



Global School Feeding Sourcebook

Lessons from 14 countries

Edited by

Lesley Drake, Alice Woolnough, Carmen Burbano and Donald Bundy

Foreword by Ertharin Cousin, Executive Director of the World Food Programme,
and Dr Jim Yong Kim, President of the World Bank Group.



Imperial College Press



Copyright of the works in this Book is vested with Lesley Drake, editor. The following Book is allowed for For online publication, non-commercial use only (CC BY-NC) and may not be resold, copied, further disseminated, or hosted on any other third party website or repository without the copyright holders' written permission.

<http://www.worldscientific.com/worldscibooks/10.1142/P1070>

For any queries, please contact rights@wspc.com.

Global School Feeding Sourcebook

Lessons from 14 countries

This page intentionally left blank

Global School Feeding Sourcebook

Lessons from 14 countries

Edited by

Lesley Drake

Alice Woolnough

Imperial College London, UK

Carmen Burbano

World Food Programme, Italy

Donald Bundy

World Bank Group, USA

Published by

Imperial College Press
57 Shelton Street
Covent Garden
London WC2H 9HE

Distributed by

World Scientific Publishing Co. Pte. Ltd.
5 Toh Tuck Link, Singapore 596224

USA office: 27 Warren Street, Suite 401-402, Hackensack, NJ 07601

UK office: 57 Shelton Street, Covent Garden, London WC2H 9HE

Library of Congress Cataloging-in-Publication Data

Names: Drake, Lesley J., compiler. | Woolnough, Alice, compiler.

Title: Global school feeding sourcebook : lessons from 14 countries / compiled by Lesley Drake
(Imperial College London, UK), Alice Woolnough (Imperial College London, UK),

Donald Bundy (World Bank Group, USA), Carmen Burbano (World Food Programme, Italy).

Description: New Jersey : Imperial College Press, 2016. | Includes bibliographical references.

Identifiers: LCCN 2015040777 | ISBN 9781783269112 (alk. paper) |

ISBN 9781783269327 (alk. paper)

Subjects: LCSH: School children--Food--Developing countries--Case studies. | Food relief--

Developing countries--Case studies. | Children--Nutrition--Developing countries--Case studies.

Classification: LCC LB3479.D443 G56 2016 | DDC 371.7/16091724--dc23

LC record available at <http://lccn.loc.gov/2015040777>

British Library Cataloguing-in-Publication Data

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

Cover photo by Francis Peel, Partnership for Child Development, Imperial College London.

Book copyright ©2016 by Lesley Drake, editor

This book is released under CC BY-NC (Creative Commons Attribution-Non Commercial) license. Imperial College Press, the publisher, is granted exclusive license for the production and commercial distribution of this book. Permission is granted to copy, distribute, display and make derivatives based on the work for non-commercial use only, with attribution to the copyright holder.

Desk Editors: Suraj Kumar/Mary Simpson

Typeset by Stallion Press

Email: enquiries@stallionpress.com

Printed in Singapore

Contents

<i>Foreword</i>	vii
<i>Acknowledgments</i>	xi
<i>Boxes, Figures, and Tables</i>	xvii
<i>Glossary</i>	xxv
<i>Executive Summary</i>	xxxv
<i>Introduction to the Sourcebook</i>	li

ANALYSIS OF THE CASE STUDIES

Design and Implementation	1
Policy and Legal Frameworks	19
Institutional Arrangements	31
Funding and Budgeting	41
Community Participation	51

THE CASE STUDIES

Case Study 1: Botswana — National School Feeding Programme	59
Case Study 2: Brazil — National School Feeding Programme	83

Case Study 3:	Cape Verde — National School Nutrition Programme	115
Case Study 4:	Chile — Programa de Alimentacion Escolar (PAE)	143
Case Study 5:	Côte d’Ivoire — Programme Intégré de Pérennisation des Cantines Scolaires (PIP/CS)	165
Case Study 6:	Ecuador — School Food Program	189
Case Study 7:	Ghana — The Ghana School Feeding Programme	217
Case Study 8:	India — Mid-Day Meal Scheme	247
Case Study 9:	Kenya — Home Grown School Meals Programme	281
Case Study 10:	Mali — Programme National d’Alimentation Scolaire	307
Case Study 11:	Mexico — Desayunos Escolares	329
Case Study 12:	Namibia — The Namibia School Feeding Programme	357
Case Study 13:	Nigeria — Osun State Elementary School Feeding and Health Programme (O-MEALS Programme)	385
Case Study 14:	South Africa — National School Nutrition Programme	409
	<i>Index</i>	439

Foreword

The world is still recovering from the ripple effects of the food, fuel, and financial crises that sparked global recession in 2008. The World Bank estimates that 90 million more people fell into poverty as a result of the crises, bringing the total to 1.22 billion people living in extreme poverty today. The Food and Agriculture Organization of the United Nations also announced that an estimated 842 million people are still facing chronic hunger and are not getting enough food to lead an active and productive life. Eliminating both poverty and food insecurity has become an even more urgent priority.

Key to addressing these dual priorities is reducing the vulnerability of poor children, increasing their resilience and ensuring real opportunities for the current and next generations. But the prospects for the children of the poor are also being set back by the recession. Progress on the Millennium Development Goal (MDG) for universal primary education has slowed, so that poor children are missing out on their only chance for education: while a 4.3% gain in net primary enrollment was made between 2000 and 2005, the period between 2005 and 2011 saw only a 2% increase to a global figure of 89.3%. With the MDG 2015 deadline looming, this statistic highlights a critical area of concern that requires renewed attention. Furthermore, of those children lucky enough to go to primary school, the United Nations World Food Programme estimates that 66 million go to school hungry and unable to learn. School feeding programs can help to get children into

school and help to keep them there, increasing enrollment and reducing absenteeism, and once the children are in the classroom, these programs can contribute to their learning, through avoiding hunger and enhancing cognitive abilities.

The World Food Programme (WFP) and the World Bank have stepped up their support to countries implementing pro-poor school feeding programs that are properly linked to broader education strategies, to ensure that food is not the only thing they receive in school, but rather a quality education. To enhance the effectiveness of these programs, WFP and the World Bank have also stepped up their analytical work on program design and implementation, especially through a research partnership with the Partnership for Child Development at Imperial College London, supported by a grant from the Bill and Melinda Gates Foundation.

These joint analyses have helped to define a new, more effective and proper way forward for school feeding, which in December 2013 was endorsed by UN member state governments as the new WFP Global School Feeding Policy. The new evidence base presented in the *State of School Feeding Worldwide* confirms that school meals programs are sustainable and big business globally: they are near-universal worldwide, with approximately 368 million children, about 1 out of every 5, receiving a meal at school every day. The global investment is in the order of US\$75 billion a year. However, the analysis presented in *Rethinking School Feeding* shows that coverage and quality are the weakest where the needs in terms of poverty and food insecurity are the greatest. While there are many successful models for rich countries, there is specific demand from governments in low- and middle-income countries for guidance on how to strengthen and scale-up their national programs.

The latest joint publication, the *Global School Feeding Sourcebook: Lessons from 14 Country Case Studies*, is a response to this demand. This unique collection is the culmination of contextual experience and moves on from the 'why' to the 'how' of school feeding. The 14 country case studies were written at the country level in partnership with government teams. Through in-depth analysis of different programs in different country contexts, this publication increases understanding of the trade-offs associated with different school feeding models and highlights good practices in both program design and service delivery.

While sharing concrete examples of actual programs functioning at scale — the information that is most requested by national implementers and policymakers — the case studies also allow comparative analysis. The most sustainable and government-owned programs are those that are more than the sum of their parts: designed and implemented together by the education, health and agriculture sectors. Countries are moving towards local sourcing and production of food, and away from food aid except in humanitarian crises, and are producing stronger regulatory frameworks as well as financial reporting mechanisms. Emerging trends include a stronger role for the community in national policy, and greater recognition of the role of smallholder farmers in food production, 80% of whom are women.

When our predecessors last wrote together about school feeding in the Foreword to *Rethinking School Feeding*, they emphasized that “*the transition to sustainable national programs depends on mainstreaming school feeding into national policies and plans, especially education sector plans*”. Today, national school feeding programs are increasingly embedded in national policy on poverty elimination, social protection, education, and nutrition, often with the help of the policy dialogue stimulated by the SABER (Systems Approach for Better Education Results) tool developed jointly by the World Bank, WFP, PCD, and other partners.

But we have much more than better policies: the present report shows that there are now good examples of how school feeding programs in low income countries are implemented in a cost-effective and sustainable way to benefit and protect those most in need. Helping countries to apply this knowledge to strengthen national school feeding programs will contribute to reducing the vulnerability of the poorest, giving all children a chance for an education and a brighter future, and eliminating poverty.



Ertharin Cousin
Executive Director, World Food Programme



Jim Yong-Kim
President, World Bank

This page intentionally left blank

Acknowledgments

This Sourcebook is part of a series of school feeding publications undertaken jointly with governments, the World Bank, the United Nations World Food Programme (WFP), The Partnership for Child Development (PCD), and other development partners. The series builds on the analysis presented in the 2009 publication *Rethinking School Feeding*. The main sources of information for this publication are from country case studies, situation analyses, and peer-reviewed technical working papers. The design of all research was based on a global vision and conceptual framework for school feeding developed in partnership by the World Bank, WFP, and PCD.

This Sourcebook was edited by Lesley Drake and Alice Woolnough (PCD), Carmen Burbano (WFP) and Donald Bundy (World Bank).

We would like to thank Dr Jim Yong Kim (World Bank) and Ertharin Cousin (WFP) for their thought leadership and commitment as so clearly expressed in their joint Foreword.

This book would not have been possible without the invaluable support provided by: Roshan Daryanani, Salha Hamdani, Cai Heath, Josephine Kiamba, Brie McMahon and Francis Peel (PCD); Peter Rodrigues, and Emilie Sidaner (WFP); Charlotte Dufour, and Valeria Menza (Food and Agriculture Organization of the United Nations [FAO]); and Aulo Gelli (PCD and the International Food Policy Research Institute [IFPRI]) who

was also supported by CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), led by the IFPRI.

Analysis of the case studies

We would like to thank the following technical leads involved in the analysis of the case studies:

Design and Implementation: Compiled by Aulo Gelli (PCD and IFPRI); reviewed by Roshan Daryanani, Lesley Drake, Cai Heath, Josephine Kiamba, and Alice Woolnough (PCD), and Emilie Sidaner (WFP); and additional technical inputs provided by Gordon Conway, and Katy Wilson (Agriculture for Impact, Imperial College London), and Bibi Giyose (The New Partnership for Africa's Development).

Policy and Legal Frameworks: Compiled by Samrat Singh (PCD); and reviewed by Lesley Drake, Roshan Daryanani, and Alice Woolnough (PCD), and Emilie Sidaner (WFP).

Institutional Arrangements: Compiled by Emilie Sidaner, and Carmen Burbano (WFP); and reviewed by Roshan Daryanani, Lesley Drake, Cai Heath, Samrat Singh, and Alice Woolnough (PCD).

Funding and Budgeting: Compiled by Aulo Gelli (PCD and IFPRI), and Roshan Daryanani (PCD); and reviewed by Lesley Drake, Cai Heath, Samrat Singh, and Alice Woolnough (PCD), and Emilie Sidaner (WFP).

Community Participation: Compiled by Kristie Watkins, and Cai Heath (PCD), and Mohammed Lukumanu (The Netherlands Development Organization [SNV]); and reviewed by Roshan Daryanani, Lesley Drake, and Alice Woolnough (PCD), and Emilie Sidaner (WFP).

The case studies

We are grateful to the following country leads and contributors involved in each of the case studies:

Case Study 1 — Botswana: Compiled by Josephine Kiamba (PCD); reviewed by Kathryn Taetzsch (World Vision–Southern Africa), Emilie Sidaner

(WFP), Dick Commandeur (SNV), Cai Heath, and Alice Woolnough (PCD) external to Botswana; and at the country level by Vanity Mafule (Ministry of Local Government and Rural Development). Additional contributions were provided by Edna Kalima (PCD), and Aulo Gelli (PCD and IFPRI).

Case Study 2 — Brazil: Compiled by Christiani Buani with support from: Daniel Balaban, Cynthia Jones, Flávia Lorenzon, Nadia Goodman, Sharon Freitas, Vinicius Limongi, Andrea Galante, and Fabricio Almeida (WFP Centre of Excellence against Hunger), and Albaneide Peixinho (National Fund for Educational Development [FNDE]); reviewed by Cai Heath, and Alice Woolnough (PCD) external to Brazil; and by Albaneide Peixinho (FNDE) at the country level. Additional contributions were provided by the Ministry of Education, especially the FNDE and the leading group of the National School Feeding Programme.

Case Study 3 — Cape Verde: Compiled by Piet Vochten (WFP Regional Office for West Africa and United Nations Joint Programme on Food Security and Nutrition in Schools) with support from Charlotte Dufour (FAO); reviewed by Cai Heath, and Alice Woolnough (PCD) external to Cape Verde; and by Ana Paula Spencer (United Nations Joint Programme on Food Security and Nutrition in Schools), and Felisberto Moreira (Foundation for Social and Educational Action [FICASE]) at the country level. Additional contributions were provided by João Semedo (FICASE).

Case Study 4 — Chile: Compiled by Brie McMahon (PCD); reviewed by Cai Heath, and Alice Woolnough (PCD) external to Chile; and at the country level by Cristian Martinez (National Board of School Assistance and Scholarships [JUNAEB]). Additional contributions were provided by Cristian Martinez (former Director of JUNAEB and former Undersecretary of Education), and Francisco Espejo (former Director of JUNAEB).

Case Study 5 — Cote d'Ivoire: Compiled by Amadou Sekou Diallo (PCD); reviewed by Cai Heath, and Alice Woolnough (PCD) external to Côte d'Ivoire; and at the country level by Rachel Pierre (WFP–Côte d'Ivoire).

Case Study 6 — Ecuador: Compiled by Emilie Sidaner (WFP) with support from Maya Oren (WFP), and Mariana Mirabile (WFP) who conducted the cost assessment; reviewed by Alice Woolnough, and Cai Heath (PCD)

external to Ecuador; and at the country level by Valeria Valencia, and Sara Santacruz (Ministry of Education), and Marcelo Moreano, and Katherine Shea (WFP). Additional contributions and comments were provided by Roberto Pazmiño, Sara Santacruz, Francisco Solorzano, Monica Ubidia, Juan Carlos Acosta, and Salomón Tenorio (Programa de Alimentación Escolar, Government of Ecuador); Fernanda Sandoval, and Verónica Imbacuan (Ministry of Education, Government of Ecuador); Monica Merino, and Sandra Endara (United Nations Development Programme); Deborah Hines, Carmen Galarza, and Carmen Burbano (WFP); and Jose Castillo (WFP, Regional Bureau).

Case Study 7 — Ghana: Compiled by Daniel Mumuni (PCD); reviewed by Alice Woolnough, Cai Heath, and Salha Hamdani (PCD) external to Ghana. Additional contributions were provided by Getrude Ananse-Baiden, Lutuf Abdul-Rahman, Fred Amese, and Abigail Bondzie (PCD); and Hon. Seidu Paakuna Adamu, Charles Antwi Kyeremeh, Kwame Nuako, and Maame Pinamang Addae (GSFP–Ghana).

Case Study 8 — India: Compiled by Emilie Sidaner (WFP), and Brie McMahon (PCD) with support from Alice Woolnough (PCD); reviewed by Cai Heath (PCD) external to India; and at the country level by Arvind Kumar (Ministry of Finance).

Case Study 9 — Kenya: Compiled by Angela Gituara, and Elodie Yard (PCD) with support from Alice Woolnough (PCD) external to Kenya; reviewed by Emilie Sidaner (WFP), Iain Gardiner, and Cai Heath (PCD) external to Kenya; and at the country level by Leah Njeri (SNV), and Charles Njeru (WFP). Additional contributions were provided by Warimu Muita (PCD); Paul Mungai, Kibet Lagat, and Walema Barnett (Ministry of Education, Science and Technology–Kenya); and Philomena Chege, and Mildred Irungu (Njaa Marufuku Kenya, Ministry of Agriculture — Kenya).

Case Study 10 — Mali: Compiled by Amadou Sekou Diallo (PCD); reviewed by Alice Woolnough, Daniel Mumuni, and Cai Heath (PCD), and Emilie Sidaner (WFP) external to Mali; and at the country level by Gerard Rubanda (WFP — Mali).

Case Study 11 — Mexico: Compiled by Tiina Honkanen under the guidance of Emilie Sidaner (WFP); reviewed by Alice Woolnough, and Cai Heath

(PCD) external to Mexico; and at the country level by Daniela Prieto Armendariz, and Marcelino Fernández Gómez (National System for Integral Family Development [DIF] national office). The chapter authors would also like to thank DIF staff in the four States, for their co-operation: Rosa Carmina Capuchino de Ozuna, Hugo Francisco Castillo González, and Mario Martín Amezcua Guerrero (State-level DIF [SEDIF] Baja California State); Adriana Hernández de Ortega, Alma Leticia Carrillo Vargas, and Ermilo Manuel Estrella Rodríguez (SEDIF Campeche State); Gretta Salinas de Medina, José Ramón Carrales Batres, and Ana Laura Martínez Rodríguez (SEDIF Nuevo León State); and Martha Erika Alonso De Moreno Valle, Carlos Alberto Julián y Ruiz, and José Antonio San Martín Rodríguez (SEDIF Puebla State).

Case Study 12 — Namibia: Compiled by Edna Kalima (PCD — Southern Africa); reviewed by Alice Woolnough, and Cai Heath (PCD), Emilie Sidaner (WFP), and Wairimu Muita (PCD — Kenya) external to Namibia; and at the country level by Jennifer Bitonde (WFP — Namibia). Additional contributions were provided by Josephine Kiamba (PCD — Southern Africa). Confirmation of data was provided by Edda Bohn, and Agnes Mukubonda (Ministry of Education — Namibia); and Lawrence Karumendu, Dina Aburmishan, and Gerhard Enssle (WFP — Namibia).

Case Study 13 — Nigeria: Compiled by Alice Woolnough (PCD) with support from Abimbola Adesanmi (PCD — Nigeria); reviewed by Brie McMahon, Cai Heath, and Salha Hamdani (PCD) external to Nigeria; and at the country level by Oketayo Adeolu (O-MEALS Programme Secretariat).

Case Study 14 — South Africa: Compiled by Josephine Kiamba (PCD — Southern Africa); reviewed by Alice Woolnough, and Cai Heath (PCD) external to South Africa; and at the country level by staff in the Directorate of the National School Nutrition Programme at the National Department of Basic Education.

In their role as editors, Lesley Drake and Alice Woolnough (PCD) reviewed all country case studies while country profiles and country maps for the case studies were kindly compiled by Charlotte Broyd (PCD). Nutritional analysis using the PCD School Meals Planner tool to generate the gingerbread men and caveats for the case studies were kindly provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD), as well as Lutuf Abdul-Rahman (PCD — Ghana) for the Ghana case study.

We would like to thank the following who participated in two London review meetings and provided insights for this publication: Lesley Drake, Charlotte Broyd, Roshan Daryanani, Salha Hamdani, Josephine Kiamba, Brie McMahon, Francis Peel, Wairimu Muita, Samrat Singh, Kristie Watkins, and Alice Woolnough (PCD), Aulo Gelli (PCD and IFPRI), Alex Hulme (Malaria Consortium), Carmen Burbano, Jorge Fanlo, Meena Fernandes, Mariana Mirabile, and Emilie Sidander (WFP), Donald Bundy (World Bank), Charlotte Dufour, and Valeria Menza (FAO), and Michael Hovel (Agriculture for Impact).

The complete publication was reviewed by leading school feeding and public health experts including Arlene Mitchell (Global Child Nutrition Foundation), Hans Eenhorn (Wageningen University), Peter Rodrigues (WFP), and Roy Anderson (Imperial College London). Their valuable comments helped to ensure the quality of this publication.

Finally, we would like to thank our publishing/communications team. The Sourcebook was edited by Anastasia Said (PCD), the graphics was provided by Helen Waller (iCRE8 Design), and Francis Peel (PCD) provided support throughout the publication process with respect to communications.

