroon* was published as monographs by the Verlag Dr Kovač. In his earlier research studies, he focussed on popularising the implications of climate change on water resources to policymakers, stakeholders, and vulnerable farmers, with the aim of influencing the decisions they make. Currently, he is working with the United Nations University – Institute for Environment and Human Security where he is contributing to research activities, capacity building and outreach activities within the framework of projects at the Institute.

Kugedera Andrew Tapiwa holds a Postgraduate Diploma in Education from Zimbabwe Open University, an MSc in Agroforestry from Bindura University of Science Education, a BSc Honours Degree in Agriculture from the University of Zimbabwe, and a Certificate in Pig Production from the Pig Industry Board. He is a DPhil student in Land Management and Conservation and lectures on Agriculture courses at Zimbabwe Open University and Great Zimbabwe University, located in Masvingo town, where he lectures on Agriculture courses, supervises undergraduate research projects,

and assists the universities in fulfilling relationships with local communities and supporting them with agricultural knowledge to increase food security. He has vast experience in agriculture, agroforestry and land management and is presently working on rainwater harvesting and agroforestry research in arid and semi-arid areas of Zimbabwe to improve sorghum productivity.

LIST OF ABBREVIATIONS

Agriculture Orientation Index	AOI
Community Supported Agriculture	CSA
European Union	EU
Food and Agriculture Organisation	FAO
Food Insecurity Experience Scale	FIES
Gross Domestic Product	GDP
High-level Political Forum on Sustainable Development	HLPF
Inter-agency and Expert Group on SDG Indicators	IAEG-SDGs
International Centre for Trade and Sustainable Development	ICTSD
International Labour Organisation	ILO
Non-communicable Diseases	NCDs
North American Free Trade Agreement	NAFTA
Public Distribution System	PDS
NCD Risk Factor Collaboration	NCD-RisC
Southern African Development Committee	SADC
Sustainable Development Goals	SDGs
Sustainable Development Goals Fund	SDG Fund
United Nation – Division for Sustainable Development	UN-DESA
United Nation Economic and Social Council	UNESCO
United Nations	UN

United Nations Department of Economic and Social Affairs	UN DESA
United Nations Statistics Division	UNSD
World Food Programme	WFP
World Health Organisation	WHO
World Trade Organisation	WTO

INTRODUCTION TO SDG-2

The sustainable development goals (SDGs) address global challenges that are crucial for human and environmental survival and set critical thresholds for the use of natural resources now and in the future. The key feature of the 2030 Agenda for Sustainable Development lies in its universality and indivisibility (Barbier & Burgess, 2017; World Bank, 2017). The goals recognise interlinkages and foster strategies that build economic development and address social needs such as education, health, social protection, and job opportunities while tackling climate change and environmental protection. The achievement of the SDGs will require the participation of everyone (governments, the private sector, civil society, and every human being across the world) and a profound transformation of how humans think and act.

SDG-2 is one of the 17 SDGs and aims to end hunger, improve nutrition, promote sustainable agriculture, and achieve food security. The fundamental aim is to ensure the availability of good-quality food that promotes a healthy life for everyone. The achievement of this goal will require large access to food and the promotion of sustainable agriculture (United Nations Economic and Social Council (UNESCO),

2019). It will also require an increase in international investments and cooperation to bolster agricultural productive capacity in developing countries (United Nations Statistics Division (UNSD), 2016a, 2016b).

SDG-2 has eight targets to be achieved by 2030, as clearly stated in Target 2.1 of the SDG-2 of the United Nations Sustainable Development Goals: ‘By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round’. This means improving agricultural production, recognising and protecting small-scale farmers, and providing equal access to land, technology, sustainable food production systems, and resilient agricultural practices. Ending poverty and hunger is one of the top priorities in the 2030 Agenda for Sustainable Development. Achieving SDG-2 goals is the key for most developing countries, since it contributes to environmental sustainability and promotes economic growth. Food security and nutrition challenges are particularly critical in regions that are prone to multiple vulnerabilities and often cut across national boundaries, such as climate change hotspots. The nutrition of people in different horizons (areas) must be improved all year round. It is, therefore, important to reach the SDG-2 targets in these areas to improve agricultural sustainability and promote economic growth, environmental health, and social issues, such as improved standards of living (Barbier & Burgess, 2017). Furthermore, SDG-2 provides a global approach of achieving improved agricultural sustainability.

Several challenges have been raised in relation to achieving SDG-2 and the associated targets. For example, farmers in small-scale farming areas are earning less than the minimum wage. The land tenure system is also affecting production yields, and this have an impact on their efforts to meet targets (United Nations Economic and Social Council, 2019).

Many countries have revised their policies on wages, prescribing higher salaries for small-scale farmers (United Nations, 2015a). The land tenure system has also been revised in most countries, allowing access to land, inputs, and employment as a means to reduce poverty and malnutrition and to improve food security in the fight to end hunger by 2030 (United Nations, 2015a). All these efforts are to improve economic growth, which is fundamental to developmental issues in all countries.

Population growth has contributed significantly to food shortages, mostly in developing countries, due to the lack of resources (World Bank, 2017). Stress and degradation of natural resources have also been contributing factors of hunger. Resource conflict, mostly in rural areas of developing countries, has caused war, terrorism, and made people poorer, leading to malnutrition, deaths, and even migration of people to other countries (Nilsson, Griggs, & Visbeck, 2016).