Boxes, Figures, and Tables

Executive Summary

Figure 1: Overview of the 14 school feeding case studies by country	xxxviii
Figure 2: Funding and budgeting — school feeding costs	xlvi
Figure 3: Case study examples of the communities' contributions and benefits from school feeding programs across the supply chain	xlvii
Table 1: Design and implementation — strategic focus and targeting approaches	xxxix
Table 2: Policy and legal frameworks — legislative and executive instruments	xli
Table 3: Institutional arrangements — lead agency characteristics and functions	xliii

Introduction to the Sourcebook

Box 1: Calculating the nutritional values of the school meals for the case studies	lvi
--	-----

Design and Implementation

Box 1:	Smallholder farmers: A global perspective	12
Box 2:	Agriculture and links to school nutrition programmes in Africa	13
Figure 1:	Average daily nutritional menu content for the case studies	8
Table 1:	Strategic focus and targeting approaches	4
Table 2:	Average nutritional menu content for selected case study countries	7
Table 3:	Main school feeding supply chain models across the case studies	10

Policy and Legal Frameworks

Box 1:	International and regional treaties on food security and school feeding	21
Table 1:	Indicative country governance profiles	22

Institutional Arrangements

Table 1:	Institutional arrangements — lead agency characteristics and functions by case study	34
----------	--	----

Funding and Budgeting

Box 1:	Costs data differences between the <i>Sourcebook</i> and <i>The State of School Feeding Worldwide</i>	42
Box 2:	Financial Accountability	48
Figure 1:	Standardized school feeding costs (US\$)	46
Table 1:	School feeding cost parameters and educational expenditure in 2012 for the case studies	43

Community Participation

Figure 1:	Country case study examples of the communities' contributions and benefits from school feeding programs across the supply chain	56
-----------	---	----

Case Study 1

Figure 1:	Map of Botswana by region and in Africa	60
Figure 2:	Coverage of the National School Feeding Programme	67
Table 1:	Standard menu for public primary schools	69

Case Study 2

Box 1:	The CONSEA experience	99
Figure 1:	Map of Brazil by region and in South America	84
Figure 2:	State implementation of the PNAE	94
Figure 3:	Municipal implementation of the PNAE	95
Figure 4:	Percentage of States and municipalities purchasing from smallholder farmers in the PNAE region during 2010–2012	97
Figure 5:	Percentage of States and municipalities that comply with the minimum 30% of purchases from smallholder farmers during 2010–2012	98
Figure 6:	Evolution of funding and number of beneficiaries in the PNAE from 2003 to 2011	106
Table 1:	Number of students and PNAE targeted schools in 2013 by school level	91
Table 2:	Per capita in 2014 based on the school level and period and per child cost (day and year)	105

Case Study 3

Figure 1:	Map of Cape Verde by region and in Africa	116
Figure 2:	Evolution of school feeding priorities in Cape Verde	118
Figure 3:	The reviewed national school nutrition strategy	130
Figure 4:	Cost categories	135
Table 1:	Commodities and total tonnage of food distributed in the National School Nutrition Programme in 2011–2012	124

Table 2:	Example of a weekly standard menu for primary schools in the National School Nutrition Programme (Second Trimester 2011–2012)	125
Table 3:	Sources of funding for the National School Nutrition Programme	134

Case Study 4

Box 1:	The case of Chiloé Island: Linking small-scale producers to the PAE	155
Figure 1:	Map of Chile by region and in South America	144
Figure 2:	Evolution of targeting for the PAE	151
Figure 3:	Distribution of the PAE resources among primary school children by income level	151
Figure 4:	Historical evolution of food services in Chile (1964–2013)	152
Figure 5:	Stylized flow of the PAE	154
Table 1:	Caloric contributions to the diet per meal	154

Case Study 5

Figure 1:	Map of Côte d'Ivoire by region and in Africa	166
Figure 2:	Institutional organization for the PIP/CS	178
Table 1:	Nutritional contents of two canteen meals	174
Table 2:	Recommended nutritional intakes	174
Table 3:	Estimated budget for school feeding 2008 and 2017	179
Table 4:	Source of funding for the National School Feeding Strategy (2013–2017)	179
Table 5:	Projected school meal costs per year (CFA francs)	180
Table 6:	Management of financial contributions from communities (CFA francs)	181
Table 7:	School feeding impacts (targets and national averages) in 2008–2009	182
Table 8:	Evolution of productivity in the village of Andé from 2005 to 2009	183

Case Study 6

Box 1:	The School Food Program budget steps for investment expenses	208
Figure 1:	Map of Ecuador by region and in South America	190
Figure 2:	Ecuador's School Food Program flow	192
Figure 3:	Plan of acquisition and delivery of food	199
Figure 4:	The School Food Program total budget 1999–2011	207
Table 1:	Summary of coverage by modality in 2011	196

Case Study 7

Box 1:	School Implementation Committees	236
Figure 1:	Map of Ghana by region and in Africa	218
Figure 2:	Growth trends of GSFP beneficiary pupils by region	225
Figure 3:	Stylized supply chain for the GSFP	228
Figure 4:	Relationships of GSFP partners	231
Figure 5:	Process flow and release of funds to the GSFP	234
Figure 6:	Percentage enrollment before and after retargeting — redressing the balance	238
Table 1:	Nutritional content of the school menu in the Savelugu/Nanton District	227
Table 2:	Funding for the GSFP	233
Table 3:	Source of finance for caterers	235

Case Study 8

Box 1:	The Food Corporation of India	259
Box 2:	The Right to Food in India	261
Box 3:	The Akshaya Patra Foundation	269
Figure 1:	Map of India by region and part of South Asia	248
Figure 2:	MDMS supply chain (subsidized grains)	258
Figure 3:	Institutional set up of the MDMS	263
Figure 4:	Evolution of central government funding	265

Table 1:	Central government nutritional norms under the MDMS	256
Table 2:	Primary and upper primary school-level gross enrollment rates for scheduled castes/tribes in India	271

Case Study 9

Figure 1:	Map of Kenya by region and in Africa	282
Figure 2:	NMK programme co-ordination	297
Figure 3:	Total enrollment (2006–2010) in schools with the NMK programme versus no school meals programme	301
Table 1:	HGSM menu composition	291
Table 2:	NMK menu composition	292
Table 3:	Cross-sectoral co-ordination of the HGSM programme at different levels	296

Case Study 10

Figure 1:	Map of Mali by region and in Africa	308
Figure 2:	Supply chain of the Programme National d'Alimentation Scolaire	316
Figure 3:	Institutional organization of the Programme National d'Alimentation Scolaire	320
Table 1:	Pupils' food ration	315
Table 2:	Frequency (%) of local purchase for primary school canteens	317
Table 3:	Criteria for local purchases	318
Table 4:	Funding of primary school canteens by the Government of Mali (in 1000' CFA francs)	321

Case Study 11

Figure 1:	Map of Mexico by region and part of Central America	330
Figure 2:	Desayunos Escolares beneficiaries, 2006–2011	336
Figure 3:	Program actors and their roles	346

Table 1:	Energy content of both types of breakfasts in Desayunos Escolares	339
Table 2:	Nutritional requirements per portion for the pre-packed breakfast	340
Table 3:	National legal and policy frameworks guiding school feeding	343

Case Study 12

Figure 1:	Map of Namibia by region and in Africa	358
Figure 2:	Evolution of the NSFP	361
Table 1:	Summary of laboratory analysis of the maize meal blend from suppliers, February 2011	369
Table 2:	NSFP budget and expenditure 2005/2006–2012/2013	376

Case Study 13

Box 1:	Flexible menu	396
Box 2:	Improving financial accountability of food procurement activities	397
Figure 1:	Map of Nigeria, Osun State by region and in Africa	386
Figure 2:	Stylized Osun State O-MEALS Programme supply chain	395
Figure 3:	Schematic view of the O-MEALS model and relevant processes	399
Table 1:	Standard weekly menus in the Osun State school feeding programmes	393
Table 2:	Menu nutrient composition	394

Case Study 14

Figure 1:	Map of South Africa by region and in Africa	410
Figure 2:	Number of school children fed through the National School Nutrition Programme	418

This page intentionally left blank

Glossary

The technical terminology and definitions of terms used in this publication and commonly used in the school feeding literature are outlined below.

Beneficiaries: The beneficiaries are those who benefit from a particular program. For example, the beneficiaries are the school-age children who receive food from the national school feeding programme, but they could also be community members such as the cooks hired to prepare the school meals.

Centralized/centralization: The overall management responsibility of the school feeding program is at the national or State level. Contractors and traders are used for food procurement. Ownership of the program's finances and management falls with the central government institutions. Centralized implementation is not as favorable as school feeding management systems that are based at school level (Bundy *et al.*, 2009).

Program management, procurement, distribution and monitoring activities of the school feeding program are the responsibilities at the national or State level.

(Continued)

(Continued)

Centralized outsourced model: The management and control of the supply chain takes place at the central, State, or national level. The central government will use a third party, such as contractors and traders from a private company, to implement all aspects of the service delivery of school feeding throughout the country.

Costs: The cost of school feeding per child is estimated as the total expenditures associated with school feeding activities divided by the number of beneficiaries. The figure obtained reflects the costs related to commodity procurement, transportation, storage and handling, and personnel. Community contributions are not included in these costs (Gelli and Daryanani, 2013).

Cost recovery: This is where program costs are being offset by contributions made from the beneficiaries or communities.

Coverage: The proportion of children attending school who are beneficiaries of the national school feeding programme.

Decentralized/decentralization: This involves redistributing functions, resources, and responsibilities away from the central government and moving it to lower levels of the government. For example, the overall management responsibility of the school feeding program is at district and regional levels. Existing community-based organizations such as women's groups, farmer-based organizations, and school committees also play a role in the decision-making and accountability of the school feeding program (Bundy *et al.*, 2009).

Decentralized insourced model: The management and control of the supply chain takes place at the local or school level and is performed by the local government or the government school. The decentralized supply chain management is performed internally (in-house) within the local government or the government school.

(Continued)

(Continued)

Decentralized outsourced model: The management and control of the supply chain takes place at the local or school level and is performed by the private sector.

Development partners: An umbrella term for stakeholder and donor organizations supporting national development strategies. Development partners include United Nations organizations (such as the United Nations World Food Programme [WFP], the United Nations Children's Fund [UNICEF], and the World Health Organization [WHO], etc.), international non-governmental organizations (such as Plan International, Save the Children International, World Vision International, Care International, and Relief International, etc.), other international organizations (the World Bank, The Partnership for Child Development (PCD), and the International Food Policy Research Institute, etc.) and civil society at the local level.

Deworming: A treatment to control intestinal worm infections such as helminths (roundworm, ringworm, and hookworm) and schistosomiasis. WHO has recommended giving children deworming drugs albendazole or mebendazole to treat helminths, and praziquantel to treat schistosomiasis. These deworming drugs are highly effective and inexpensive (WHO, 2005; WFP, 2009).

Fortification: The practice of deliberately increasing the content of essential micronutrients (such as Vitamin A, iron, iodine or zinc) to foods (Allen *et al.*, 2006).

Geographical targeting: This targeting approach is where a program is provided for free based on the location of the school within selected districts, States, provinces, and zones. Certain locations may be selected according to indicators such as poverty, food security prevalence or low educational achievement.

(Continued)

(Continued)

Gingerbread man: A biscuit made from gingerbread and shaped as a man. The gingerbread men in this publication represent the five key nutrients (energy, protein, fat, Vitamin A, and iron) for each country school meal. The nutritional value of each country school meal is calculated as a percentage of the daily recommended allowance for children aged 6–12 years set by the Food and Agriculture Organization of the United Nations (FAO)/WHO/and the United Nations University.

Individual targeting: This targeting approach is where a program is provided for free to children selected on demographic factors such as their age, gender or poverty level.

In-house: For explanation, see under Insource.

In-school feeding: For explanation, see under school feeding.

Inourced: To obtain goods or a service performed internally (in-house) within the organization. This can help to reduce program costs.

Mixed models: This is where a program has several elements from the other main types of school feeding supply chain models (centralized/decentralized/semi-decentralized inourced/outsourced models). Mixed models are also possible, for example, one commodity such as non-perishable staples may follow a more centralized set up compared to perishable staples that may follow a more decentralized set up.

Models: School feeding is implemented in various operating models or supply chain configurations. The models used in practice are dependent on the context of the targeted areas. External factors determine program design and may limit what models may be feasible in the specific context. Building on the supply chain models developed in recent analyses (Gelli *et al.*, 2012), operating models can be characterized in terms of: (1) centralized or decentralized program management,

(Continued)

(Continued)

procurement, distribution, and monitoring; and (2) whether these activities are performed in-house or by a third party. The programs implemented across the 14 countries in this publication are classified along two dimensions: level of decision-making (supply chain centralization) and use of third parties.

National school feeding programme: A program managed by the government either alone or with the support of development partners (see above) to provide food in schools throughout the country on a regular basis to school children.

Outsourced: To obtain either goods or a service through a contract made with an outside supplier or company, the private sector and third parties, etc. Outsourcing can offer benefits to cost and delivery effectiveness and to political, social, and local income-generating goals. So this method can be an important option to consider when designing a school feeding program.

Overweight/obesity: A condition characterized by excessive body mass that may stem from a diet imbalance. Obesity is defined according to body mass index, which is weight in kilograms divided by height in meters squared. The thresholds at which a body mass index classifies a child as overweight or obese are age- and gender-specific and are set by the International Obesity Task Force. The threshold for obesity is higher than the threshold for overweight (de Onis *et al.*, 2007).

Policy framework: A set of legislative and executive instruments that may include statutes, decrees, orders, policies or guidelines relating to a social program, in this case school feeding. These instruments as a whole declare the ‘rights’, set out the objectives and establish and regulate the institutions and processes needed to achieve these rights through government action (Singh, 2013).

(Continued)

(Continued)

Preparation and distribution: This involves the range of different activities generally undertaken at the school level to provide the meals to the school children. Activities can include cooking of meals, preparing servings, and distributing the meal to the beneficiaries. As well as having cooks trained to provide adequate meals, preparing food in schools can involve providing fuel, cookware, cooking and serving utensils, and tableware. Ideally, cooks would be trained in hygiene and sanitation, and the kitchen equipped with fuel-efficient stoves and chimneys as well as a source of potable water (Gelli *et al.*, 2012).

Private sector: The private sector is the part of the economy run by individuals or groups that are not controlled, owned or operated by the government. This usually includes organizations (both profit and non-profit), partnerships, and charities.

Procurement: This refers to food sourcing, buying and receipt of products. The aim of the procurement system is the timely, uninterrupted supply of quality food for the school feeding program. This includes a number of activities undertaken to support the actual procurement transaction. Generally this involves food procurement modalities operating at different levels of aggregation throughout the school year. In some contexts, procurement modalities involve regulatory frameworks that specify direct links with smallholder farmers. In most other cases, these links involve interactions with traders (intermediaries) operating in the market (Gelli *et al.*, 2012).

Production: This refers to agriculture and livestock activities that involve, for example, obtaining seeds and fertilizers for agricultural production, and planting, maintaining, harvesting, and selling products. Different techniques are possible depending on the scale and capabilities of the producers and the local context, which can lead to significant differences in production yields and quality (Gelli *et al.*, 2012).

(Continued)

(Continued)

Program modalities: Hot meals; snacks or biscuits; and take-home rations; or any combination of these three modalities can be provided in a school feeding program.

Safety nets: Programs that provide cash or in-kind benefits that seek to reduce poverty or vulnerability (WFP, 2012a). Food-based safety nets provide direct, regular, and predictable food assistance, in cash or in-kind, to the most vulnerable people to: (1) prevent them from falling below a minimum level of food security as a result of a shock; (2) to increase their resilience to shocks; and (3) in some cases, to promote their food security (Grosh *et al.*, 2008). The retail value of a food transfer in the local market is referred to as an income transfer.

Scale-up: The increase in the number of school-age children reached by the national school feeding programme.

School feeding: This involves providing food to children in schools. There are as many types of programs as there are countries, but they can be classified into two main groups based on their modalities: (1) in-school feeding, where children are fed in school; and (2) take-home rations, where families are given food if their children attend school. In-school feeding can, in turn, be divided into two common categories: (1) programs that provide meals; and (2) programs that provide high-energy biscuits or snacks. In some countries, in-school meals are combined with take-home rations for particularly vulnerable students, including girls and children affected by HIV, to generate greater impacts on school enrollment and retention rates and reduce gender or social gaps. While this publication includes some information about all modalities, its emphasis is on in-school feeding since governments prefer either meals or snacks for their programs, with few exceptions. Thus, unless otherwise specified, the term school feeding in this publication refers to meals or snacks provided in school. Additionally, school feeding

(Continued)

(Continued)

programs may cover pre-primary, primary and secondary school children in many countries. While information presented in this publication covers these three categories, the main focus is primary school children.

Semi-decentralized: The responsibility of the school feeding program lies in between the centralized (national and State levels) and decentralized levels (lower levels of government).

Semi-decentralized insourced model: The management and control of the supply chain is performed internally (in-house).

Semi-decentralized outsourced model: The management and control of the supply chain is performed by a third party (see detailed explanation under third party).

Service delivery: In school feeding, the service delivery involves the activities (production, procurement, logistics and processing, distribution of food to schools, and food preparation and feeding) required to provide a timely meal of adequate quantity, quality and cost to school children. These activities require the involvement of all levels from central to school level in order for appropriate school feeding service delivery (Gelli, 2010).

Smallholder farmers: These are semi-subsistence farmers who cultivate fewer than five hectares of land, although most of the farms are two hectares or less in size. The precise definition may vary by country and region (WFP, 2012b).

Social protection: Systems, programs and policies that help individuals and societies build resilience to risks, achieve equity, and avail themselves of opportunities. Social protection instruments include safety nets, pension systems, insurance and labor programs and policies (World Bank, 2012).

(Continued)

(Continued)

Supply and value chain: In the context of school feeding, supply and value chains begin with agriculture and food production activities, followed by trading, logistics, food management and distribution to the children in schools (Gelli *et al.*, 2012).

Take-home rations: See explanation under school feeding.

Targeting: An approach used to concentrate resources of programs on the poor or vulnerable (Grosh *et al.*, 2008; Coady *et al.*, 2004). There are several ways of targeting, but the most common targeting approaches used in school feeding programs are individual, geographical, and universal (see also each explanation of these three targeting approaches).

Third party: A third party involves using caterers, contractors, and traders from a private company (i.e. private service providers) and other partners. Using third parties can offer benefits to program effectiveness in cost and delivery as well as political, local, and social income-generating goals. Using a third party is an important option to consider when implementing a school feeding program.

Transition: The progressive reduction of external support from development partners — including operational support, funding, and technical assistance — to a country's national school feeding programme (Bundy *et al.*, 2009).

Universal targeting: This targeting approach is where a program is provided for free to all children throughout the country, regardless of their age, socio-economic status or gender.

References

- Allen, L., de Benoist, B., Dary, O. and Hurrell, R. (2006). *Guidelines on Food Fortification with Micronutrients*. WHO and FAO, Geneva.
- Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development and the Education Sector*. Directions in Development Series. Human Development. The World Bank, Washington, D.C.
- Coady, D., Grosh, M. and Hoddinott, J. (2004). *Targeting of Transfers in Developing Countries: Review of Lessons and Experience*. The World Bank, Washington, D.C.
- De Onis, M., Onyango, A.W., Borghi, E., Siyam, A., Nishida, C. and Siekmann, J. (2007). Development of a WHO Growth Reference for School-Aged Children and Adolescents. *B. World Health Organ.*, 85, 660–667.
- Gelli, A. (2010). Food Provision in Schools in Low- and Middle-Income Countries: Developing an Evidenced-Based Programme Framework. *HGSF Working Paper Series*, No. 4, PCD, London.
- Gelli, A. and Daryanani, R. (2013). Are School Feeding Programs in Low-Income Settings Sustainable? Insights on the Costs of School Feeding Compared with Investments in Primary Education. *Food and Nutr. B.*, 34(3), 310–317.
- Gelli, A., Kretschmer, A., Molinas, L. and de la Mothe, M.R. (2012). A Comparison of Supply Chains for School Food: Exploring Operational Trade-Offs across Implementation Models. *HGSF Working Paper Series*, No. 7, PCD, London.
- Grosh, M., Del Ninno, C., Tesliuc, E. and Ouerghi, A. (2008). *For Protection and Promotion: The Design and Implementation of Effective Safety Nets*. The World Bank, Washington D.C.
- Singh, S. (2013). *School Feeding Legal and Policy Frameworks: A Review*. PCD and WFP, London.
- WFP (2012a). *Update of WFP's Safety Nets Policy: The Role of Food Assistance in Social Protection*. Policy Issues, Agenda Item 5. WFP, Rome.
- WFP. (2012b). *P4P Purchase for Progress — A Primer*. P4P Co-ordination Unit. WFP, Rome.
- WFP. (2009). *WFP School Feeding Policy*. Policy Issues, Agenda Item 4. WFP, Rome.
- WHO. (2005). *The Millennium Development Goals. The Evidence is in: Deworming Helps Meet the Millennium Development Goals*. Deworming. WHO, Geneva. http://whqlibdoc.who.int/hq/2005/WHO_CDS_CPE_PVC_2005.12.pdf
- World Bank. (2012). *Managing Risk, Promoting Growth: Developing Systems for Social Protection in Africa. The World Bank's Africa Social Protection Strategy 2012–2022*. The World Bank, Washington, D.C.

Executive Summary

School Feeding Programs

Context and rationale

School feeding programs are gaining increasing recognition for their twin roles as a long-term social protection investment as well as acting as a productive safety net for children and their families in the short-term. This was the conclusion of an analysis undertaken by the World Bank and the United Nations World Food Programme (WFP), in collaboration with The Partnership for Child Development (PCD), with the aim of understanding why so many poor countries were using school feeding programs as a key part of their response to the emerging food, fuel, and financial crises of 2008. The analysis, published as *Rethinking School Feeding* (Bundy *et al.*, 2009), showed that governments viewed school feeding programs as providing multiple benefits to education, to health, and to local agriculture, and as being important and readily expandable mechanisms to reach the most vulnerable. Whether called 'school food', 'school meals' or 'school feeding', these programs met most of the important criteria for a productive safety net.

Building on this analysis, in 2013 WFP, in collaboration with the World Bank and PCD, published the first report to present *The State of School Feeding Worldwide* (WFP, 2013). This is the first report in what is envisaged

as a continuing and systematic process to describe school feeding programs globally in order to better understand the strengths and challenges. The report shows that some form of school feeding is implemented in almost every country in the world with approximately 368 million children, about 1 out of every 5, receiving a meal at school every day.

Sourcebook

This *Sourcebook* is the third analysis of school feeding by the same three partners, and was produced in response to demand from governments and development agencies for operational guidance on the operational experiences of national programs. This analysis uses a standardized approach to provide a more in-depth understanding of individual programs from 14 different countries, and then to compare their case studies to see what lessons can be learned. The following 14 countries were selected to provide diversity in geography, approach, and development: Botswana, Brazil, Cape Verde, Chile, Côte d'Ivoire, Ecuador, Ghana, India, Kenya, Mali, Mexico, Namibia, Nigeria, and South Africa.

Objectives

The *Sourcebook* has two main objectives. First, to provide detailed case studies on individual programs as practical examples of the strengths and challenges of implementing national programs at scale; and second, to identify good practices by analyzing the immense diversity of approaches that are used by national programs. The overall goal of the *Sourcebook* is to support learning and knowledge exchange among countries which are looking to strengthen and scale-up their national programs.

Methodology

The *Sourcebook case studies* were undertaken by the 14 countries with the assistance of PCD, WFP, the World Bank, and other key stakeholders between 2011 and 2014. The case studies collected both primary and secondary data and were validated by key stakeholder interviews across the school feeding system.

The analytical framework follows the set of five quality standards originally developed in *Rethinking School Feeding* (Bundy *et al.*, 2009). These standards examine the programs in terms of their design and implementation, policy, and legal frameworks, institutional arrangements, funding and budgeting, and community participation.

The *Sourcebook* is structured in two main sections. The first Section describes the results of the comparative analysis, using the five standards as the organizing principle. The second Section presents each of the 14 case studies separately, using the same systematic structure for each in order to facilitate comparison.

Comparisons of the School Feeding Programs

The overall message is that there is no ‘one size fits all’ for school feeding programs (Figure 1). Context is key, with different school feeding approaches being suited to different country situations. While there is no one ‘best’ model, there are many good practices across the programs, and these are highlighted in the analytical sections of the *Sourcebook*. The case studies also show that the programs have evolved over time, often quite rapidly, demonstrating that programing for school feeding is typically a dynamic process which benefits from ongoing learning and adaptation. Comparing different programs is one way to determine which efficiencies and innovations can be usefully shared across countries.

Design and implementation

Comparisons of the case studies show that clearly defining objectives can help to guide countries as they make decisions about different trade-offs in the design of their programs. The analysis shows (Table 1) that school feeding is most frequently viewed as primarily a social protection measure, and for nearly all countries examined here, the primary sectoral outcome is improvement in education; through increased enrollment, reduced absenteeism, enhanced gender equality, and the enhanced learning that follows the elimination of hunger. Most programs have shown themselves effective in terms of these outcomes.

There is an increasing trend for policymakers to recognize that well-designed programs can also contribute to health and nutrition, both through



Figure 1: Overview of the 14 school feeding case studies by country

Source: Sourcebook case studies.

Table 1: Design and implementation — strategic focus and targeting approaches

No.*	Country	Strategic Focus			Targeting Approach		
		Agriculture	Education	Health and Nutrition	Universal	Individual	Geographic
1.	Botswana		✓		✓		
2.	Brazil	✓	✓		✓		
3.	Cape Verde		✓		✓		
4.	Chile		✓	✓		✓	
5.	Côte d'Ivoire	✓	✓				✓
6.	Ecuador		✓		✓		
7.	Ghana	✓	✓	✓			✓
8.	India		✓		✓		
9.	Kenya (HGSM)		✓				✓
	Kenya (NMK)	✓					✓
10.	Mali	✓	✓	✓			✓
11.	Mexico			✓		✓	✓
12.	Namibia		✓		✓		
13.	Nigeria (Osun State)		✓		✓		
14.	South Africa		✓				✓
	Total**	5	13	4	7	2	7

HGSM = Home Grown School Meals. NMK = Njaa Marufuku Kenya. *Varies by State. ** Total is out of 15 as the two school feeding programs for Kenya are discussed separately.

Source: *Sourcebook case studies*.

short-term benefits, such as the micronutrient fortification of school food in **Ghana**, and through medium- to long-term gains, such as helping children avoid obesity by learning to make more effective dietary choices, as in **Chile**. All of the case studies aimed to provide 30% of the Recommended Dietary Allowance for energy for the targeted school children, and it is an important trend that this quantitative goal is now increasingly linked to both nutritional requirements and food quality.

Another new trend is for countries to connect school feeding with local food production and purchase. **Brazil**, for example, requires schools to purchase 30% of food locally; a trend that both benefits rural economies and potentially enhances the nutritional quality of the food.

This broader multisectoral scope of program objectives can be challenging as it tends to lead to more complex program design and implementation, but it can also increase impact by providing multiple benefits over several sectors. In high-income countries, the multisectoral approach is the norm.

Setting objectives for the programs is the essential first decision in effective design. But there remain other important decisions, especially regarding targeting approaches and the supply chain model, that critically determine program effectiveness. Table 1 shows that there is considerable variation in the approach to targeting, with half the countries providing food to all children and the other half targeting the program to the most neediest communities, based on geographically defined metrics of need. Individual targeting is rare and complex, but is nevertheless, successfully used by some countries. The considerable variation in targeting approaches among countries is a classic example of the importance of local context, with the adequacy of resources being a central issue.

This point is also illustrated by the considerable variation in supply chain models among the 14 case studies. There are approximately equal numbers of programs that use centralized and decentralized approaches, taking action at the highest national level or at the most local school level, and similar comparability between the number of programmes that insource versus those that outsource, that is, procuring through public or private mechanisms. Again it is the context that will determine which approach is more appropriate.

The comparisons show that, in principle, school feeding programs can provide an integrated framework with multiple impacts across agriculture, education, health and nutrition, providing benefits which may be direct for the school children themselves, or may spillover to benefit secondary targets such as younger siblings and out-of-school children. All designs imply some sort of trade-off, with the trade-offs increasing with the complexity of the operations.

The comprehensive multisectoral approach contributes to major gains in cost-efficiency and offers the hope that intergenerational poverty cycles can be broken by ensuring that healthier and better educated children become

better parents to the next generation. The evidence that this works is most clear for middle-income countries, but much more needs to be done to understand the role of school feeding programs in low-income countries with a focus on smallholder agriculture.

Policy and legal frameworks

Effective programs need to have a well-articulated policy and legal framework. A key finding is that every country reviewed here has incorporated school feeding in its regulatory framework, and that this has been achieved using quite different types of legislative and executive instruments (Table 2). In around half of the case studies, the regulation is explicit in the national Constitution or derives from a constitutional provision, as for example, in **Brazil, Mexico,**

Table 2: Policy and legal frameworks — legislative and executive instruments

No.	Country	Plans	Guidelines	Policies	Laws
1.	Botswana		✓		
2.	Brazil		✓		✓
3.	Cape Verde	✓			
4.	Chile		✓		✓
5.	Côte d'Ivoire	✓	✓		
6.	Ecuador				✓
7.	Ghana		✓		
8.	India		✓		✓
9.	Kenya (HGSM/ NMK)		✓		
10.	Mali			✓	✓
11.	Mexico		✓		✓
12.	Namibia		✓		
13.	Nigeria		✓		✓
14.	South Africa		✓	✓	
	Total	2	11	2	7

Source: Sourcebook case studies.

and **South Africa**. In the majority of countries, however, as exemplified by **Ghana**, the regulation is less formal, and school feeding is driven by program guidelines issued by the relevant department. Importantly, it seems that the process of developing the policy frameworks is itself an important contributor to embedding the program politically, since this process typically generates national policy debate. Debate in turn may generate evolutionary change; for example, **Nigeria (Osun State)** is moving from reliance on technical guidelines towards developing a State-level law on school feeding.

The regulatory models vary considerably in terms of being rights-based, needs-based or both, depending on the constitutional framework and the role of school feeding in the national development agenda. The case studies demonstrate that a strong country-specific regulatory system can help ensure that a program is well-managed and meets its objectives by setting service delivery standards and establishing appropriate institutions and processes. This is evident across the spectrum of different models from the largely centralized system in **Chile** to the highly decentralized system in **Brazil**.

The case studies show that a clear policy, established within a clear legal framework, helps to create a platform for cross-sectoral interaction and helps ensure better policy alignment. Whatever the mechanism, some form of regulatory framework closely informed by the national context is a prerequisite for effective, sustainable and government-owned school feeding programs.

Institutional arrangements

Comparisons across the case studies suggest that a wide range of institutional arrangements can be efficient and effective in determining the design, management and implementation of school feeding programs. The key determinants of success are that the program organization should correspond with existing mandates and capacities at different levels of the government and that the responsibilities of departments and sectors are clearly defined. The case studies show that most countries have given the responsibility for school feeding to a single unit in a line ministry (Table 3). As we saw with the objectives of the programs, it is most commonly the Ministry of Education that plays the lead role, as seen for example, in **Ecuador** and **South Africa**. In a minority of countries, the programs are managed by autonomous institutions formed for that specific purpose, as is the case for **Brazil**, **Cape Verde**, and **Chile**. The functions of this lead agency also vary among countries. Some

Table 3: Institutional arrangements — lead agency characteristics and functions

Case Study	Country	Lead Sector					Lead Institution Core Functions							
		Education	Local Government	Agriculture	Health	Other	Policy/Standards	Planning /Budgeting	Funds Management	Oversight/Monitoring and Evaluation	Co-ordination	Training/Technical Advice	Food Procurement	Contract Catering
1	Botswana		✓				✓	✓	✓	✓			✓	
2	Brazil	✓*					✓	✓	✓	✓	✓	✓		
3	Cape Verde	✓*					✓	✓	✓	✓	✓		✓	
4	Chile	✓*					✓	✓	✓	✓				✓
5	Côte d'Ivoire	✓					✓	✓		✓		✓	✓	
6	Ecuador	✓					✓	✓		✓				
7	Ghana		✓				✓	✓		✓				✓
8	India	✓						✓	✓	✓	✓			
9	Kenya (HGSM)	✓					✓	✓	✓	✓	✓			
	Kenya (NMK)			✓				✓	✓	✓	✓			
10	Mali	✓					✓	✓		✓	✓	✓		
11	Mexico				✓	✓**	✓			✓	✓	✓		
12	Namibia	✓						✓	✓			✓	✓	
13	Nigeria (Osun State)					✓***	✓	✓	✓	✓	✓			
14	South Africa	✓					✓	✓	✓	✓	✓			
	Total****	10	2	1	1	2	12	14	10	14	9	5	4	2

*Autonomous structure linked to the Ministry of Education. **Social Cabinet of the President and health sector. *** Office of the Deputy Governor. **** Total is out of 15 as the two school feeding programs for Kenya are discussed separately.

Source: Sourcebook case studies.

functions are almost exclusively performed at the central level, such as oversight, policy formulation, standard setting, and the mobilization and management of resources. Other functions, such as targeting and monitoring, may be a central-level responsibility, but are also often shared with peripheral agencies, such as State-level departments and other local authorities, as is the case in the decentralized model in **Mexico**.

Three common features of institutional arrangements appear to support program quality and effectiveness. The first involves planning for adequate capacity at the national and sub-national levels. **Ecuador** and **South Africa** have, for example, a structured school feeding unit with clearly delineated responsibility and regular training for staff. They both also have sub-national units with dedicated staff to monitor the program and provide technical support at the local level. The second common feature involves effective co-ordination that supports cross-sectoral linkages; this is accentuated by the increasing prominence of local agriculture and of food nutritional quality in program design. Two countries, **Brazil** and **Kenya**, have been particularly successful at fostering co-ordination in this regard. In these countries, including school feeding in larger national strategies and policies has been instrumental to that process. The third feature involves the creation of functioning mechanisms to ensure quality assurance and accountability. These mechanisms for monitoring are critical to program success, but were identified as a common weakness across the case studies, with some important exceptions, such as **Chile** and **Ecuador** which have a comprehensive information management system, and **Brazil**, with a system of checks and balances that involves different stakeholder groups across State government institutions and civil society.

The comparisons suggest that both low- and middle-income countries can be effective in implementing the first two key elements of institutional arrangements: planning for capacity; and ensuring effective cross-sectoral coordination. But the third element of quality assurance and accountability, remains a particular challenge for low-income countries, where this may be the major factor reducing the quality of outcomes.

Funding and budgeting

School feeding costs vary considerably among low- and middle-income countries, and the costs in the case studies cover this spectrum (Figure 2).

School feeding costs usually represent a small fraction of educational expenditure (typically in the range of 10%–15%), with the proportion tending to decrease as the gross domestic product increases. But there are important exceptions, and proportions above this range may be a signal that the program design needs revisiting. The purchase of food is the main cost driver for programs and program managers may have to make trade-offs when determining the menu and the most suitable procurement method.

Most of the countries have a budget line for school feeding, and those which do not, principally low-income countries, tend to rely on government funding arrangements that are renewed annually. Identifying sustained and protected sources of funding remains a challenge for many low-income countries. In most of the case studies, the funds for food purchase are provided by the central government, drawing on a variety of funding sources: **South Africa** relies almost entirely on tax revenue; **Brazil** also relies on the National Treasury, but has contributions from the national lottery as well; and in **Ecuador**, the program is financed by an investment fund. In several case studies, sub-national regional governments supplement central funding; for instance, in **Mexico**, State governments met around 9% of program costs in 2012. In other case studies, this sub-national funding can play an even more important and local role, right down to the community and parental level.

The comparisons show that not all funding is public, and that partnerships with the private sector are a growing area of financial support. **Chile** is an example of a private-public partnership that uses innovative bidding mechanisms to improve efficiency, and it is also an example of how checks and balances ensure the integrity of financial flows.

Overall, there is strong political will to continue to fund school feeding and to expand programs further, as far as possible through national funds. One of the key challenges being faced by countries attempting to increase their home grown food component is the task of balancing cost-efficient procurement with smallholder farmer involvement.

Community participation

The strongest and most sustainable school feeding programs are those that respond to community needs, are locally owned, and incorporate some form

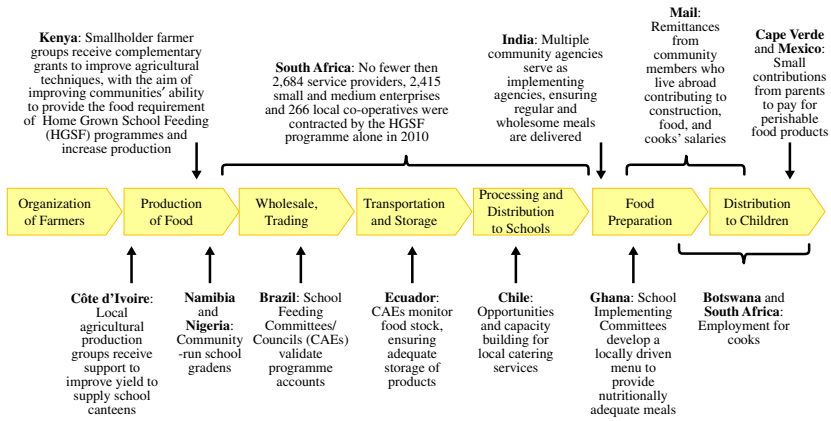


Figure 3: Case study examples of the communities' contributions and benefits from school feeding programs across the supply chain

Source: Sourcebook case studies.

of parental or community contribution, whether cash payments or in-kind donations of food or labor.

The engagement of communities in different aspects of school feeding programs in the case studies is illustrated in Figure 3. The comparisons show that effective programs provide indirect benefits to the community, such as employment opportunities in school kitchens (such as **Botswana** and **South Africa**), increased income and skill acquisition opportunities for smallholder farmers (such as **Kenya [NMK Programme]**), and complementary school feeding activities such as community nutrition volunteers (such as **Kenya [NMK Programme]**).

Co-ordination and community participation supported by adequate policies is crucial for successful programing; the programs in **Kenya** and **Brazil**, for example, owe their success to the clear delineation of the roles of the community and the different sectors. The successful participation of the community in decentralized programs in **Chile** and **India** is attributed to the detailed guidelines that helped define the community roles.

School feeding programs should be responsive to the needs of communities and can create and increase opportunities for the local population. The programs may strengthen the capacity of communities to take advantage of opportunities such as supplying goods and services in response to the demand created by school feeding programs. This may be achieved through

systematic capacity development for organized local co-operatives, enterprises, and entrepreneurs, as well as the adoption of policies which favor smallholder farmers and small and medium enterprises.

Moving Forward on School Feeding

The comparisons of the case studies have shown that there are many routes to achieving a successful school feeding program. It also shows that the programs themselves are surprisingly fluid and dynamic, often changing dramatically as they evolve. This implies a continuing need for countries to monitor their programs in real time and to provide feedback that can lead to evidence-based changes in policy.

There is a surprising lack of information on the impacts of school feeding. Despite the ubiquity of programs, few impact evaluations have been undertaken, and even fewer which could be described as a controlled or systematic trial. This is a lost opportunity for improving program effectiveness. There is a particular need for evidence-based guidance on the effects of different implementation approaches on smallholder farmers, on local development, on eating habits, and on food quality and safety.

The realities of costs and finance management are also poorly understood at present. Further research into the cost drivers of programs would be useful, in particular, exploring why the costs of otherwise similar programs are high in some countries and low in others. Linked to this is the need to better understand how both low- and middle-income countries finance their school feeding programs, especially the roles of cost recovery and targeting.

One clear message from conducting these case studies is that there is considerable breadth of school feeding expertise across the countries which are implementing programs, and this provides an opportunity for mutual learning and sharing of information among countries. This learning has begun to take place through regional Networks and through informational meetings and workshops, for example, the Global Child Nutrition Forum, the Latin American School Feeding Network (LARAE), the New Partnership for Africa's Development, the Comprehensive Africa Agriculture Development Programme, PCD, and the African sub-regional Ministry of Education School Health and Nutrition Networks. These Networks should be supported

to help countries to continue to learn, share, and evolve their approaches based on real country experience as programs grow in scale and impact.

Abbreviations and Acronyms

CAE	School Feeding Committee/Council
HGSF	Home Grown School Feeding
HGSM	Home Grown School Meals
LARAE	Latin American School Feeding Network
NMK	Njaa Marufuku Kenya
PCD	The Partnership for Child Development
WFP	United Nations World Food Programme

References

- Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*. Directions in Development Series. Human Development. The World Bank Group, Washington, D.C.
- WFP. (2013). *The State of School Feeding Worldwide 2013*. WFP, Rome. Available from: <https://www.wfp.org/content/state-school-feeding-worldwide-2013>

This page intentionally left blank

Introduction to the Sourcebook

Background to the Sourcebook

In 2009, the World Bank and the United Nations World Food Programme (WFP), in collaboration with The Partnership for Child Development (PCD), published an analysis *Rethinking School Feeding* (Bundy *et al.*, 2009). The analysis was undertaken to increase understanding of countries' growing demand for school feeding programs which had been sparked by the food, fuel and financial crises of 2008. Governments had clearly understood that school feeding programs have multiple benefits and are important tools to reach the most vulnerable. They are a social safety net, providing income support to families through the provision of food. School feeding programs can help to get children into school and help to keep them there, through enhancing enrollment and reducing absenteeism; and once the children are in school, the programs can contribute to their learning, through avoiding hunger, and enhancing cognitive abilities. These effects may be potentiated by complementary actions, especially deworming and providing micronutrients. This makes school feeding programs an attractive long-term social protection investment as well as a safety net in the short-term to children and their families.

Building on the 2009 *Rethinking School Feeding* analysis (Bundy *et al.*, 2009) WFP, in collaboration with the World Bank and PCD, published

The State of School Feeding Worldwide 2013 as part of a systematic process to further understand the strengths and challenges of school feeding programs globally (WFP, 2013). The report is based on a worldwide survey conducted by WFP and provides the first global picture of school feeding. It shows that school feeding is present in almost every country in the world with approximately 368 million children, about 1 out of every 5, receiving a meal at school every day. With so many school-age children being fed while in school, there is increasing demand from governments for evidence-based guidance on how they can improve the effectiveness and efficiency of their school feeding programs and in many instances scale-up their programs.

There are large variations in the scale and coverage of school feeding programs, with the most extensive coverage in high- and middle-income countries — most countries that can afford to provide food for their school children, do so. Where the need is greatest, in terms of hunger, poverty, and poor social indicators, however, the programs tend to be the smallest, often targeted to the most food insecure regions. An estimated 49% of school children in middle-income countries receive free school meals, compared to 18% in low-income countries (WFP, 2013).

Analysis of school feeding funding has shown that national governments in low-income countries are increasing their investments in school feeding, with a rise of 12% in four years, from 6% in 2008 to 18% in 2012 (WFP, 2013). As the wealth of countries increases, the cost of school feeding compared to the cost of education decreases. This results in school feeding becoming relatively more affordable, with school feeding costing on average 68% of education costs in low-income countries, 24% in lower-middle-income countries and 11% in upper-middle-income and high-income countries (WFP, 2013).

Providing food to children in school, though a simple and widely accepted idea, in practice, is a complex intervention that involves a range of stakeholders operating at various levels across different sectors. Moreover, as school feeding programs exhibit different, context-specific models or configurations, no ‘one size fits all’. Different approaches can even coexist within the same country, for example, where program implementation is owned by decentralized institutions (e.g. individual States in Brazil or India), or where agencies are complementing the national programs (e.g. WFP in Ghana, Kenya, and Mali).

In low-income countries, school feeding programs often rely on external funding and implementation. *Rethinking School Feeding* documented that rather than seeking to exit from providing school feeding, countries dependent on external funding and implementation tend to transition from externally supported projects to nationally-owned programs (Bundy *et al.*, 2009).

School meal programs can also contribute to building food markets and the enabling systems around them by generating a structured and predictable demand for food products, thus, benefiting local farmers and promoting sustainable local economic development. As school feeding programs run for a fixed number of days a year and often have a pre-determined food basket, they can provide the opportunity to benefit small-scale farmers and producers by generating a structured and predictable demand for their products. This strengthens the local economy in both the short- and long-term by building the market, creating job and profit opportunities, and by developing capacity and infrastructure with benefits beyond school feeding. Linking school feeding to local agriculture has direct economic benefits and can potentially benefit the entire community. This linkage between local food production, purchase and school feeding is often known as Home Grown School Feeding and can contribute to program sustainability (Espejo *et al.*, 2009).

Many countries are designing or redesigning national programs and in doing so, are considering the strategic role of public food purchasing in fostering healthy diets and local development. School feeding programs operate in the strategic level of the middle of the food chain, from where they can influence both producers and consumers.

About the Sourcebook

Focusing on building understanding at the country level, the Sourcebook aims to document government school feeding programs in low- and middle-income countries through a collection of 14 country case studies: Botswana, Brazil, Cape Verde, Chile, Côte d'Ivoire, Ecuador, Ghana, India, Kenya, Mali, Mexico, Namibia, Nigeria, and South Africa. These countries were purposely selected as case studies for this Sourcebook due to a mixture of their program innovative features and to ensure a diversity of models. They represent a broad range of national school feeding programmes, from those in their infancy to those that have been established for many years.

Design

A series of three linked school feeding publications was planned to release in 2013–2014 jointly with governments, the World Bank, WFP, PCD and other development partners (with technical expertise in school feeding), as part of a process of developing a stronger evidence base for school feeding. The first publication in the series *The State of School Feeding Worldwide 2013* establishes the current state of knowledge of school feeding across the globe (WFP, 2013). The second publication in the series, this *Sourcebook*, provides an analysis of school feeding programs in 14 countries. These two linked school feeding publications are underpinned by a collection of *Specialized Research Working Papers* aimed at specialists, academics, journal readers and technical advisers. The design of the research was based on a global vision and conceptual framework for school feeding developed in partnership among WFP, the World Bank and PCD. The conceptual framework is based on five quality standards for school feeding, which were originally presented in *Rethinking School Feeding* (Bundy *et al.*, 2009) and are detailed in the Methodology below.

Objectives and target audience

This Sourcebook is primarily aimed at in-country school feeding decision makers and practitioners and has been produced in response to demand from governments and supporting agencies for operational guidance on school feeding by analyzing programs in different countries using a standardized approach. Information is provided on the different context-specific school feeding models and the trade-offs encountered. This information increases understanding of the trade-offs associated with alternative school feeding models, therefore, supporting the learning and knowledge exchange between countries looking to strengthen and scale-up national programs. It provides valuable lessons learned and sheds light on identified good practices that can serve to inform school feeding programs in countries at different stages of development.