On the other hand, the fight for zero hunger has promoted development in several rural areas, especially those in marginal areas where infrastructure development has been very poor and the lack of good schools, shops, healthcare centres, and even good water sources have been prominent. In addition, sustainable forestry, fisheries, and agricultural practices have also contributed in providing nutritious food for all and in generating a decent income, while also supporting rural development and protecting the environment. Food security can also be used to protect vulnerable women and children in any community.

The eradication of hunger across the world has seen targets and indicators aligned to four pillars of food security. These are availability, access, utilisation, and stability (Gil et al., 2019). Availability means having sufficient quality food at your disposal. The production of this food must also depend on a healthy environment. Access means having the

physical capability to obtain a nutritious meal. Utilisation focusses on having an adequate dietary intake and the ability to absorb and use all the right nutrients in the human body. Finally, stability means ensuring that the other pillars are recognised and consistent on a daily basis. Achieving the sustainable development goals will automatically contribute to the eradication of all forms of hunger and malnutrition by 2030.

Ending hunger can have several positive impacts on the economy, health, education, and quality of goods produced by industry (Szabo et al., 2017; United Nations, 2019). The success of SDG-2 is connected to the success of other goals (Szabo, Mowlds, et al., 2016; Szabo, Nicholls, 2016; Szabo et al., 2017). A better-nourished population can have a greater positive impact on the economy (Szabo et al., 2017; United Nations, 2019).

According to the United Nations Economic and Social Council (2019), hunger is on the rise again globally, and undernourishment continues to affect millions of children after years of prolonged decline. Undernutrition reduces global gross domestic product (GDP) by up to USD 2 trillion per year (Gillespie & van den Bold, 2017). Africa remains the continent with the highest prevalence of undernourishment, affecting one-fifth of its population (more than 256 million people) (United Nations Economic and Social Council, 2019). Annual GDP losses due to malnutrition average 11% in Asia and Africa, which is greater than the loss experienced during the 2008–2010 financial crisis (Gillespie & van den Bold, 2017). In addition to undernutrition, the health landscape in all regions of the world is being drastically altered by an epidemic of another form of malnutrition: overweight obesity (Gillespie & van den Bold, 2017). Conflict, drought, and disasters linked to climate change are among the key factors causing this reversal in progress (FAO, IFAD, UNICEF, WFP & WHO, 2019).

It has also been reported that public investment in the agricultural sector is witnessing a decline globally. Government spending on agriculture compared to agriculture's contribution to the total economy has declined by 37%; the ratio fell from 0.42 in 2001 to 0.26 worldwide in 2017 (United Nations Economic and Social Council, 2019). This has prompted the need for support for small-scale food producers and an increase in investment for infrastructure and technology for sustainable agriculture (FAO et al., 2019; United Nations, 2015c).

Strengthening the resilience and adaptive capacity of small-scale and family farmers is critical to reversing the trend of the rise in hunger. This book will start by assessing and understanding the implications of SDG-2 for the economic, social, and environmental domains of communities and countries. In addition, three case study countries (Nigeria, Ghana, and The Gambia) will be used to record values of the UN indicators and illustrate the operationalisation of keeping track of these indicators. The book will also try to understand the connections between SDG-2 and the other SDGs in achieving the 2030 Agenda. Opportunities and challenges in implementing SDG-2 will be identified to foster progress and identify gaps to be considered during the implementation process. Finally, the book will present examples of best practice in implementing SDG-2 that can be upscaled or transferred to other regions and countries.

This page intentionally left blank

2

THE IMPORTANCE OF SDG-2

Sustainable development goal-2 (SDG-2) seeks to achieve food security and end or reduce hunger in all forms by 2030 (FAO et al., 2019). In addition, achieving SDG-2 indirectly contributes to the reduction of civil conflicts, migration, and security concerns. According to United Nations statistics, there are approximately 815 million hungry people around the world and 2 billion cases of malnutrition are expected by 2050. However, the zero hunger goal in the past quarters has also witnessed a decline in undernourishment from 19% to 11%, which contributed to the decline of stunting from 40% to 23% (United Nations, 2020a).

Ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture are fundamental to the developmental agenda of most countries in the world (FAO, 2016a; Gil et al., 2018). Agriculture is the single largest employer in the world and provides a livelihood to about 40% of the world's population (United Nations, 2020a). The sector still ranks as the largest source of income and employment for poor rural households, with 500 million small farms worldwide (most still rain-fed agriculture), providing up to

80% of the food consumed in a large part of the developing world (United Nations, 2020a).

The significance of this multi-dimensional goal can be subdivided into three interrelated components: ending hunger and improving nutrition (social dimension); achieving food security through productivity improvement and income increase (economic dimension); and promoting sustainable agriculture (environment dimension). With the above interrelation, it is obvious that achieving SDG-2 has economic, social, and environmental benefits and that sustainable agriculture has a key role to play in achieving this SDG. These benefits will now be summarised below.

2.1. ZERO HUNGER AND THE ECONOMIC BENEFITS

Zero hunger has a major impact on the economic growth of many countries. Ending hunger through improved and sustainable agriculture has a positive effect on human livelihoods, especially for poor, vulnerable populations, and small-scale farmers (Ballard, Kepple, & Cafiero, 2013; FAO, 2016b), seeing a significant number of women and men participating in the economic development of the country (IFPRI, 2015; United Nations, 2015c).

Achieving SDG-2 comes with an increase in access to knowledge, finance, and markets; it will strengthen agricultural production (Mollier, Seyler, Chotte, & Ringler, 2018). Infrastructure in rural areas will be improved, thus, increasing accessibility to rural communities for buyers, input suppliers, and resource distribution. Access to financial resources might attract more investment, thereby creating more employment opportunities for the local population (Mollier et al., 2018; Szabo et al., 2018), which favours the