Methodology

This Sourcebook is based on a series of case studies that were researched in the field and situation analyses that were undertaken by PCD, WFP, the

World Bank, and other stakeholders between 2011 and 2014 to aid understanding of the different school feeding models. Complementary information from other sources is cited. Similar methodologies were used for the case studies¹ (Devereux, 2010; WFP, World Bank, and PCD, 2012). Data collection took place by both primary and secondary data sources. Extensive literature reviews were conducted and included policy documents, guidelines and research. Collection of primary data was through qualitative methods, including key informant interviews and focus group discussions with a range of stakeholders. Grey literature was reviewed and fed into the design of the interview and group discussion guides. Interviews were held with the main participants involved in policy and program implementation. The analytical framework follows the five quality standards originally developed in *Rethinking School Feeding* (Bundy *et al.*, 2009), examining the school feeding programs in terms of their design and implementation, policy and legal frameworks, institutional arrangements, funding and budgeting, and community participation. The case studies provide a picture of the school feeding programs at the time of the field research. As the school feeding programs are constantly evolving, program changes may have taken place since the data collection.

The nutritional values of the school meals for each of the case studies have been pictorially displayed through ‘gingerbread men’.² The approximate nutritional value of the sample menus from the information in the case study programs was computed using the PCD School Meals Planner tool, a freely available school meals tool which enables users to create nutritionally-balanced and market-costed school meals using daily nutritional allowances as recommended by the World Health Organization (WHO) (PCD, 2014). The nutritional value of each menu was calculated as a percentage of the Recommended Dietary Allowance by the Food and Agriculture Organization of the United Nations, WHO, and the United Nations University, for children aged 6–12 years (a setting provided on the School Meals Planner tool [PCD, 2014]) for each of the key nutrients (energy, protein, fat, vitamin A, and iron) shown in the gingerbread men. The purpose was to provide an

¹Any exceptions are detailed in the individual country chapter methodologies.

²A biscuit made from gingerbread and shaped as a human. The gingerbread men in this Sourcebook represent the five key nutrients (energy, protein, fat, vitamin A, and iron) for each country school meal.

Box 1: Calculating the nutritional values of the school meals for the case studies

A number of assumptions were made to allow calculation of the nutritional value of the school meals for the case studies:

- The raw version of each food item on the menus was used.
- Certain food items present in the menus were not available on the School Meals Planner tool (PCD, 2014) and so were not included in the calculation of the nutritional content of menus. Instead, a similar product was used (for example, groundnut paste was used instead of peanut butter). Specific details are included in the individual case studies.
- When generic ingredients were mentioned on the menu (e.g. fish and milk), specific variations of food items were used in the nutrient content calculations (this was necessary due to the design of the School Meals Planner tool [PCD, 2014]). Examples include, but are not limited to:
 - *Fish*: Catfish was used in nutrient content calculations.
 - *Chicken*: Light meat flesh.
 - *Beef*: 15–20% fat, boneless.
 - *Milk*: Cow's milk, whole, 3.5% fat (includes pasteurized, sterilized, and ultra-heat treated).
 - *Beans*: Green and white beans.

Source: Roshan Daryanani (PCD).

example of the type of meals served in schools in the case studies. It is important to note that menus often vary significantly within countries. There may also be seasonal variation in menus during the year. For some of the case studies, sample menus shown are for only one particular State or locality and may not be representative of menus across the specific country. Where data for more than one daily menu was available for a program (for example, a weekly menu or two sample menus), the average of the nutritional content of the menus was calculated (Box 1).

Analysis of the case studies

This provides an inter-country analysis across the case studies using the five *Rethinking School Feeding* standards (Bundy *et al.*, 2009). Each of the five standards is described in its own chapter. Each opens with an introduction explaining the specific standard, then provides a country comparison of that particular standard with the other case studies along with the trade-offs associated with alternative models, and finally concludes with specific lessons learned and good practices (pages 1–57).

The case studies

This details 14 concise, but comprehensive case studies of national school feeding programmes in low- and middle-income countries: Botswana, Brazil, Cape Verde, Chile, Côte d'Ivoire, Ecuador, Ghana, India, Kenya, Mali, Mexico, Namibia, Nigeria, and South Africa. Each country program is described in its own chapter. Each chapter opens with a country profile, map of the region and an introduction describing the country overview. A school feeding program factsheet then follows summarizing the chapter. Each of the five *Rethinking School Feeding* standards (Bundy *et al.*, 2009) is then discussed in relation to the specific country national school feeding programme. The gingerbread men infographics provides a pictorial representation of the nutritional content of the specific country school feeding menu. Discussions then follow on to program impact evaluations. Each chapter finally concludes with country-specific conclusions covering lessons learned, good practices, strengths, challenges and the ways forward (pages 59–437).

Abbreviations and Acronyms

PCD	The Partnership for Child Development
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter was drawn from the Executive Summary of *The State of School Feeding Worldwide 2013* (WFP, 2013) and was compiled by Alice Woolnough

(PCD); Box 1 was compiled by Roshan Daryanani (PCD); and reviewed by Cai Heath (PCD); and edited by Anastasia Said (PCD).

References

- Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*. Directions in Development Series. Human Development. The World Bank Group, Washington, D.C.
- Devereux, S. (2010). *Home-Grown School Feeding Case Study Methodology*. Institute of Development Studies, Brighton.
- Espejo, F., Burbano, C. and Galliano, E. (2009). *Home-Grown School Feeding: A Framework to Link School Feeding with Local Agricultural Production*. WFP, Rome. Available from: http://hgsf-global.org/en/bank/downloads/doc_details/118-home-grown-school-feeding-a-framework-to-link-school-feeding-with-local-agricultural-production
- PCD. 2014. *School Meals Planner*. PCD, London. Available from: <http://www.hgsf-global.org/en/bank/menu-planner>
- WFP (United Nations World Food Programme). (2013). *The State of School Feeding Worldwide 2013*. WFP, Rome. Available from: <http://documents.wfp.org/stellent/groups/public/documents/communications/wfp257481.pdf>
- WFP, World Bank and PCD. (2012). *Sustainable School Feeding Programmes: A Guidance Note to Develop a National Sustainability Strategy*. WFP, The World Bank and PCD, London. Available from: http://hgsf-global.org/en/bank/downloads/doc_details/260-strategy-for-developing-sustainable-school-feeding-programmes

Design and Implementation

Introduction

School feeding is complex operationally and crosses different sectors. Comparing the design and implementation of different school feeding programs is one way to determine what efficiencies and innovations can be shared across countries. Designing effective school feeding programs requires careful management of trade-offs among design objectives, targeting approaches, feeding modalities (such as a hot meal, snack or take-home rations) and costs. In order to set priorities for program strategy and design, understanding these trade-offs in the different school feeding approaches is a key challenge for policymakers.

Recent research activities exploring these trade-offs have been working to separate school feeding interventions into their different components applying supply chain approaches (Gelli *et al.*, 2012). In this chapter, the design and implementation of the school feeding programs across the case studies in this *Sourcebook* are compared using a standardized approach, including an analysis of the strategies of the programs followed by their implementation modalities.

Cross-Country Analysis

Social protection and targeting

School feeding interventions have the largest coverage of all the social protection interventions employed by developing countries (United Nations, 2013). They act as a safety net, providing direct support to the poor by transferring income to families. This is often done through targeting program support to a selected group of beneficiaries.

Given the limited budgets that many of the countries contend with, targeting is often necessary to ensure that programs provide the most benefits to the intended beneficiaries (Bundy *et al.*, 2009). Programs may include:

- *Universal coverage:* Providing programs to all children for free throughout the country.
- *Geographic targeting:* Providing programs for free to children in selected schools within selected districts, states, provinces and zones. Areas are generally targeted on the basis of poverty and food insecurity.
- *Individual targeting:* Providing programs for free to children based on indices of individual need, such as vulnerability, using means or proxy-means testing.

Each targeting method entails a number of trade-offs in terms of cost, effectiveness, and equity. In high- and middle-income countries, free school meals are generally integrated within social protection programs targeted to individual children on the basis of vulnerability and means-based proxies. Children not considered at risk would normally pay for school meals, though often at subsidized cost. In contrast, the majority of school feeding programs in low-income countries tend to be limited in geographical scope and limited in targeting children living in vulnerable, food insecure contexts. This may be due to budget constraints and the complexity of individual targeting compared to geographic targeting, as well as the potential stigmatization attached to those individually targeted. Certain school feeding programs combine both forms of targeting offering onsite feeding to all pupils in schools in food insecure areas and also providing take-home rations to vulnerable children (e.g. girls in areas with a large gender inequality or vulnerable children in the context of HIV (human immunodeficiency virus).

The targeting approaches implemented across the case studies range from universal coverage, geographical and individual targeting (Table 1). The Government of **Côte d'Ivoire** is examining some cost recovery mechanisms, including the targeting of free meals in most deprived areas of the country, whilst introducing a subsidized cost per meal within less deprived communities.

The national program in **Chile** is considered an example of good practice regarding individual targeting, not least because the targeting mechanisms have been evolving since the 1960s, reflecting a deeper understanding of the drivers of poverty and educational exclusion. Though currently the program targets children individually based on child- and household-level characteristics, this was not always the case (Kain *et al.*, 2002). For example, until very recently, schools were provided free school meal allocations on the basis of a school vulnerability index built on socioeconomic household data of first grade school children. Teachers were then asked to target free meal allocations to the most vulnerable children in the classroom; other children in the classroom would receive school meals, but at a subsidized cost. This is an interesting alternative to geographic targeting, potentially allowing fewer inclusion errors when scaling up programs.

Program strategies

The examples of school feeding programs examined in this *Sourcebook* include a range of strategic objectives across agriculture, education, health, and nutrition sectors. All the different programs captured in this *Sourcebook* identify school feeding as a strategic social protection intervention to support education objectives, with a particular focus on children living in poverty and food insecurity. Decentralized models, as evidenced in **Côte d'Ivoire** and **Kenya (NMK Programme)**, also have smallholder agriculture as a strategic priority and involves a clear set of activities aimed at fulfilling this strategy. The case of **Brazil** highlights how the regulatory framework can be shaped to channel a share of overall procurement requirements (in this case 30%) to smallholder farmers. The food production support activities undertaken by the agriculture sector partners are in this case coupled explicitly with increased access to markets. The other models tend to see school feeding as an opportunity for smallholder agriculture market development, but have no explicit program component to address this aspiration.

Table 1: Strategic focus and targeting approaches

No.*	Country	Strategic Focus			Targeting Approach		
		Agriculture	Education	Health and Nutrition	Universal	Individual	Geographic
1.	Botswana		✓		✓		
2.	Brazil	✓	✓		✓		
3.	Cape Verde		✓		✓		
4.	Chile		✓	✓		✓	
5.	Côte d'Ivoire	✓	✓				✓
6.	Ecuador		✓		✓		
7.	Ghana	✓	✓	✓			✓
8.	India		✓		✓		
9.	Kenya (HGSM)		✓				✓
	Kenya (NMK)	✓					✓
10.	Mali	✓	✓	✓			✓
11.	Mexico			✓		✓	✓
12.	Namibia		✓		✓		
13.	Nigeria (Osun State)	✓	✓	✓	✓		
14.	South Africa		✓				✓
	Total**	6	13	5	7	2	7

*Varies by State. HGSM = Home Grown School Meals; NMK = Njaa Marufuku Kenya. ** Total is out of 15 as the two school feeding programs for Kenya are discussed separately.

Source: Sourcebook case studies.

As a result of the complex, multisectoral nature of school feeding, from an operational perspective, it is important to clearly highlight and prioritize the main objectives for the program as a whole. The prioritization process can provide an opportunity to examine possible trade-offs between objectives and associated strategies for delivering food in schools and the supply and value chains. A single program may not achieve all of its objectives and the pursuit of each objective presents trade-offs against the other goals.

Education

All case studies, apart from **Mexico**, frame the education objectives around improved school participation (including enrollment, attendance, and drop-out), and cognition and learning. This finding is not surprising and reflects the current state of the evidence base of school feeding program impact (Alderman and Bundy, 2012).

Health and nutrition

From the health and nutrition objectives, the experiences of the countries highlighted that, by combining food provision with behavior change messaging and sensitization, school feeding programs have the potential to improve nutrition and health both at the school and household levels. For example, for the middle-income countries **Brazil**, **Chile**, and **Mexico**, this link has been made an integral part of the program implementation strategy; for **South Africa** nutrition education (for pupils and the wider community) is also one of the program objectives, although the extent of implementation is not clear and in most low-income countries, this link is in reality aspirational, though the NMK program in **Kenya**, for example, includes specific program activities on this theme.

The experiences of the countries also highlighted a strategy aimed at enhancing nutrition in the short- and medium-term:

- *Short-term impact:* The program focuses on delivering nutritionally balanced menus throughout the school year, with a particular focus on adjusting the service delivery to account for seasonality, both in terms of food production and diet diversification, and in terms of seasonal hunger.

There is also the opportunity to focus on specific age-groups that have the biggest potential to benefit from the intervention, for example pre-schoolers or adolescent girls. The program in **Ghana** is currently examining improving menus, with and without micronutrient fortification, within the context of a randomized controlled trial.

- *Medium-term impact:* The school provides an entry point to reach households in the wider community through campaigns aimed at improving health and nutrition practices at the household level, including, for example, diet diversification, water and sanitation and healthy eating practices, as is the case of the program in **Brazil**.

Modalities, food basket, and nutritional norms

Different feeding modalities range from a hot meal to a snack or take-home rations. The Africa and Asia programs all serve a hot meal as a minimum whilst the Central and South America programs have a range of feeding modalities. For example, in **Brazil** and **Mexico** the modality varies by State and in **Chile** a pre-prepared breakfast, snack and/or meal is provided. The analysis of the menu and food baskets highlights important differences across countries (Table 2 and Figure 1). It appears that there is quite a strong focus to deliver nutritionally balanced menus, particularly in countries like **Mexico** where nutritional objectives are specified. There is also a trend towards more diversified food baskets that include fresh produce. As outlined above, the main aim across countries is to address educational indicators and there is a significant focus on cereal-based food baskets except for a few countries (e.g. **Botswana** and **Côte d'Ivoire**). Overall, there seems to be less attention on the micronutrient content of foods.

In planning meals, all programs focus on specific age groups, particularly primary school age with the potential to also benefit pre-school children and adolescents. Menus are generally based on a meal plan specifying the composition of food types or calorific value of different food commodities. Countries like **Brazil** and **Chile** specify clear nutritional standards covering specific percentages of the daily nutritional needs of students including kilocalories.

Though there are differences in the equivalence of the daily recommended nutritional intakes or Recommended Dietary Allowance (RDA)

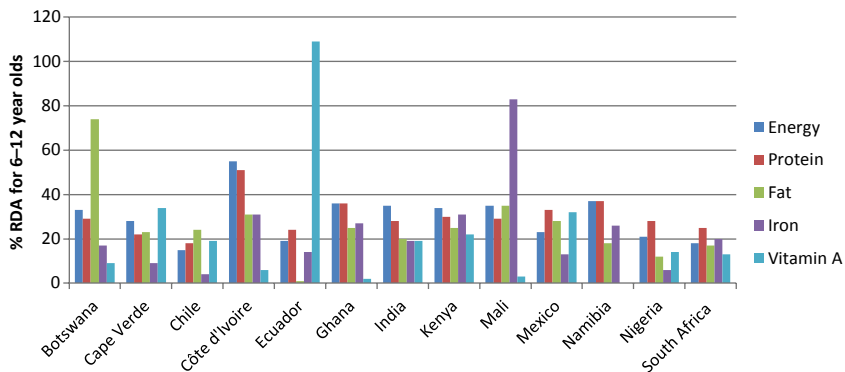


Figure 1: Average daily nutritional menu content for the case studies

*Brazil % RDA (4–12 year-olds).

Source: Sourcebook case studies.

between countries, in terms of energy requirements overall almost all case studies provide a minimum of 30% of RDA when implemented as planned. For example, **India**, which has the largest school meal program in the world, provides around 35% of RDA, and **Côte d'Ivoire** provides over 50% of RDA. In contrast, **South Africa** provides only 18% of RDA.

In **Brazil**, there is clear indication for the provision of healthy meals that cover at least 20% of the daily nutritional needs of students whenever one meal is offered, and 30% when two or more meals are offered while also stipulating clear definitions for percentages of energy and fat. Specific modalities may vary across States and municipalities in **Brazil**, but all are mandated to follow national nutritional standards. Similar variations in meal provision are also found between provinces in **South Africa**. Other countries such as **Botswana**, **Cape Verde**, **Côte d'Ivoire**, **India**, **Kenya**, and **Nigeria** indicate specific types and quantities of food commodities per child per day. Some countries, such as **Brazil** and **Mexico**, also forbid the use of some food commodities and limit the use of others.

In terms of program design, the case studies have highlighted that ideally national standards would specify adequate nutritional content of meals, including kilocalories and micronutrients, whilst also considering changing food prices and seasonal food availability. Innovations in this area are increasingly being introduced, particularly in the context of linkages with the agriculture sector. In **Ghana**, a pilot is being tested in the context of a randomized

controlled trial of their national school feeding programme to examine these issues in more detail.

By meeting these standards, programs would then be providing balanced, nutritious meals to school children based on foodstuffs that can normally be purchased within the community. Monitoring these standards remains a critical area in terms of program management.

Food procurement, transportation, storage, and preparation

Building on the supply chain models developed in recent analyses, school feeding models can be broadly characterized in terms of the level of decentralization in program management, procurement, distribution and monitoring, and the use of third parties to perform these activities (Gelli *et al.*, 2012). The implementation approach identified in the case studies is broadly classified according to the following main school feeding supply chain models:

- *Centralized insourced model:* The management and control of the supply chain takes place at the national level and is performed by the government. Centralized supply chain management performed in-house.
- *Semi-decentralized insourced model:* Semi-decentralized supply chain management performed in-house.
- *Decentralized insourced model:* The management and control of the supply chain takes place at local or school level and is performed by the government or the government school. Decentralized supply chain management performed in-house.
- *Centralized outsourced model:* The management and control of the supply chain takes place at central, State or national level and is performed by a third party contractor.
- *Semi-decentralized outsourced model:* Semi-decentralized supply chain management performed by a third party.
- *Decentralized outsourced model:* The management and control of the supply chain takes place at local or school level and is performed by the private sector.

These main school feeding supply chain models can also be combined between each other to form mixed models. It is possible to have a program

that will contain several elements from the main school feeding supply chain models. For example, one commodity such as non-perishable staples may follow a more centralized set up in contrast to a more decentralized set up for perishables, as in the case of **Botswana**.

The classification of these models is based on ongoing analyses and is currently an active area of research. Therefore, the approach used to classify these models is still being developed. As a result of this, the distinction between the main school feeding supply chain models is quite fluid and this is important to bear in mind when referring to the classification of the models in this chapter with the case studies.

The cross-country analysis in Table 3 shows the type of school feeding supply chain model being used for each of the case studies. However, none of the case studies adopted a centralized outsourced model.

Trade and procurement

The trade and procurement trade-offs are complex including: regulations and pricing mechanisms; specifications of lot sizes; and frequency of purchasing, etc. Further research is required to support decision-making processes in this area in particular. The programs rely on market transactions at different levels to supply the food to schools. Assumptions were made when examining the different programs in these areas as specific performance data was not available. The functioning of more decentralized models will depend on the

Table 3: Main school feeding supply chain models across the case studies

School Feeding Supply Chain Model/ Program Type	Country
Centralized Insourced	Botswana, Cape Verde, Ecuador, Namibia
Semi-Decentralized Insourced	Brazil*, India, Mali, Mexico, South Africa
Decentralized Insourced	Côte d'Ivoire*, Kenya (HGSM and NMK Programmes)*
Centralized Outsourced	—
Semi-Decentralized Outsourced	Chile
Decentralized Outsourced	Ghana, Nigeria (Osun State)

* Denotes explicit link to smallholder farmers.

Source: Adapted from Gelli *et al.* (2012).

Table 2: Average nutritional menu content for selected case study countries

Country	Weight (Grams)	Energy		Protein		Fat		Iron		Vitamin A	
		(Kilocalories)	% RDA	(Grams)	% RDA	(Grams)	% RDA	(Milligrams)	% RDA	(Micrograms)	% RDA
Botswana	269.4	614.1	33	16.5	29	35	74	3.1	17	45.8	9
Brazil	100	749.8	58	26.8	65	19.4	61	5.7	48	242.8	54
Cape Verde	33.0	509.3	28	12.4	22	11	23	1.6	9	167.8	34
Chile	241.2	261.4	15	10.6	18	11.6	24	0.7	4	95.7	19
Côte d'Ivoire	420.5	1016.9	55	28.8	51	15	31	5.5	31	30.5	6
Ecuador	91.0	356.2	19	13.5	24	0	1	2.5	14	546.9	109
India	254.2	650.6	35	16.0	28	10	20	3.4	19	97.2	19
Kenya	233.5	628.4	34	16.9	30	11.9	25	5.6	31	107.9	22
Mali	92.5	653.1	35	16.8	29	17	35	14.8	83	12.8	3
Nigeria	82.5	389.8	21	15.7	28	6	12	1.1	6	69.1	14
South Africa	197.2	259.6	18	14.1	25	8	17	3.6	20	62.9	13

Source: Sourcebook case studies.

extent of market integration and efficiency at the specific level of procurement. The main assumption being that the more decentralized the level of procurement (e.g. school level as in **Kenya [HGSM Programme]**), the smaller the market and more vulnerable the program will be in terms of market effects. Generally, the different programs include a number of procurement procedures that guide the operations of the different stakeholders involved in the market transactions. Obtaining data to validate some of these assumptions is a key area of ongoing research.

Processing, preparation, and distribution

Preparation and distribution activities are similar across the case studies, the main difference being in outsourced models like **Chile, Ghana, Nigeria (Osun State)** where the private sector is tasked with service delivery and in some instances for insourced models like **India** where a minority of States outsource the program to non-governmental organizations (Ashkaya Patra). In most other cases, the programs rely on different degrees of community involvement, covering both cash and in-kind contributions.

In terms of processing, centralized models like **Botswana** and **Ecuador** tend to provide opportunities for improved quality control and efficiencies through economies of scale. However, overall gains in cost-efficiency are generally offset by the transportation of food from centralized warehouses to the recipient schools. Decentralized models by definition face shorter transportation distances, but are also more complex to manage in terms of quality control. This issue is particularly relevant with regards to food quality, including storage (e.g. aflatoxin contamination) and micronutrient fortification. Decentralized models can also provide fairly diversified menus, relying on perishables sourced from within the community to provide balanced meals (e.g. **Ghana** and **Nigeria [Osun State]**). Storage in decentralized and semi-decentralized models can be a concern, particularly when food procurement occurs on a termly basis and food stocks are kept in school for relatively long periods (e.g. **Kenya, India, and Mali**). In **Nigeria (Osun State)**, the school feeding program counters storage risks by reducing the time between food purchases to a maximum two-week period.

From this perspective, resources, oversight, and quality control tend to be more straightforward in centralized models. However, semi-decentralized and

decentralized models will tend to have more feedback links between beneficiaries and program management, as in the case of **Brazil** and **Ghana** — a key element in terms of accountability and social control.

Links with local food production, smallholder farmers, and local communities

The programs for the case studies face different inherent risks involved in food sourcing. The main assumption in our comparative analysis is that supply chain models that work on a more decentralized level in terms of food sourcing (e.g. direct links with smallholder production like **Côte d’Ivoire** or **Kenya [NMK Programme]**) are more vulnerable than programs that rely on more aggregated systems. Note that the risks considered are relative to the provision of a steady supply of food of adequate quality and quantity. These risks include, for example, contract defaults, delivery of contaminated foods, or delays in delivery. This assumption is reflected in terms of primary food sources, with centralized and semi-decentralized models relying on production at the national level (e.g. **Botswana** and **India** for the main staples).

Box 1: Smallholder farmers: A global perspective

There are approximately 500 million small farms less than two hectares in the world and some 2 billion people are dependent on small-scale farms for their livelihoods (IFAD, 2008).

Smallholder farmers are of primary importance not only to household food security, income, and nutrition, but to rural development in low- and middle-income countries. Yet, half of the world’s hungry are from smallholder farming communities (WFP, 2013). This begs the question, how can we increase the returns so that smallholder farming becomes a route out of poverty, hunger, and malnutrition? It is not enough to help smallholder farmers achieve subsistence, even if sustainable. Greater income is also needed — not least to pay medical bills, for schooling and for a variety of foods to meet their nutritional needs (Conway, 2011).

(Continued)

Box 1: (Continued)

Increasing productivity through new and existing technologies and in the provision of equitable market opportunities is one answer. The Green Revolution facilitated higher-yielding and locally adapted crop varieties to spread across much of the world, allowing food production to keep pace with population growth. But the Green Revolution passed some areas by, most notably Africa (a continent that grows a diversity of crops in a variety of agro-ecological conditions).

In many countries around the world, only between one- and two-fifths of the rural population are significant participants in agricultural markets (IFAD, 2011). Better access by small producers to markets means that they can reliably sell more produce at fairer prices. This in turn encourages farmers to invest in their land and increase the quantity, quality and diversity of the food they produce.

Source: Gordon Conway and Katy Wilson (Agriculture for Impact, Imperial College London).

Box 2: Agriculture and links to school nutrition programmes in Africa

Agriculture is the backbone of most African economies and smallholder farmers account for 80% of the continent's food production. An African Union technical agency, the New Partnership for Africa's Development (NEPAD) is prioritizing agriculture and food security through its Comprehensive Africa Agriculture Development Programme (CAADP) — a strategic framework to guide agricultural development efforts and partnerships at the country level and launched by African Heads of State in 2003 (Maputo Declaration of 2003 [AU, 2003]). One of CAADP's flagship programs is Home Grown School Feeding (HGSF).

School feeding programs are increasingly becoming recognized as a means to support smallholder farmers. HGSF benefits local farmers and producers by generating a stable, structured, and predictable demand

(Continued)

Box 2: (Continued)

for their products, thereby building the market and enabling systems around it. HGSF thus provides an innovative model in addressing food and nutrition insecurity, agricultural development and educational attainment simultaneously.

Demand is growing for HGSF, with increasing numbers of countries seeking to develop or strengthen scaled and sustainable HGSF programmes. NEPAD, with assistance from The Partnership for Child Development (PCD), is providing support for this through CAADP.

However, income and production are only part of the challenge — undernutrition is also a problem. In low- and middle-income countries, one in three children suffers from malnourishment which can lead to stunted physical and mental development, disease, and death. As a result, there is a growing demand for initiatives that link food and agriculture with nutrition and health to address the challenges of undernutrition. Nutrition sensitive agriculture requires integrating agricultural interventions that maximize on nutritional benefits for food and nutrition security especially of vulnerable populations. HGSF is one creative way of establishing linkages between agriculture and nutrition.

School meals help to alleviate hunger in the short-term, but they can address the nutritional requirements of school children if the food basket is such that there is a diversity of food served as a balanced meal. HGSF encourages smallholder farmers to diversify production in response to the school feeding market. In addition, it is important for the agriculture sector to support farmers in the production of new technologies including bio-fortified crops such as beans fortified with iron, or orange fleshed sweet potatoes that are high in vitamin A. These crops can in turn be channelled to the school feeding programs to improve the micronutrient content of meals, while at the same time incentivizing farmers to grow more.

If HGSF programmes are structured such that they incorporate community-level nutrition education in addition to food procurement, HGSF interventions can potentially deliver both immediate benefits in terms of household income through increased demand for food, but also lasting intergenerational benefits by supporting household-level nutrition.

Source: Josephine Kiamba (PCD — Southern Africa) and Bibi Giyose (NEPAD).

However, decentralized school feeding programs by design may develop supply-side support activities, as in the case of the decentralized insourced model where explicit agriculture development activities are provided to reduce the range of vulnerabilities associated with smallholder food production. Mixed models, where staples are sourced centrally whilst procurement for fruit and vegetables is decentralized, for example, are also common in practice.

Conclusion

Clearly stated and prioritized main program objectives help to guide countries as they make decisions about different trade-offs in the design of their programs. A broader scope of program objectives tends to lead to more complex program design and implementation, and potentially increased impact. An increasing number of countries are exploring ways to connect school feeding with local food production and purchase. This trend is concurrent with an increasing attention on nutritional content. In principle, school feeding programs can provide an integrated framework with multiple impacts across agriculture, education, health and nutrition including potential direct benefits, spillovers, and trade-offs; through this comprehensive approach the intergenerational poverty cycle can be broken to ensure that children gain an education and become better parents to the next generation. However, the evidence of these multiple effects and interactions is not yet well-established in the context of developing countries, particularly when focusing on smallholder agriculture, highlighting the need for further research.

Abbreviations and Acronyms

CAADP	Comprehensive Africa Agriculture Development Programme
HGSF	Home Grown School Feeding
HGSM	Home Grown School Meals
HIV	Human immunodeficiency virus
NEPAD	New Partnership for Africa's Development
NMK	Njaa Marufuku Kenya
PCD	The Partnership for Child Development
RDA	Recommended Dietary Allowance

Acknowledgments

This chapter was compiled by Aulo Gelli (imas PCD now IFPRI); reviewed by Roshan Daryanani, Lesley Drake, Cai Heath and Alice Woolnough (PCD), Josephine Kiamba (NEPAD), and Emilie Sidaner (WFP); and edited by Anastasia Said (PCD); additional technical inputs provided by Gordon Conway and Katy Wilson (Agriculture for Impact, Imperial College London) and Bibi Giyose (NEPAD).

References

- Alderman, H. and Bundy, D.A.P. (2012). School Feeding Programs and Development: Are We Framing the Question Correctly? *World Bank Res. Obser.*, 27(2), 204–221.
- AU (African Union). (2003). *AU Declarations*. Assembly of the African Union, Secondary Ordinary Session 10–12 July 2003. UA, Maputo, Mozambique. Maputo. Available from: <http://www.nepad.org/system/files/Maputo%20Declaration.pdf> (Accessed 09 June 2014).
- Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*. Directions in Development Series. Human Development. The World Bank Group, Washington, D.C.
- Conway, G. (2011). On Being a Smallholder. *Conf. New Directions for Smallholder Agri.*, 24–25 January, IFAD, Rome. Available from: <http://www.ifad.org/events/agriculture/doc/papers/conway.pdf> (Accessed 09 June 2014).
- Gelli, A., Kretschmer, A., Molinas, L. and Regnault de la Mothe, M. (2012). A Comparison of Supply Chains for School Food: Exploring Operational Trade-Offs Across Implementation Models. *HGSF Working Paper*, No. 7, PCD, WFP, and WHU, London. Available from: http://hgsf-global.org/en/bank/downloads/doc_download/471-hgsf-working-paper-7-comparison-of-supply-chains-for-school-food-exploring-operational-trade-offs (Accessed 13 February 2014).
- IFAD (International Fund for Agricultural Development). (2011). Rural Poverty Report 2011. IFAD, Rome. Available from: <http://www.ifad.org/rpr2011/> (Accessed 09 June 2014).
- IFAD (International Fund for Agricultural Development). (2008). *Food Prices: Smallholder Farmers Can Be Part of the Solution*. IFAD, Rome. Available from: <http://www.ifad.org/operations/food/farmer.htm> (Accessed 09 June 2014).

- Kain, J., Uauy, R. and Taibo, M. (2002). Chile's School Feeding Program: Targeting Experience. *Nutr. Res.*, **22**(5), 599–608.
- United Nations. (2013). *A New Global Partnership: Eradicate Poverty and Transform Economies Through Sustainable Development*. The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda. United Nations, New York. Available from: http://www.un.org/sg/management/pdf/HLP_P2015_Report.pdf (Accessed 11 February 2014).
- WFP (United Nations World Food Programme). (2013). *Hunger: Who are the hungry?* WFP, Rome. Available from: <http://www.wfp.org/hunger/who-are> (Accessed 09 June 2014).

This page intentionally left blank

Policy and Legal Frameworks

Introduction

Recent leading reports on school feeding (WFP, 2013; Bundy *et al.*, 2009; Harper and Wells, 2007) have highlighted the importance of having well-articulated national policies and the critical role. This can play in all stages of the transition process as countries move from externally supported programs to nationally owned programs. Whilst this is reflected in recent literature, there is also good evidence on the ground as countries increasingly work towards developing regulatory frameworks for school feeding.

Moreover, the appropriate parliamentary sanction provided by laws and the formulation of executive policies serve as important determinants of the political process which drives school feeding programs. The process of formulating law/policy articulates political will and generates significant political debate which provides further impetus for program development. In **Nigeria (Osun State)** for instance, discussions on formulating a school feeding policy has generated healthy political discussions on program implementation and evolution with clear recognition of the need to enshrine school feeding in State law.

It is important to appreciate that regulation is not about codification, a regulatory system is an articulation of legislative and executive policies; it

provides guidance and vests authority in identified functionaries/bodies to undertake specified activities within a given framework.

Policy and legal frameworks are constituted by the broader policy/regulatory environment and more specifically, by sources of governance. The food security and school feeding policy and regulatory environment are defined by various sources (e.g. strategies and plans) and legal instruments across all relevant sectors/departments. The sources of governance include legislative and executive instruments that as a whole articulate ‘rights’, set out ‘objectives’ and establish the institutions and processes for the realization of these rights. Examples of the policy/regulatory environment and sources of governance are provided here in the cross-country analysis.

Cross-Country Analysis

Policy/regulatory environment

The macro policy/regulatory environment around food security and school feeding is defined by the set of strategies, plans, vision documents, and legal instruments across all relevant sectors/departments including agriculture, education, health, social welfare, trade, water, and principle executive agencies like the Cabinet Office or the President’s Office.

Governments also need to put in place a regulatory system to comply with their international obligations, if it is relevant with international treaties. School feeding can be considered to incorporate three distinct rights: right to food; right to education; and right to health (free from disease). The relevant international and regional treaties are listed in Box 1.¹

Sources of governance

The more specific regulatory system is defined by a set of legislative and executive instruments including the national Constitution, statutes, decrees, orders, policies, and guidelines at all levels of the government.

¹ For a detailed analysis of the international law and school feeding policy see Singh (2013).

Box 1: International and regional treaties on food security and school feeding

The relevant international and regional treaties on food security and school feeding include:

- The Universal Declaration of Human Rights of 1948 (OHCHR, 1948).
- The International Covenant on Economic, Social and Cultural Rights of 1966 (OHCHR, 1966).
- The World Food Security Compact of 1985 (FAO, 1985).
- The African (Banjul) Charter on Human and Peoples' Rights of 1986 (ACHPR, 1986).
- The Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights 'Protocol of San Salvador' of 1988 (OAS, 1988).
- The Convention on the Rights of the Child of 1989 (OHCHR, 1989).
- The World Declaration and Plan of Action for Nutrition of 1992 (FAO and WHO, 1992).
- The European Social Charter of 1996 (Revised) (Council of Europe, 1999).
- The African Charter on the Rights and Welfare of the Child of 1999 (ACERWC, 1999).
- A European Union Agenda for the Rights of the Child of 2011 (European Commission, 2011).

Source: Sourcebook author.

Indicative country governance profiles

Table 1 presents the indicative governance profiles of the case studies. Generally speaking, as we move from 'Plans' to 'Laws', the level of legal entrenchment increases (Table 1). It should be noted that the classification

Table 1: Indicative country governance profiles

No.	Country	Plans	Guidelines	Policies	Laws
1.	Botswana		✓		
2.	Brazil		✓		✓
3.	Cape Verde	✓			
4.	Chile		✓		✓
5.	Côte d'Ivoire	✓	✓		
6.	Ecuador				✓
7.	Ghana		✓		
8.	India		✓		✓
9.	Kenya (HGSM/NMK)		✓		
10.	Mali			✓	✓
11.	Mexico		✓		✓
12.	Namibia		✓		
13.	Nigeria		✓		✓
14.	South Africa		✓	✓	
	Total	2	11	2	7

Note: 'Plans' refers to sectoral or general plan, documents issued by the relevant government department. These include vision documents, strategy papers, etc. 'Guidelines' refer to specific guidelines on school feeding implementation. 'Policies' refer to executive instruments issued by the relevant government department. It would usually form the basis of legislation. 'Laws' refers to a legislative instrument/statute/act passed by the appropriate parliamentary body. This may include a specific school feeding law or a relevant provision in a related statute.

Source: *Sourcebook case studies.*

(Plans, Guidelines, Policies, and Laws) is just to express the idea and is not clearly defined and each source has its own utility and may not be a substitute for another. Furthermore, the classification is not necessarily based on the title of national document(s), but rather on their source and political and executive relevance/authority.

It is important to appreciate that the enabling role of the different sources of governance is closely determined by individual country context and processes. In some cases, recognition in national law whilst important and commendable would not provide the necessary basis for program implementation. **Nigeria** for example, recognizes school feeding in its

statute in the *Universal Basic Education Act 2004* (UBEC, 2004) and school feeding would thus, appear to be legally well-entrenched. However, Nigeria is a Federal country where basic education and school feeding are substantially in the exclusive jurisdiction of State and Local Governments. The Universal Basic Education Act of 2004 is a Federal law which does not and cannot bind State Governments and it does not create any enforceable rights (UBEC, 2004). Therefore, in Nigeria, legal and policy frameworks need to emanate from individual State Governments to create the required regulatory framework for school feeding. **South Africa**, however, provides an instructive comparison to Nigeria with similar constitutional circumstances. As per the 1996 Constitution of South Africa (Republic of South Africa, 1996a) education at all levels is in the concurrent jurisdiction of Provincial and National Governments. Provincial Governments have significant autonomy in school education, however all Provincial Governments have adopted the national guidelines on school feeding in their National School Nutrition Programme. School feeding thus, whilst implemented by Provincial Governments, operates under a uniform national framework. It is important to note that although provinces choose to adhere to national guidelines, they retain the prerogative of implementing the program as per local requirements.

The sources of governance, besides establishing a regulatory basis for school feeding, are important to create an appropriate space for school feeding in the relevant national agenda. This is key, as it is fairly well-established now that school feeding programs provide a useful platform for cross-sectoral engagement. **Mexico**, for example, recognizes the right to food in their national Constitution and there is also a statutory recognized agency identified in the Health Law (Camara de Diputados del H. Congreso de la Union, 2013 [1984]) for program delivery. However, in the absence of a school feeding policy and a food policy there would appear to be a need for better contextualization in terms of a regulatory framework that fits well within a larger national food security agenda.

Benefits of a comprehensive regulatory system

A clear and well-informed regulatory system provides a platform for systematic program evolution. More importantly, it sets standards for public service

delivery which not only guide the delivery agencies, but also creates awareness amongst the recipients.

Whilst some programs can function entirely based on practice without any specific law and/or policy guidelines, there are clear benefits of establishing a regulatory system. Some of these benefits include:

- *Defined and secure budgetary allocation:* Funding as would be expected, is a critical issue, the problem is not always about lack of resources, but the absence of an explicit budgetary mandate to allocate and channel funds to school feeding. Such a mandate needs to be provided by a specific law which would be reflected in the public financial management system.
- *Long-term sustainability:* Public programs such as school feeding have shown to be more vulnerable to changes in governments and political alliances unless entrenched by an appropriate legal instrument.
- *Donor harmonization:* Multiple implementation modalities and funding sources work to the detriment of national policy harmonization which is vital to ensure cohesive intersectoral planning. A clear regulatory system would guide all external partners to a uniform operating framework and prevent any duplication or policy conflicts.
- *Broad country-level harmonization:* In countries with decentralized governance structures such as **Brazil**, **India**, and **South Africa**, a national regulatory framework can provide useful guidance and establish nationwide norms for decentralized implementation.
- *Efficiency and transparency:* A regulatory framework would provide clear standards to assess any gaps and deviations and may also prescribe modality for remedial action.
- *Sectoral/policy convergence:* A regulatory framework can provide a policy platform for cross-sectoral co-ordination and convergence by identifying and articulating the roles and responsibilities of different departments/agencies.
- *Institutional foundation:* An institutional foundation consists of identifying/creating an institutional home and processes for implementation of school feeding. Suitable laws/policies that provide a clear vision for the program are indispensable for a strong institutional foundation.

Trade-offs

For trade-offs, there are no inherent advantages or disadvantages of a particular regulatory system. Countries can adopt different regulatory systems depending on the national Constitution, legal system, policy landscape, political environment, and program objectives (illustrated below against two central policy issues: *decentralization/centralization* and the *regulatory model*).

Decentralization/Centralization: In this context, this refers to the devolution of powers to institutions of local/devolved governance and some amount of fiscal and functional autonomy (procurement is an important issue involving both) and not to management practices (which would be ‘decentralized’ to a certain extent in all cases). It is also important here to avoid any conceptual misunderstanding with Federal/Central Governments and State Governments in a Federal country like **Nigeria**. Here, State Governments operate as Federated units and decentralization needs to be examined within individual State Government context. Some country cases would help illustrate these points:

- The program in **Chile** has devolved some administrative powers (i.e. management and disbursement of funds) as prescribed by the national/provincial board to provincial and district boards, but in terms of fiscal and functional autonomy it is a fairly centralized system. The objective of the program is to improve education and it effectively outsources the entire service delivery through a computerized central tendering system.
- On the other hand, the program in **Brazil** is highly decentralized both in terms of management and finances. Local governance and ownership of the program are seen as important aspects of program design and this is reflected in laws related to funds flow, procurement and implementation.
- **Nigeria (Osun State)** has a decentralized system in terms of well-developed local government institutions and the Local Government Council which provides the majority of the funding. However, the operational role of the Local Government Authority is limited in the management structure.

Regulatory Model: Similarly, whether countries adopt a rights-based, needs-based or a mixed-based approach to framing regulations would depend on the constitutional framework, the role of school feeding in the national development agenda and the program objectives.

In **Brazil**, regulations adopt a strong rights-based social inclusion approach in line with the larger national agenda of creating socioeconomic entitlements. The Brazilian Constitution, through an amendment in 2010, also includes the right to food as a basic social right under Article 6 (Chamber of Deputies, 2010). School feeding is also mentioned in the Constitution since 1988 in Articles 205 and 208 (Chamber of Deputies, 2010).

The main school feeding law recognizes the universality of care to all students enrolled in public education and provides free meals to all beneficiaries.

In **South Africa**, the program has a unique history of being developed in a post-apartheid context and was led by the *White Paper on Reconstruction and Development* (Republic of South Africa, 1994) with a strong emphasis on redressing past inequities as also explicitly stated in the National Education Policy Act of 1996 (Republic of South Africa, 1996b). Whilst the national Constitution recognizes the rights to food, nutrition, and education, regulations apply a needs-based inequity redressal approach. The program is not universal and the targeting policy and method is as per *National Norms and Standards for School Funding* 1998 (Republic of South Africa, 1998). Section 44 of the Norms lays down a fundamental resource targeting principle:

“44. ...To effect redress and improve equity, therefore, public spending on schools must be specifically targeted to the needs of the poorest. ...”
(Republic of South Africa, 1998).

In **India**, whilst the program is uniquely driven by judicial intervention, detailed executive guidelines are laid down by the ministry of the central government. The Indian program is universal and driven by a right to food agenda and the judicial interpretation of the right to life and personal liberty in Article 21 of the Indian Constitution as a positive right. The government is under a legal obligation to provide free school meals (Government of India, 2007).

Conclusions

Whilst it is clear that countries are working towards developing their regulatory frameworks for school feeding, the cross-country analysis has shown that:

- It is important to have a clear policy in place to govern implementation. Whilst sound regulations certainly do not guarantee implementation, they establish a visible mandate to be realized and set standards for service delivery across the different objectives. **Botswana**, for example, has a sound program with government support and financing, but the absence of a national policy on school feeding is a clear and present risk to the sustainability of the program.
- A successful regulatory instrument should be legally well-entrenched and provide a credible basis and means for implementation. An acknowledgment of a right is necessary, but not sufficient.
- Appropriate regulatory mechanisms support the realization of program objectives. For instance, in the case of farm linkages, **Brazil** creates an explicit legal mandate in that a minimum of 30% of the school feeding program funds are to be used for direct purchase from ‘family farms’ or their organizations. Creating a good regulatory framework is an important part of the transition process and determines political commitment and the ability to undertake ownership. The school feeding program in **Ecuador** has over the years successfully transitioned from an externally supported program to a nationally owned program in part through developing clear legal and policy frameworks and institutions. Out of a sample of 94 countries, 86% of high- and upper-middle-income countries had either a policy or a legal document in place which regulated the national school feeding program, while in low-income countries, 52% did not have a policy or legal framework (WFP, 2013; Singh, 2013).
- A sound policy framework is important to create a platform for cross-sectoral interaction and also to ensure overall policy alignment where feasible.

Abbreviations and Acronyms

PCD The Partnership for Child Development

Acknowledgments

This chapter was compiled by Samrat Singh (PCD); reviewed by Lesely Drake, Roshan Daryanani and Alice Woolnough (PCD), and Emilie Sidaner (WFP); and edited by Anastasia Said (PCD).

References

- ACERWC (African Committee of Experts on the Rights and Welfare of the Child). (1999). *African Charter on the Rights and Welfare of the Child*. ACERWC, Addis Ababa. Available from: <http://www.acerwc.org/> (Accessed 12 July 2013).
- ACHPR (African Commission on Human and Peoples' Rights). (1986). *African (Banjul) Charter on Human and Peoples' Rights*. ACHPR, Banjul, the Gambia. Available from: http://www.achpr.org/files/instruments/achpr/banjul_charter.pdf (Accessed 12 July 2013).
- Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*. Directions in Development Series. Human Development. The World Bank Group, Washington, D.C.
- Camara de Diputados del H. Congreso de la Union. (2013 [1984]). *Ley General de Salud*. Version DOF 24-04-2013. Mexico, D.F. Available from: http://www.conadic.salud.gob.mx/pdfs/ley_general_salud.pdf (Accessed 04 April 2014).
- Chamber of Deputies. (2010). *Constitution of the Federative Republic of Brazil*, Third Edition. Chamber of Deputies, Brasilia. Available from: http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/1344/constituicao_ingles_3ed.pdf (Accessed 12 July 2013).
- Council of Europe. (1999). *The European Social Charter*. Revised version. Cedex, Council of Europe, Strasbourg. Available from: http://www.coe.int/t/dghl/monitoring/socialcharter/Presentation/ESCRBooklet/ESCRBooklet_en.asp (Accessed 12 July 2013).
- European Commission. (2011). *An EU Agenda for the Rights of the Child*. European Commission, Brussels. Available from: http://ec.europa.eu/justice/policies/children/docs/com_2011_60_en.pdf (Accessed 12 July 2013).
- FAO. (1985). The World Food Security Compact. *Report of the Conf. FAO*, Twenty-Third Session, 9–28 November, FAO, Rome.

- FAO and WHO. (1992). World Declaration and Plan of Action for Nutrition. *Int. Conf. Nutr.*, December, Rome. <http://www.fao.org/docrep/015/u9260e/u9260e00.pdf> (Accessed 30 May 2014).
- Government of India. (2007). *The Constitution of India*. New Delhi. Available from: <http://india.gov.in/my-government/constitution-india/constitution-india-full-text> (Accessed 12 July 2013).
- Harper, C. and Wells, L. (2007). *School Meal Provision in England and Other Western Countries: A Review*. School Food Trust, Sheffield (Accessed 12 July 2013).
- OAS (Organization of American States). (1988). Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights 'Protocol of San Salvador'. Department of International Law. OAS, Washington, D.C. Available from: <http://www.oas.org/juridico/english/treaties/a-52.html> (Accessed 12 July 2013).
- OHCHR (Office of the High Commissioner for Human Rights). (1989). *Convention on the Rights of the Child*. OHCHR, Geneva. Available from: <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx> (Accessed 12 July 2013).
- OHCHR (Office of the High Commissioner for Human Rights). (1966). *International Covenant on Economic, Social and Cultural Rights*. OHCHR, Geneva. Available from: <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx> (Accessed 12 July 2013).
- OHCHR (Office of the High Commissioner for Human Rights). (1948). *Universal Declaration of Human Rights*. OHCHR, Geneva. Available from: <http://www.ohchr.org/en/udhr/pages/introduction.aspx>.
- Republic of South Africa. (1998). *National Norms and Standards for School Funding*. Government Gazette, **400**(19347), 12 October. Republic of South Africa, Cape Town. Available from: http://www.gov.za/sites/www.gov.za/files/38397_gon17.pdf (Accessed 12 July 2013).
- Republic of South Africa. (1996a). *Constitution of the Republic of South Africa, Act No. 108 of 1996*. Government Printer, Pretoria (Accessed 30 May 2014).
- Republic of South Africa. (1996b). *National Education Policy Act No. 27 of 1996*. President's Office, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=173mPb%2Fja4c%3D&tabid=185&mid=1828> (Accessed 30 May 2014).
- Republic of South Africa. (1994). *White Paper on Reconstruction and Development*. Government Gazette, **353**(16085), 23 November. Republic of South Africa, Cape Town. <http://www.gov.za/sites/www.gov.za/files/governmentgazetteid16085.pdf> (Accessed 12 July 2013).

- Singh, S. (2013). *School Feeding Legal and Policy Frameworks: A Review*. PCD and WFP, London.
- UBEC (Universal Basic Education Commission). (2004). *Universal Basic Education Act 2004*. UBEC, Abuja. Available from: <http://ubeconline.com/> (Accessed 12 July 2013).
- WFP. (2013). *State of School Feeding Worldwide 2013*. WFP, Rome. Available from: <http://documents.wfp.org/stellent/groups/public/documents/communications/wfp257481.pdf> (Accessed 12 July 2013).

Institutional Arrangements

Introduction

Institutional arrangements indicate the provisions within a government for the design, management, and implementation of their school feeding program. Essentially, this is how the program is set up — who does what and where to deliver the service from central to local levels.

The complex nature of school feeding programs requires significant capacity. Providing appropriate food to targeted school children at the right time throughout the school year requires a number of activities to be performed at different levels of government. Often, non-governmental actors such as the private sector, international organizations, non-governmental organizations (NGOs) and other actors from civil society are also involved. Effective implementation thus depends on good articulation between actors across different sectors, from central to school levels. Defining who does what, where and how these different actors co-ordinate their work is crucial.

Cross-Country Analysis

Institutional set up of school feeding programs

Four main factors appear to shape how school feeding programs are structured:

- (1) the role and objectives of school feeding in the country;
- (2) the overall structure of public administration;
- (3) the existing implementation capacity of different ministries and other actors at different levels; and
- (4) implementation considerations.

Whilst countries find different solutions to the institutional set up, the school feeding programs in the case studies share common characteristics and specifically focus on four elements:

- *State institution in charge of program management:* Their responsibilities and what factors contribute to explain these different arrangements.
- *Capacity at national and sub-national levels to perform the designated functions:* In terms of financial and human resources, infrastructure and processes.
- *Co-ordination mechanisms with other government sectors and partners:* Including how formalized they are.
- *Resource tracking, reporting and monitoring and evaluation systems.*

State institution in charge of program management

The case studies illustrate that there is a wide variety of options. Most of the countries have given the responsibility for school feeding to a unit in a line ministry, generally the Ministry of Education; for example, in **Ecuador** and **South Africa**. This is consistent with data from a global survey conducted by WFP in 2012, showing that in 86% of countries¹ (the Ministry of Education) is primarily responsible for the school feeding program (WFP, 2013). But there are important exceptions: in the case of **Botswana** and **Ghana**, the

¹The survey sample included 59 countries.

official institutional home is the local government ministry. Some school feeding programs are managed by autonomous institutions formed with the purpose of managing programs for school children; this is the case of **Brazil**, **Cape Verde**, and **Chile**. In **Mexico**, school feeding is the responsibility of the institution in charge of social and food assistance programs which forms part of the health sector and the Social Cabinet of the President. Finally, in **Nigeria (Osun State)**, the O'Meals Programme Secretariat is directly positioned within the Office of the Deputy Governor.

The role of school feeding in the country's development agenda is an important determinant of which sector is mandated with school feeding. For all the case studies, the school feeding programs include education-related objectives. Where the responsibility for school feeding is outside the education sector, programs tend to have wider objectives, with stronger links to social protection, nutrition or local development agendas. In some countries (**Ghana**, **Nigeria [Osun State]**, and **South Africa**), the most suitable institutional home for school feeding has been an issue of debate.

The functions of the lead agency at the central level also vary in each country. However, there are a number of functions that are almost exclusively performed at the central level, namely, policy formulation, standard setting, resource mobilization and management, and overall oversight. This may be to support quality and equity in service delivery — ensuring that all children receive the same service under the program. Targeting and monitoring are generally also the responsibility of the agency at the central level; however, it can also be shared with States and local authorities, as is the case in the **Mexican** program (a decentralized model). In some countries, central agencies have additional implementation responsibilities including procurement and logistics, whilst others have decentralized this responsibility to lower-level structures, such as local authorities or schools. Table 1 presents, the main characteristics and functions of the lead agency for the case studies.

The national public administration system and existing governance arrangements for the delivery of social services will determine issues like financial flows and the allocation of responsibilities and resources at different levels. The case study countries that have undergone or are undergoing a decentralization process, in which lower levels of government are progressively increasing their levels of financial and implementation responsibility, have school feeding programs that match this set up. In **Kenya (HGSM**

Table 1: Institutional arrangements — lead agency characteristics and functions by case study

Case Study	Country	Lead Sector				Lead Institution Core Functions								
		Education	Local Government	Agriculture	Health	Other	Policy/Standards	Planning/Budgeting	Funds Management	Oversight/Monitoring and Evaluation	Co-ordination	Training/ Technical Advice	Food Procurement Contract Catering	
1	Botswana		✓				✓	✓	✓	✓		✓		
2	Brazil	✓*					✓	✓	✓	✓	✓			
3	Cape Verde	✓*					✓	✓	✓	✓		✓		
4	Chile	✓*					✓	✓	✓			✓		
5	Côte d'Ivoire	✓					✓	✓	✓		✓	✓		
6	Ecuador	✓					✓	✓	✓					
7	Ghana		✓				✓	✓	✓			✓		
8	India	✓						✓	✓	✓				
9	Kenya (HGSM)	✓					✓	✓	✓	✓				
	Kenya (NMK)			✓				✓	✓	✓				
10	Mali	✓					✓	✓	✓	✓	✓			
11	Mexico				✓	✓***	✓		✓	✓	✓			
12	Namibia	✓						✓	✓		✓	✓		
13	Nigeria (Osun State)					✓****	✓	✓	✓	✓				
14	South Africa	✓					✓	✓	✓	✓				
	Total****	10	2	1	1	2	12	14	10	14	9	5	4	2

* Autonomous structure linked to the Ministry of Education. ** Social Cabinet of the President and health sector. *** Office of the Deputy Governor. **** Total is out of 15 as the two school feeding programs for Kenya are discussed separately. HGSM = Home Grown School Meals. NMK = Njaa Marufuku Kenya.

Source: *Sourcebook case studies*.

Programme) for instance, the school-based management is a replication of the process used by the education sector in the procurement of school instructional materials. In **Mali**, since the decentralization of the education sector, local authorities have been responsible for the management of primary school premises; and when the national school feeding program was launched in 2009, they also became responsible for school feeding service delivery. In Federal countries (e.g. **Nigeria [Osun State]**) where basic education is a State subject, the role of the Federal Government of Nigeria can be very limited (issuing the normative framework and providing technical guidance to States); each State is responsible for operationalizing the school feeding law or policy and for service delivery (Singh, 2013). Programs that have been operating for many years also show that school feeding arrangements can evolve. The programs in **Brazil** and **Mexico**, for example, were initially centralized and were then progressively devolved to States, districts and communities as the wider decentralization of public services took place.

Existing capacities of different ministries at different levels to support the implementation also influence how responsibilities are allocated. The program can involve non-State actors such as the private sector (the school feeding supply chain is entirely outsourced to private companies in **Chile**), civil society (in **Brazil**, where there is a strong tradition of social mobilization, community organizations are in charge of monitoring and oversight at the local level and civil society organizations contribute to the school feeding policy formulation at the national level) and NGOs (in some States in **India**, the delivery of the meals is outsourced to NGOs). Finally, implementation considerations such as procurement modalities and types and sources of food can also determine how the program is managed (discussed further under Design and Implementation page 1).

Capacity at national and sub-national levels to perform the designated functions

This involves the financial resources, the know how, the systems and procedures, and the number of dedicated and well-trained staff required to run school feeding programs.

Planning for adequate capacity at the national and sub-national levels is one factor that helps to support program quality and effectiveness, with different

entities responsible for the program, both at central and sub-national levels, needing appropriate capacity and resources to perform their functions correctly. As for nutrition policies more generally, countries are best prepared to design and deliver school feeding at the local level when they already have an existing level of technical capacity, and have secured funding transfers and political support at regional or municipal level (Acosta and Fanzo, 2012). **Ecuador** and **South Africa** have, for example, a structured school feeding unit with clearly delineated responsibility and regular training for staff. They both also have sub-national units with dedicated staff to monitor the program and provide technical support at the local level. Another factor that seems to have been positive in countries like **Brazil**, **Chile**, and **India** is the issuance of detailed program guidelines and procedures, which regulate the functioning of the program at all levels. This ensures that staff have clear guidance and standards by which to measure their performance and the quality of the service. This is especially important for programs where the implementation responsibility lies at the lower levels to ensure consistency and transparency in service delivery across the country, and often an area that needs strengthening.

Putting in place the required capacity can be challenging, especially for new programs facing budget constraints. In many cases, during the initial stages the priority is given to food delivery and the capacity needed for management, day-to-day oversight is then progressively established.

Co-ordination mechanisms with other government sectors and partners

Effective intersectoral co-ordination across stakeholders and vertical co-ordination within the government is a second factor that helps to support program quality and effectiveness. Effective intersectoral co-ordination has proved to be essential to ensure the close articulation of activities across different sectors and vertical co-ordination (from central to local levels) ensures program consistency and adequate feedback; both mechanisms optimize the benefits of school feeding. School feeding programs are multisectoral in nature and there is evidence of important collaboration amongst sectors and with non-governmental stakeholders. The WFP global survey showed that among 43 countries where the Ministry of Education is responsible for

school feeding (out of 59 countries for which data is available), another ministry played a role in all but three of them (WFP, 2013). Two additional ministries stand out as having an important role in school feeding programs: Agriculture and Health. The efforts to strengthen the collaboration with the agriculture sector have increased in the past few years, as the potential benefits of linking school feeding programs with local agricultural production became evident. In some countries, such as **Mali** and **Cape Verde**, the Ministry of Local Government is also involved. However, co-ordination is overall the biggest challenge of all programs studied here. As the Agriculture Secretary of the Republic of Kenya put it, the challenge is “...having all Ministries — health, education, agriculture, finance — working together to see school feeding as a joint program...” (Songa, 2011). This illustrates how difficult it is, in general, to foster co-ordination across ministries.

Two countries have been particularly successful at fostering co-ordination: **Brazil** and **Kenya**. In **Brazil**, strong intersectoral co-ordination fostered linkages between programs in support of local family farming, school feeding, and nutrition education. In **Kenya (HGSM and NMK Programmes)**, co-ordination between the Ministries of Agriculture, Education, and Health have supported the exchange of expertise and stronger synergies with agriculture and school health. Establishing formal co-ordination mechanisms both at decision-making and at the technical levels (such as steering committees or technical working groups), to formulate policy, to plan and make decisions, to monitor progress and to share information, is the first step towards effective co-ordination. Out of the 14 case studies, eight case studies (**Brazil, Cape Verde, Ghana, India, Kenya, Mali, Mexico, and Nigeria**) have formally established co-ordination mechanisms for school feeding. The experience of **Brazil** and **Kenya** show that for different sectors to actively participate and contribute to a program, their roles and responsibilities have to be clear. The Kenyan draft *National School Health, Nutrition and Meals Programme Strategy*, published by three Ministries: Agriculture, Education, and Health, provides for interministerial co-ordination, multisectoral planning, joint action, and monitoring and evaluation (Republic of Kenya, Draft). Including school feeding in larger national strategies and policies has also been instrumental in making the results of the program a collective responsibility. In **Brazil**, since 2003, school meals have been a key component of the country's integrated food and nutrition security strategy that links agriculture,

education, health, and social protection; in **Kenya** school meals were included in the country's *National Food Security and Nutrition Policy 2012* as a means of achieving food and nutrition security for school-age children (Republic of Kenya, 2012). Strong leadership at the higher level of individual States was also a determinant of success in **Brazil**.

Resource tracking, reporting, and monitoring and evaluation systems

Functioning quality assurance and accountability mechanisms (such as resource tracking, reporting, and monitoring and evaluation systems) is a third factor that helps to support program quality and effectiveness. These systems are important not only because information and resource tracking are a condition to track progress and continually improve the quality of the program, but also for accountability and to make sure that the resources are being used appropriately. Timely exchange of accurate data is also important to ensure policies and strategies decided at the central level are responsive to local needs. However, accountability and monitoring and evaluation systems came out as a weakness across the school feeding programs in the case studies, with exceptions like **Chile** and **Ecuador** which have comprehensive² information management systems, and **Brazil**, with a system of checks and balances that involves different stakeholder groups across State government institutions and civil society. Resources are not always devoted to this important function and as a result information about the delivery of the service and its quality is not readily available. District and school-based programs often rely on lower-level structures for the bulk of the implementation of the program, including the management of resources and tenders. While they offer an opportunity to increase community participation and thus, accountability from bottom-up, there is also a need to ensure that proper controls and monitoring systems are in place so that standards are actually respected and that central level can keep track of what is happening countrywide.

There is a general gap in school feeding impact evaluations in the case studies, which is a lost opportunity to improve program effectiveness and

²The monitoring and evaluation system covers different aspects of the program such as the supply chain and results, for instance in terms of school children reached and meals delivered.

learn from experience. Evaluations are resource intensive — in terms of staff time and funding. This may also be because of a lack of technical know how on the design and roll-out of baselines and impact evaluations. Research design faces challenges inherent to the program such as the multiple objectives of school feeding to be evaluated and attribution issues — as school feeding is often part of wider strategies, it is difficult to establish to what extent observed results are due to the school feeding program specifically. Partnerships with universities and international research institutions can offer a solution to these challenges. This is the path taken in countries such as **Brazil, Ghana, Kenya, and Mali.**

Conclusions

The case studies show that institutional arrangements for school feeding respond to the country's institutional environment and to the program objectives. Different arrangements have proved to be efficient, provided that school feeding program organization corresponds to existing mandates and capacities at different levels and provided that responsibilities are clearly defined.

While there is no blue print for program execution quality, three additional factors appear to support program quality and effectiveness:

- (1) Planning for adequate capacity at the national and sub-national levels.
- (2) Effective intersectoral co-ordination across stakeholders and vertical co-ordination within the government.
- (3) Functioning quality assurance and accountability mechanisms.

Abbreviations and Acronyms

HGSM	Home Grown School Meals
NGO	Non-governmental organization
NMK	Njaa Marufuku Kenya
PCD	The Partnership for Child Development

Acknowledgments

This chapter was compiled by Emilie Sidaner and Carmen Burbano (WFP); reviewed by Roshan Daryanani, Lesley Drake, Cai Heath, Samrat Singh, and Alice Woolnough (PCD); and edited by Anastasia Said (PCD).

References

- Acosta, A.M. and Fanzo, J. (2012). *Fighting Maternal and Child Malnutrition: Analysing the Political and Institutional Determinants of Delivering a National Multisectoral Response in Six Countries*. Institute of Development Studies, Brighton. Available from: http://www.ids.ac.uk/files/dmfile/DFID_ANG_Synthesis_April2012.pdf (Accessed 13 July 2013).
- Republic of Kenya, (2012). *National Food Security and Nutrition Policy 2012*. Ministry of Agriculture, Nairobi.
- Republic of Kenya. (Draft). *National School Health, Nutrition and Meals Programme Strategy*. Ministry of Education, Ministry of Public Health and Sanitation, Ministry of Agriculture, Nairobi.
- Singh, S. (2013). *School Feeding Legal and Policy Frameworks: A Review*. Partnership for Child Development and United Nations World Food Programme. PCD and WFP, London.
- Songa, W. (2011). School Feeding Programs in Kenya. Presented at: *Leveraging Agri. Improved Nutr. Health, Int. Conf.*, 10–12 February. Ministry of Agriculture, Kenya, New Delhi. Available from: http://2020conference.ifpri.info/files/2010/12/Side_Feedminds_Kenya.pdf (Accessed 13 July 2013).
- WFP (United Nations World Food Programme). (2013). *The State of School Feeding Worldwide 2013*. WFP, Rome. Available from: <https://www.wfp.org/content/state-school-feeding-worldwide-2013>

Funding and Budgeting

Introduction

Given that the cost of school feeding programs is deemed to be one of the most vital considerations when integrating such programs into national policy (Molinas and de la Mothe, 2010), school feeding cost estimates from the case studies are a valuable point of reference for school feeding practitioners.

When attempting to compare costs between countries, it is important to keep in mind that obtaining precise costs is difficult. One of the reasons for this is that funding often comes from a variety of sources. The budgets presented below are mainly national-level figures; regional costs have not been accounted for in all countries. Additionally, other costs, such as those borne at the community level (e.g. parental contributions) have not been fully recognized in all the programs. Nevertheless, the following examples provide an approximation of the current scale of investment in school feeding programs. Box 1 provides the information on differences between the costs data presented in the *Sourcebook* and the costs data presented in *The State of School Feeding Worldwide* (WFP, 2013).

Box 1: Costs data differences between the *Sourcebook* and *The State of School Feeding Worldwide*

There are several reasons why the costs data in the *Sourcebook* differs from that in *The State of School Feeding Worldwide* publication.

The school feeding costs data in *The State of School Feeding Worldwide* is mainly drawn from an analysis of school feeding costs in the Food and Nutrition Bulletin (Gelli and Daryanani, 2013). This paper uses actual expenditures data from 2008 or before, which have been standardized as much as possible.

The costs data in the *Sourcebook* was not collected as part of a detailed costing study; thus, the costs are not directly comparable across countries. The *Sourcebook* cost data consists of actual, unpublished, financial figures from the program and in most instances comprises costs which have been estimated based on budget figures. Additionally, the *Sourcebook* costs data has only been standardized to 700 kilocalories per meal and 200 school feeding days per year, where data was available to enable this. It is also from a more recent reference period than *The State of School Feeding Worldwide* data. Even the same program can have very different costs year on year, for example, due to food and fuel price changes.

Source: Sourcebook case studies and (WFP, 2013).

Cross-Country Analysis

School feeding and educational expenditure

The case studies encompass a wide spectrum of program types. In countries such as **Brazil**, school feeding is well-established in national policy and has been nationally funded for decades, whereas in countries such as **Côte d'Ivoire**, school feeding policy and funding frameworks are currently in the process of being strengthened.

The variation in country contexts is reflected by the large range of school feeding costs, from under US\$30 in **Kenya (Home Grown School Meals [HGSM] Programme)** to nearly US\$200 in **Chile** (Table 1). In an

Table 1: School feeding cost parameters and educational expenditure in 2012 for the case studies

Country Program	Gross Domestic Product per capita (constant 2005 international \$) 2011 ^a	Non-standardized Annual School Feeding Cost per Child (US\$)	Standardized Annual School Feeding Cost Per Child (US\$) ^b	Annual School Feeding Budget (US\$M)	Public Education Expenditure Per Primary Pupil (Constant 2005 International US\$) ^c	Total Primary Education Expenditure (Constant 2005 International US\$M) ^d	School Feeding Cost as a Ratio of Public Educational Expenditure	Number of School Feeding Beneficiaries (k)	Estimated School Feeding Coverage (School Feeding Beneficiaries as a % of Children Enrolled in Primary School)
Botswana	13,021	104	138	39.4	1,081	369.6	0.13	331	100%
Brazil	10,279	100	1004	1,700	2,076	36,268.9	0.04	42433	100%
Cape Verde	3,616	50	117	2	604	45.2	0.19	68	98%
Chile	15,251	332	304	624	2,257	3,500.6	0.09	1850	100%
Côte d'Ivoire	1,580	19	45	5.10	215	682.6	0.22	265	10%
Ecuador	7,655	39	69	70	766	1,653.6	0.09	1,788	84%
Ghana	1,652	445	40	105	190	666.4	0.26	1,642	53%
India	3,203	32	39	3,850	288	33,299.2	0.14	113,600	79%
Kenya HGSM	1,510	28	28	4.6	337	2,396.1	0.08	763	11%
Kenya NMK [§]	1,510	31	31	1.4	337	2,396.1	0.09	63	1%

(Continued)

Table 1: (Continued)

Country Program	Gross Domestic Product per capita (constant 2005 international \$) 2011 ^a	Non-standardized Annual School Feeding Cost per Child (US\$)	Standardized Annual School Feeding Cost Per Child (US\$) ^b	Annual School Feeding Budget (US\$M)	Public Education Expenditure Per Primary Pupil (Constant 2005 International US\$) ^c	Total Primary Education Expenditure (Constant 2005 International US\$M) ^d	School Feeding Cost as a Ratio of Public Educational Expenditure	Number of School Feeding Beneficiaries (k)	Estimated School Feeding Coverage (School Feeding Beneficiaries as a % of Children Enrolled in Primary School)
Mali	964	51	74	5.64	141	205.7	0.51	109	8%
Mexico	12,814	69	122*	365.7	1,858	25,927.1	0.07	6,090	41%
Namibia	5,986	32	47	9.8	1,096	461.5	0.05	270	66%
Nigeria (Osun State)	2,237	63	80	16.4	156	2,974.4	0.51	252	1%
South Africa	9,678	58	64	613	1,703	12,438.3	0.08	8,821	1400%

^aWorld bank data; ^bCosts are standardized to 700 kilocalories per ration and/ 200 days of school feeding per year (where data was available from the country case study chapters); ^cCost are not standardized by year; ^dUNESCO Institute of Statistics most recent available figure 2001–2010 applied to gross domestic product per capita 2011 (World Bank data); ^eUNESCO Institute of Statistics most recent available figure 2003–2010 applied to gross domestic product per capita 2011 (World Bank data); ^fStandardized to 700 kilocalories per ration. ^gNMK = Njaa Marufuku Kenya. *Note:* In the case of **Brazil, Mali,** and **South Africa,** the kilocalories per ration information was obtained from estimates of the kilocalories per meal on the School Meals Planner tool (PCD, 2014).

GLOBAL SCHOOL FEEDING SOURCEBOOK: LESSONS FROM 14 COUNTRIES. <http://dx.doi.org/10.1142/p1070>
 ©Lestley Drake, editor in chief. For more information, please contact the publisher at info@worldscibooks.com or www.worldscibooks.com (CC BY-NC)

effort to make costs more comparable, school feeding costs for the case studies have been standardized to 700 kilocalories per ration and 200 days per school year (as in the 2008 school feeding cost benchmarks study [Gelli *et al.*, 2011]) where data was available. Figure 1 illustrates how the school feeding cost estimates integrate with the 2008 school feeding cost benchmarks.

Given that in most countries, the responsibility for proposing an annual program budget and the co-ordination of school feeding lies with the Ministry of Education, the cost of these programs is often examined in relation to educational expenditure. Notably, for all the case studies except **Nigeria** and **Mali**, the cost of school feeding per beneficiary is below one-quarter of the public educational expenditure per pupil (Table 1).

As the gross domestic product per capita increases across the programs in the case studies, school feeding costs rise to a smaller extent than educational expenditure does. Consequently, these countries appear to fit the pattern seen in previous studies, whereby the cost of school feeding as a proportion of educational expenditure decreases as countries become wealthier (Bundy *et al.*, 2011; Gelli and Daryanani, 2013).

Food purchase: The main cost driver

Based on a calculation for the three countries **Cape Verde**, **Côte d'Ivoire**, and **India**, for which data on the food cost component of programs was available, the majority of the school feeding budget (approximately 64%) is spent on the purchase of food (this is consistent with the findings of the benchmark study [Gelli *et al.*, 2011]). The management of funds allocated to the purchase of food is carried out at different levels in each program. Each procurement method has its own benefits and drawbacks. Large-scale procurement at the central level, such as that carried out in **Botswana** and **India** for non-perishable items which allows for economies of scale. It may also prevent schools in remote rural areas from being disadvantaged (given their restricted access to large cities where food prices tend to be lower). Meanwhile, a direct transfer of government funds to school cooks, as in **Nigeria (Osun State)** could potentially help to empower communities by allowing for greater involvement of smaller local suppliers in each region. Regulations and/or guidelines can help encourage procurement from smallholder farmers (for

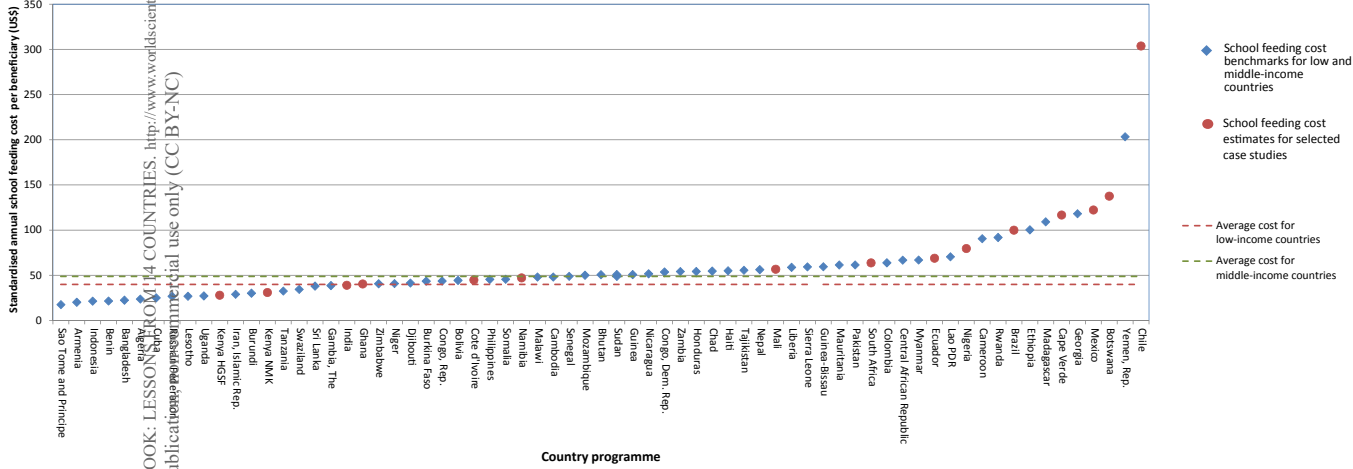


Figure 1: Standardized school feeding costs (US\$)

Sources: Sourcebook authors and Sourcebook case studies.

example, in **Brazil** the School Feeding Law [Law No. 11.947/2009] made it mandatory to use at least 30% of Federal funds for the purchase of food from smallholder farmers [Presidency of the Republic, 2009]).

In several countries, including **Brazil**, **Cape Verde**, **Chile**, **Kenya** (**HGSM Programme**), and **Namibia**, food procurement is frequently carried out through a competitive system whereby suppliers bid for catering contracts and to supply food. This contributes to the cost-efficiency of programs, but can also limit the involvement of smallholder farmers in the program. Procurement from smallholder farmers is currently not a widespread practice in most of the programs; notable exceptions to this include **Brazil**, **Côte d'Ivoire**, and in **Kenya** (**NMK Programme**). However, many countries are currently testing pro-smallholder procurement on a small-scale, for instance, in **Cape Verde**, pilot trials of local procurement of fresh food and fish have been initiated with United Nations assistance. In addition to this, local governments in **Ecuador** are collaborating with the United Nations World Food Programme (WFP) to appraise the cost effectiveness of smallholder farmer involvement in school feeding.

School feeding budgets

A strong financial commitment to school feeding is seen across the case studies. Discrete national budget lines for school feeding are in place in all of the countries with the exception of **Mexico** and **Namibia**, although this has not prevented funding for the program in Mexico from being constant.

In most countries, the majority of program funds (in particular, those meant for the purchase of food) come from Federal governments, which draw on a variety of sources to fund their programs; in **Brazil** and **South Africa**, the annual budget comes from the National Treasury, which in Brazil includes contributions such as income taxes and lottery taxes. In **Ecuador**, the program is financed by an investment fund that is part of the State's General Budget. In several countries, regional governments supplement Federal funding; for instance, in **Mexico**, State governments met around 9% of program costs in 2012.

In **Cape Verde**, partnerships have formed between schools and private enterprises that provide additional financial support for school feeding (the contributions that these enterprises make are exempt from tax). Notably,

Box 2: Financial Accountability

Monitoring the use of the school feeding budget is an increasing concern for a number of countries; in both **Brazil** and **Mexico**, States have to provide regular financial reports for the funds they receive.

Efforts have been made in several countries to ensure that school feeding funds reach their intended targets. For instance, in the case of **Brazil**, central budget funds are distributed among States which can then make a payment directly into the school bank accounts; a bank transfer is the only way for schools to subsequently pay suppliers. In both the **Kenya** programmes (HGSM and NMK), government funds are also transferred into school bank accounts; in the case of **Nigeria (Osun State)**, funds are transferred into individual cooks' bank accounts.

Source: Sourcebook case studies.

these contributions are completely additional to government funding and have not led to a reduction in government investment in the program.

Funding sometimes falls short of needs both in countries that have separate budget lines for school feeding, for example, in **Mali** and those that do not, for example, in **Namibia**. In **India**, delays in funds reaching States have caused disruptions in the program, illustrating the importance of maintaining an adequate and timely flow of funds.

Most of the programs are nationally funded, but development partners still play an important role in providing financial support to programs in low- and lower-middle-income countries such as **Côte d'Ivoire** and **Kenya**, both of which have received assistance from Japan, among other donors. Donor funding can be channeled through non-governmental and international organizations such as WFP to provide operational support, as in **Kenya**, **Côte d'Ivoire**, **Mali**, and **Ghana**. Notably, **Cape Verde** has received in-kind donations from one of the other case study countries, **Brazil**.

Many countries have substantially increased their investment in school feeding in recent years to improve various aspects of the program. For instance, in **South Africa**, investment in school feeding has expanded to include children in secondary school in the program's target areas. In **India**, the per capita budget has been revised several times in order to enhance the

quality of the food basket as well as cover the full cost of cooking, transport, and monitoring and evaluation. In most countries, costs have also increased steadily as program coverage has expanded. This is reflected in the budgets of school feeding programs that are more established (and larger in scale), such as those in **Brazil** and **India**, which are either moving towards or already offering universal school feeding coverage.

Conclusions

School feeding costs remain varied among low- and middle-income countries, but have not increased as much as expected since the 2008 economic downturn. Importantly, in the case of most countries, school feeding costs continue to represent a fraction of educational expenditure which can be expected to decrease as the gross domestic product increases.

The purchase of food is the main cost driver for programs and program managers may have to make trade-offs when determining the most suitable procurement method. One of the key challenges being faced by countries attempting to increase their home grown food component is the task of balancing cost-efficient procurement with smallholder farmer involvement.

There is strong political will to continue to fund school feeding and to expand programs further, as far as possible through national funds. Most of the countries have a budget line for school feeding and even when this is absent, the government arranges alternative funding for the program annually. However, financial sustainability remains a challenge for a number of countries.

Abbreviations and Acronyms

HGSM	Home Grown School Meals
NMK	Njaa Marufuku Kenya
PCD	The Partnership for Child Development
WFP	United Nations World Food Programme

Acknowledgments

This chapter was compiled by Aulo Gelli (was The Partnership for Child Development [PCD]) none. The International Food Policy Research

Institute [IFPRI]; reviewed by Lesely Drake, Cai Heath, Samrat Singh, and Alice Woolnough (PCD) and Emilie Sidaner (WFP); and edited by Anastasia Said (PCD).

References

- Bundy, D.A.P., Burbano, C., Gelli, A., Risley, C. and Neeser, K. (2011). On The Transition to Sustainability: An Analysis of the Costs of School Feeding Compared with the Costs of Primary Education. *Food and Nutr. B.*, **32**(3), 201–205.
- Gelli, A., Cavallero, A., Minervini, L., Mirabile, M., Molinas, L. and de la Mothe, M.R. (2011). New Benchmarks for Costs and Cost-efficiency of School-Based Feeding Programs in Food-Insecure Areas. *Food and Nutr. B.*, **32**(4), 324–332(9).
- Gelli, A and Daryanani, R. (2013). Are School Feeding Programs in Low-Income Settings Sustainable? Insights on the Costs of School Feeding Compared with Investments in Primary Education. *Food and Nutr. B.*, **34**(3), 310–317 (8).
- Molinas, L. and de la Mothe, M.R. (2010). The Multiple Impacts of School Feeding: A New Approach For Reaching Sustainability. In: Omamo, S.W., Gentilini, U., Sandström, S. *Revolution: From Food Aid to Food Assistance*, eds. United Nations World Food Programme, 217–230, Rome.
- PCD. (2014). *School Meals Planner*. [online] HGSF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 25 November 2014).
- Presidency of the Republic. (2009). *Law No. 11.947 of 16 June 2009*. Cabinet Subcommittee for Legal Affairs. Brazil: House Civil, Planalto. Available from: <http://www4.planalto.gov.br/legislacao> (Accessed 05 August 2013).
- WFP (United Nations World Food Programme). (2013). *The State of School Feeding Worldwide 2013*. WFP, Rome. Available from: <https://www.wfp.org/content/state-school-feeding-worldwide-2013> (Accessed 06 June 2014).

Community Participation

Introduction

The strongest and most sustainable school feeding programs are those that respond to community needs, are locally-owned, and incorporate some form of parental or community contribution, whether cash payments or in-kind (e.g. through donated food or labor).

Co-ordination and community participation supported by strong policy are crucial for successful programing. The case studies show that for a range of different actors to actively participate and contribute to a school feeding program, their roles must be clearly delineated from the outset through guidelines, minimum standards, and training support to the community.

Examples of community participation in school feeding are provided here in the cross-country analysis.

Cross-Country Analysis

Community involvement during implementation of school feeding programs

Community participation in the implementation of school feeding programs has been driven by policy, decentralized management of schools, and the activities they undertake. Parents and guardians of pupils, teachers, and other

community members participate in the management of schools through Parent–Teacher Associations (PTAs) in **Botswana** and **Nigeria (Osun State)**; School Management Committees (SMCs) in **Kenya**; and School Governing Boards (SGBs) in **South Africa**. School feeding policies in many countries define roles for these school-level structures in the implementation and monitoring and evaluation of programs at the local level. In some instances, new structures such as School Feeding Committees/Councils (known as CAEs in **Ecuador** and **Brazil**), School Implementing Committees (SICs) in **Ghana**, and School-Based Monitoring Committees (SBMCs) in **Nigeria (Osun State)** were instituted by policy to play roles in the management and monitoring of school feeding at the school level.

Key roles of the community in school feeding programs

With regard to specific roles, communities contribute in various forms to the development and sustainability of school feeding in their localities. The functions of school-level management structures such as PTAs, SMCs, SGBs, CAEs, SICs, and SBMCs include:

- organizing preparation of foods, fortified drinks and provision of complementary food and supplies (e.g. CAEs in **Ecuador**);
- validating accounts and overseeing program implementation to ensure conformity with regulations (e.g. CAEs in **Brazil**);
- liaising with the district authorities to develop a locally-driven menu to provide nutritionally adequate meals (e.g. SICs in **Ghana**);
- monitoring of food preparation, procurement from local sources and employment of cooks (e.g. PTAs in **Botswana**);
- monitoring food stock, ensuring adequate storage of products (e.g. CAEs in **Ecuador**); and
- administering and managing of all facets of Home Grown School Feeding (HGSF) implementation at the school level, including procurement, food preparation and reporting (e.g. SMCs in **Kenya** and SGBs in the decentralized model in **South Africa**).

In addition to these delegated roles, community representatives in various school-level structures, parents, and guardians, as well as other community members, further contribute in more direct ways.

- parents pay fees for schools to use for procurement of items such as utensils, detergents, and ingredients (e.g. in **Botswana** and **Mexico**);
- parents make cash or in-kind contributions to support school-level expenditures including firewood, water, salaries of cooks, condiments, and fruits and vegetables (e.g. in **Cape Verde**, and **Kenya**);
- local bodies serve as implementing agencies, with supervision from district- and State-level governments (e.g. in **India**);
- communities and local authorities can team up with the school structures such as PTAs and SMCs to improve the school infrastructure (e.g. construction and maintenance of schooling facilities in **Kenya**) and shelters for cooking and establishing school gardens (e.g. in **Namibia**); and
- remittances from community members who live abroad go towards building infrastructures, procuring food, and paying salaries for cooks (e.g. in **Mali**).

In **Namibia**, the *Namibian School Feeding Programme Manual* requires communities to provide fuel (sticks, wood, and coal, etc.), water, plates and spoons, cooking utensils, soap for cleaning, shelters, and storerooms (Government of the Republic of Namibia, 2006). The Manual further charges communities with responsibility for preparation of meals at school, construction of cooking shelters and storerooms, support for the establishment of school gardens and organization of at least three meetings per year to discuss the Namibia School Feeding Programme (Government of the Republic of Namibia, 2006). In **Nigeria (Osun State)**, heads of communities are expected to help in retrieving and maintaining land for use as gardens.

Opportunities and benefits of community participation

While communities have contributed demonstrably to the development and sustainability of school feeding, correspondingly the programs have created a number of opportunities for community members of participating schools. Besides the direct education (increased enrollment and retention of pupils), health, and nutrition benefits of school feeding to pupils, parents and other community members also have indirectly benefited in many ways from the programs. These benefits include:

- Employment opportunities have been created for women and men who serve as cooks and hand stampers in preparation of meals and drinks

served to the pupils in school. Though these services have often been conceived of as voluntary, nevertheless, some incomes have been generated (e.g. US\$50 per month in **Botswana** [Bornay *et al.*, 1993] and US\$90 per month in **South Africa** [Republic of South Africa, 2004]) for those directly involved.

- Civil society and community engagement can play a pivotal role in creating the demand for national laws and guidelines. **India** is a very good example where civil society mobilization led to the creation of detailed guidelines and nationwide implementation through judicial intervention.
- Opportunities and capacity building for development of local catering services and school feeding service delivery have been created for large numbers of local enterprises and tradesmen and women in their localities (e.g. in **Chile** and **Nigeria [Osun State]**).
- Training and sensitization of community members have been conducted for those who provide different voluntary services towards implementation of school feeding programs, such as the Community Nutrition Volunteers in **Kenya (Njaa Marufuku Kenya [NMK] Programme)**, volunteer food handlers (VFHs) in **South Africa**, and the several PTAs, SMCs, CAEs and SBMCs in many countries. In 2010, more than 40,000 VFHs were engaged by schools in the National School Nutrition Programme in **South Africa** alone (Republic of South Africa, 2010). Additionally, in some States in **Mexico**, events are organized to encourage parents to purchase healthy food and to design balanced meals in an effort to promote healthier eating habits.
- Smallholder farmer groups have received complementary grants, credit and loan support, inputs, and training to improve agricultural techniques, with the aim of improving the ability of communities to provide the food required for the school feeding programs and for the increase in food production (e.g. in **Côte d'Ivoire** and **Kenya [NMK Programme]**).
- The systematic development of linkages between school feeding and local agricultural production may also result in even greater economic benefits for communities. For instance, no fewer than 2,684 service providers, 2,415 small and medium enterprises and 266 local co-operatives were contracted by the school feeding program in **South Africa** alone in 2010 (Republic of South Africa, 2010).

Effective community participation

Effective participation of communities in the management of school feeding programs is affected by the amount and quality of dialogue and consultations among key stakeholders. If communities perceive that there has been inadequate sensitization and consultation, it may be difficult to generate and sustain enthusiasm for the school feeding programs and implementation in those localities may suffer from lower levels of local contributions and participation.

Even as communities have accepted and played creative roles in school feeding implementation, it is essential to balance their commitments and the obligation of public service delivery of school feeding to ensure that communities, schools, and school staff themselves are not overburdened or exploited. In countries where school feeding implementation is decentralized, the local government authorities could potentially play lead roles in the provision of infrastructure needs at the school level as well as the payment of stipends to program volunteers (mainly cooks and VFHs).¹ These may help to ensure that poor communities who have enthusiastically supported school feeding programs are not unduly exploited, especially in countries where the criteria for selecting beneficiary schools include vulnerability and poverty indices.

Accountability and sustainability of community participation

It is also essential that mechanisms for ensuring accountability of school feeding programs are provided for, especially at the local level, as is executed in **Brazil**. This may help to increase trust and confidence of the local population, which is vital for sustaining the commitments and support of communities towards program implementation. School feeding programs may also commit to progressively increase the involvement of communities in the management, control and supervision of the program at the local level as a means of promoting local ownership. Efforts to consult, sensitize, and educate community members on school feeding could be an integral part of the mobilization and implementation of programs.

¹ In **Namibia**, free voluntary work for programs is more difficult to mobilize in urban settings because of the opportunity cost (i.e. the salary that can be had from paid employment). Potentially, this may also become the case as the average per capita income of a country increases.

Conclusions

School feeding programs may continue to create and increase opportunities for the local population not only through direct employment. The program may directly or through other related agencies strengthen the capacity of communities to enable them to take advantage of opportunities such as supplying goods and services in response to the demand created by school feeding programs. This may be achieved through systematic capacity development for organized local co-operatives, enterprises and entrepreneurs, as well as the adoption of pro-smallholder and small and medium enterprises procurement modalities in school feeding programs.

Country case study examples of the range of ways in which communities contribute to and benefit from school feeding programs across the supply chain is presented in Figure 1. Across the case studies, community participation is viewed positively and ways of further strengthening the engagement are being sought, including formalization in policy. Community participation varies by country both in type and breadth with which communities are involved (Figure 1). HGSF programmes, in particular, seem to have stronger community engagement on the organization of farmers, production of food, and distribution of food.

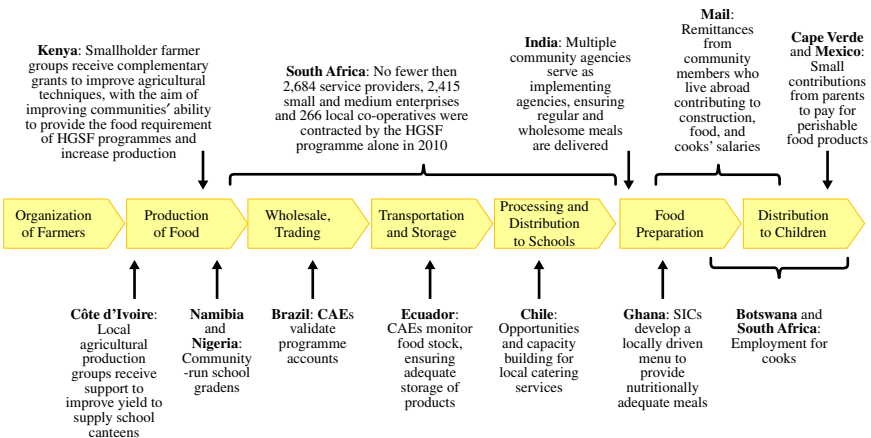


Figure 1: Country case study examples of the communities' contributions and benefits from school feeding programs across the supply chain

Source: Sourcebook case studies.

and the wholesale and trading end of the spectrum; the externalities of which are discussed above.

Abbreviations and Acronyms

CAE	School Feeding Committee/Council
HGSF	Home Grown School Feeding
NMK	Njaa Marufuku Kenya
PCD	The Partnership for Child Development
PTA	Parent–Teacher Association
SBMC	School-Based Monitoring Committee
SGB	School Governing Board
SIC	School Implementing Committee
SMC	School Management Committee
VFH	Volunteer food handler

Acknowledgments

This chapter was compiled by Kristie Watkins, Cai Heath (PCD), and Mohammed Lukumanu (The Netherlands Development Organization [SNV]); reviewed by Roshan Daryanani, Lesley Drake, Alice Woolnough (PCD), and Emile Sidaner (INFP); and edited by Anastasia Said (PCD).

References

- Bornay, O., Chengeta, J., Chotani, H., Magole, M., Rambukwelle, N. and York, C. (1993). *Guidelines on the Management of Primary School Feeding Programmes in Botswana*. Government Printer, Gaborone.
- Government of the Republic of Namibia. (2006). *Namibian School Feeding Programme Manual*. Ministry of Education. Windhoek.
- Republic of South Africa. (2010). *National School Nutrition Programme: Annual Report 2009/2010*. Department of Basic Education, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=qSL489svxu8%3D&tabid=632&mid=2127> (Accessed 06 December 2013).
- Republic of South Africa. (2004). *National School Nutrition Programme: Implementation, Monitoring and Reporting Manual*, First Edition. Department of Basic Education, Pretoria.

This page intentionally left blank

Case Study 1: Botswana — National School Feeding Programme

Country Profile

Population in 2011: 2,000,000 (*Statistics Botswana*, 2011a).

Gross Domestic Product Per Capita in 2012 (US\$): 7,191 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 34 (World Bank, 2013).

Primary School Gross Enrollment Ratio (6–12 years and 7–13 years) in 2011 (%): 113 and 99 (*Statistics Botswana*, 2011b).

Primary School Net Enrollment Ratio in 2009 (%): 84 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 31 (UNICEF, 2013).

Employment in agriculture in 2006 (% of total employment): 30 (World Bank, 2013).

Introduction

Botswana is a landlocked country in Southern Africa (Figure 1) with a total population of approximately 2 million in 2011 (*Statistics Botswana*, 2011a). Two-thirds of the country is desert and has semi-arid environments. Although Botswana was one of the poorest countries in the world at independence in 1966, it became one of the world's fastest growing economies, and achieved middle-income status by 1994. The gross domestic product growth rate averaged 9% per year in the years up to 2007–2008 (Republic of Botswana, 2010). This growth is largely due to its rich diamond base and

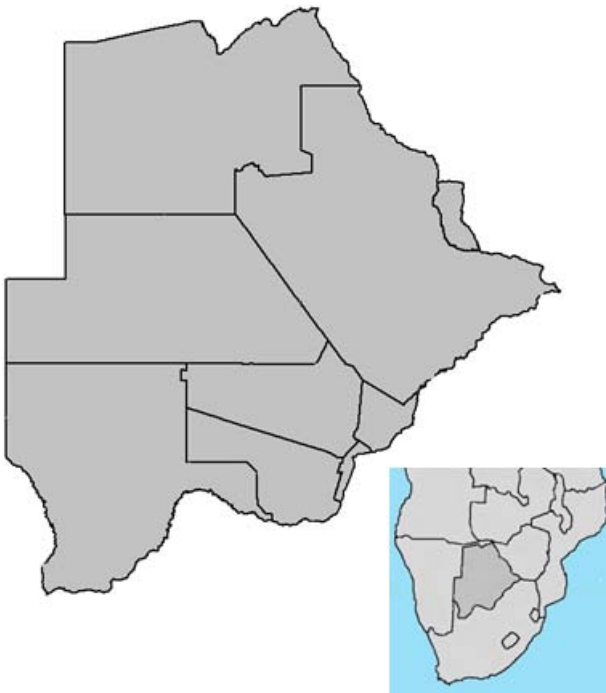


Figure 1: Map of Botswana by region and in Africa

Source: GADM (2013).

other mineral resources such as copper–nickel and soda ash, coupled with prudent economic management.

Government revenue especially from mining has been used to build infrastructure and to provide social services such as health, education, and training. However, Botswana's wealth is unevenly distributed with unemployment still high at 18% especially among youth and school graduates at various levels (*Statistics Botswana*, 2011c). The incidence of poverty, although decreasing, is relatively high,¹ and is higher in rural areas than in urban centers. Using the less than 1 dollar a day threshold, poverty in rural areas in 2009–2010 was 8% compared to 6% in urban villages, and 3% in cities and towns.² In addition, the global economic downturn did not spare Botswana as the economy experienced 6% shrinkage in 2009 due to a decrease in the mineral export revenues (*Statistics Botswana*, 2011c).

Botswana is a semi-desert country with most parts of the country characterized by poor agricultural potential. The agriculture sector provides only 3% of the formal private sector and parastatal employment (Republic of Botswana, 2010). The two main components of the sector are livestock and arable production. Arable agriculture is based on traditional communal and subsistence farming, with limited commercial activity. Livestock is the dominant subsector accounting for 74% in 1993–1994 and 55% in 2007–2008 of the agricultural gross domestic product.

Rain fed agriculture dominates the subsistence agricultural sector and the food producing areas are mainly in the eastern districts of the country. The main food crops grown in Botswana are sorghum, maize, millet, and legumes (bambara nuts, groundnuts, and cowpeas) and fresh produce such as watermelons, butternuts, pumpkin, and sweet reeds. However, agriculture is still characterized by low productivity and production.

¹Poverty has decreased from 23% in 2002–2003 to 7% in 2009/2010 based on less than 1 dollar a day.

²If the cost of basic needs poverty index is used, it was estimated that 31% of Botswana's population was poor in 2002/2003, but decreased to 20% in 2010/2011 (*Statistics Botswana*, 2011c).

Available data show that the population of public primary school children between the ages of 6 and 12 years increased from 272,143 in 1997 to 299,497 in 2007 (Republic of Botswana, 2011; Central Statistics Office, 2005; Central Statistics Office, 2011; Central Statistics Office, 2012). The gross enrollment ratio for 6–12 year olds and 7–13 year olds were 113% and 99% in 2011, respectively (*Statistics Botswana*, 2011b), indicating that Botswana is in principle able to accommodate all of its school-age population. Overall, enrollment trends for public primary schools in Botswana have stabilized at over 330,000 school children since 2009, making it possible for authorities to plan (project) the school feeding budget. Total education expenditure as a percentage of the gross domestic product during the period 2001–2010 has shown large variations, between 6% and 12%, with a drop to 1% and 10% in 2008 and 2010, respectively, as a result of the global financial crisis.

The total underweight prevalence among under-fives declined from 15% to 4% between 1993 and 2009. In using only this indicator to measure child nutrition status and health, Botswana has experienced substantive improvement in child nutrition in the last 15 years.

Botswana has successfully implemented its National School Feeding Programme since 1998. The Ministry of Local Government and Rural Development (MLGRD) is the institution responsible for program implementation, but school feeding is also one of several vulnerable group feeding and food security programs co-ordinated as part of *The Revised National Food Strategy* under the Ministry of Finance and Development Planning (Republic of Botswana, 2000).

School feeding initially started in 1966 in response to widespread malnutrition among children resulting from a continuous five-year drought period. The country was also not self-sufficient in food production and like other African countries, Botswana started its National School Feeding Programme with the financial and implementation assistance from the United Nations World Food Programme (WFP), a situation that prevailed until 1993 when the gradual process of WFP's withdrawal of resources and implementation assistance started. By this time, it was evident that the number of school feeding beneficiaries had steadily increased (300,419 beneficiaries in 672 public primary schools across the country in 1993), but in addition,

Botswana had graduated to a middle-income country, and the government was no longer eligible for WFP support. The period between 1993 and 1997 is considered as a transition period, WFP's resources and implementation support decreased as the government increasingly took more control over implementation. Since 1998, school feeding has been modified and refined over the years. Among the changes was the government's investment in improved infrastructure, partially decentralizing the procurement process and modifications to the menu.

The Botswana National School Feeding Programme has universal coverage and reaches school children (grades 1–7) in all government-owned/public primary schools in the country, providing one meal a day to over 330,000 school children. Through the Remote Area Dweller Programme, a second meal is provided to school children in very remote areas or from marginalized communities. The MLGRD primarily uses a centralized procurement model to buy the dry and non-perishable food supplies in bulk and delivers them to districts. The purchase of perishable food items is decentralized to the District Councils. Since 2009, the Councils also purchase fresh/seasonal crops from local farmers, albeit on a small scale.

Methodology

This chapter is largely drawn from *The Botswana School Feeding Programme: A Case Study* (Republic of Botswana, 2012) and on information from the report *Botswana: The Transition to a National School Feeding Programme* (Isler, 2012a).

This chapter provides an overview of the Botswana National School Feeding Programme, to include experience with the Home Grown School Feeding (HGSF) programmes. There was also interest to identify critical points across the supply chain that has led to the program's success. Both secondary and primary data collection methods were used. Primary data collection was limited to qualitative methodologies which included key informant interviews, and focus group discussions from a wide range of stakeholders involved in the program, to include national-, district- and school-level government staff, suppliers, and community members. In addition, regional and national stakeholder workshops were held to validate the data.

Country School Feeding Program Factsheet

Start Date	1998 (program initially started in 1966 with WFP support).	
Design and Implementation	<i>Rational/Impact</i>	Objectives are to: <ul style="list-style-type: none"> • Prevent school children from feeling hungry during school. • Provide school children with a balanced diet. • Keep school children in school for the entire day. • Improve school attendance.
	<i>Implementation Levels</i>	Universal coverage, reaches all school children in grades 1–7 in government-owned/public primary schools. In 2011, 332,972 school children were reached through 750 public primary schools.
	<i>Supply, Storage, and Logistics</i>	Suppliers distribute commodities to the Food Depots (four regional and 20 Districts). The Food Depots* are managed by the Division of Food Relief Services at the MLGRD. The trucks from the Division of Food Relief Services supply food commodities to the public primary schools.
	<i>Modality, Food Basket Details</i>	One daily mid-morning hot meal provides a third of the daily energy requirements. In the Remote Area Dwellers' Districts, a second meal (the same as the mid-morning meal) is provided.
	<i>Food Preparation</i>	Food is prepared at school by cooks identified from the community, but paid by the government.
Policy and Legal Frameworks Documents		<ul style="list-style-type: none"> • Suggested Guidelines on the Management of <i>Primary School Feeding Programmes in Botswana</i> (Bornay <i>et al.</i>, 1993). • <i>The Revised National Food Strategy</i> (Republic of Botswana, 2000). • <i>Revised National Policy for Rural Development</i> (Republic of Botswana, 2002). • Guidelines for Procurement of Agricultural Products for School Feeding (Republic of Botswana, 2009a).

Institutional Arrangements

Lead Institution
Supporting Institutions

MLGRD.
Ministries of Agriculture, Health, and Education and Skills Development.

Finance

Annual Budget
Cost Per Child Per Year

295,141,548.64 Pula (US\$39,401,395.23) in 2012–2013 (primary school feeding).
2009–2013 average: 769.77 Pula (US\$104.02) per child per year (185 school days) or 4.16 Pula (US\$0.56) per child per day. These costs do not include the order to quantify costs such as community contributions.

Community Involvement

- Community involved in hand stamping of sorghum grain (in rural areas) and in food preparation.
- Through Parent-Teacher Associations, the community/parents provide cleaning materials, feeding utensils and buy salt.

Innovations/Good Practices

- School feeding linked to job creation.
- Labor intensive grain processing (hand stamping) selected as an income earning opportunity for women.
- Local procurement of perishable food such as bread. In some communities, the bread is baked by local women.

Weaknesses/Recommendations

- Seasonal purchase of fresh produce such as vegetables and fruit, with no mechanisms to ensure a year round supply.
- Lack of a school feeding policy.

*Seven Food Depots (four Regional Food Depots and three District Food Depots) are designated to receive food commodities directly from the suppliers.

Design and Implementation

Objectives

The objectives of the Botswana National School Feeding Programme have been modified over time and currently, school feeding aims to:

- Prevent school children from feeling hungry during school days.
- Provide school children with a balanced diet.
- Keep school children in school for the entire day.
- Improve school attendance.

Targeting and coverage

The Government of Botswana has maintained a universal coverage of its National School Feeding Programme since 1997 despite a WFP recommendation prior to hand over to target the program to poor rural areas. It covers all school children in grades 1–7 (over 330,000 learners) attending government-owned/public primary schools³ (Bornay *et al.*, 1993). Currently, the regular program provides one meal a day, but in the Remote Area Dwellers' Districts such as Ghanzi and Serowe where the Bushmen (Basarwa) live, a second meal is provided to approximately 14,000 school children. The school children in these circumstances often go without a normal meal at home and depend on school feeding for their daily nutritional requirement. There is no mention of other vulnerable or orphaned children and no take-home rations are provided.

Figure 2 illustrates the beneficiaries in comparison to enrollment and shows an almost 95% coverage. Currently the program reaches on average over 330,000 school children. In 2011, 750 public primary schools benefited from the program, a number much higher than the previous five years. The total number of school children fed in the same year was 332,972 where the majority of school children served were in non-urban districts (276,102 school children) compared to urban districts (56,870 school children).

³In 2011, 93% of public primary schools were government-owned and all of them benefited from the primary school feeding program.

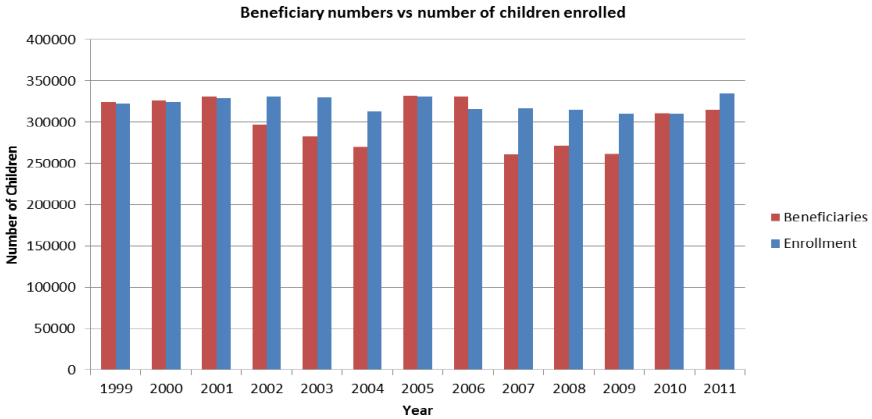


Figure 2: Coverage of the National School Feeding Programme

Source: Figure taken from Isler (2012b); original data from Central Statistics Office (2010).

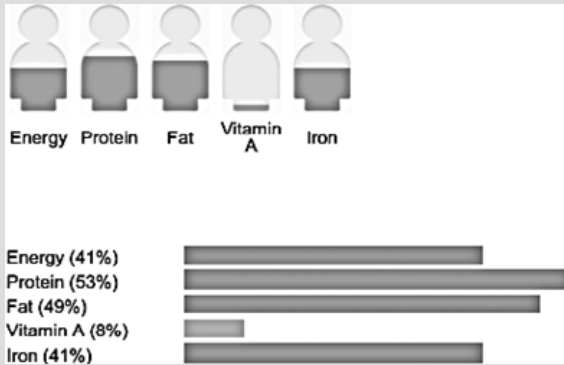
Modalities, food basket, and nutritional norms

The main modality of the Botswana National School Feeding Programme is on-site meals. School children receive one hot meal a day at school except in very remote areas where an extra meal is provided. The meals are served at break time (mid-morning) either at 10:30 a.m. or 11:00 a.m. Table 1 shows the standard menu in all government-owned/public primary schools and gives the rations specified in the school feeding guidelines (Republic of Botswana, 2012). Public primary schools in Botswana are half day schools⁴ and the current school meal provides at least one-third of the daily nutrient requirements for energy (no less than 572 kilocalories on any day), protein, and fat. However, the food basket (currently designed) is lacking in fruits and vegetables and therefore, is inadequate for the micronutrient composition.⁵ Nutrition education is expressed as an important part of the National School Feeding Programme, but the extent to which this is achieved in schools was not observed.

⁴ A typical school day in Botswana's primary schools runs from 7:30 a.m. to 1:00 p.m.

⁵ Fresh fruit and/or vegetables provided when in season as part of the Letlhafula initiative (Presidential Directive, Masilo, 2009).

Gingerbread men representing the average daily nutritional content of a sample weekly school menu in the Botswana National School Feeding Programme



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40% 40%–100%

- A standard weekly school menu (five daily menus) was used in the nutritional content calculations and an average was obtained of the nutritional content of the five daily menus.
- The raw version of each food item was used in the nutritional content calculations.
- Porridge was taken to contain sorghum as the main ingredient.
- As samp was not available as a food item on the country meal planner tool (PCD, 2014) maize was used instead.
- Beef was assumed to be boneless and to have around 15–20% of fat.
- The nutritional value of cow’s milk, with 3.5% fat, was used to calculate the approximate nutritional content of the milk served on the menu.
- As sugar beans were not available as a food item on the country meal planner tool (PCD, 2014) dried white beans were used instead.

Source: PCD (2014).

Table 1: Standard menu for public primary schools

National Public Primary School Menu		
Day	Food Items	Daily Ration (per child per day)
Monday	Sorghum porridge	100 grams
	Stewed beef (canned)	100 grams
Tuesday	Samp (Maize)	100 grams*
	Beans	100 grams
	Vegetable oil	15 grams
Wednesday	Sorghum porridge	100 grams
	Beans	100 grams
	Vegetable oil	15 grams
Thursday	Bread	3 slices at 25 grams/slice
	Milk (long life — ultra-heat treated)	340 millilitres
	Jam	45 grams on three slices of bread
	Peanut butter	45 grams
Friday	Sorghum porridge	100 grams
	Beans	100 grams
	Vegetable oil	15 grams

*Ration values given here are based on maize.

Source: Republic of Botswana (2012).

The food basket has been modified several times over the life of the program to accommodate requests from communities, teachers, and students, but also nutrition considerations. One of the requests by the community preceding the 2003 menu change was to have more local food in the menu and as a result of this request the food basket met this requirement in the modified 2003 menu. In the design of the current food basket, consideration was given to other factors expressed by stakeholders, such as affordability, convenience, storage requirements, but also the need to make the menu as close as possible to that offered to secondary schools, which is a full lunch menu (Republic of Botswana, 2001).

Overall, the school menu in Botswana is much more diversified, than that offered before and during WFP transition to government ownership. However, fresh fruit and vegetables are still not reflected in the standard

menu. In 2009, the government introduced a program to purchase water melons and other fresh/green crops locally during the cropping season in the first quarter of the year, but the supply and quantities are not reliable and are presently provided only seasonally.

Food procurement, transportation, storage, and preparation

Procurement and logistics

The government maintains a predominantly centralized school feeding program model with procurement being handled at the national level (within the MLGRD's Department of Local Government Finance and Procurement Services [DLGFPS]) for the bulk of the dry and non-perishable commodities and delivers them to the districts. In the districts, the food supplies are managed by the District Administration through the district-based Division of Food Relief Services. Projections for the food supplies for each school year are determined based on previous year's school enrollment data.

A centralized system is favored because of economies of scale and the budget is easy to manage. It was also felt that a decentralized procurement system could disadvantage schools situated far away from urban and agricultural centers where food prices are lower. The commodities procured centrally (in bulk) through tender are samp, sorghum meal or sorghum grain, ultra-heat treated (long life) milk, cooking oil, beans, and beef stew.

However, over the years the government has tried to include procurement both at the district and community levels, illustrating Botswana's efforts to procure as locally as possible. Decentralized procurement started with the procurement of fresh bread and bread spreads from local suppliers, following menu changes in 2003. Funds for this are transferred to local authorities and the procurement handled by the district authorities. In the districts, bread is purchased from local bakeries, women's co-operatives and other small businesses. However, procurement from within the local community is not always possible, for example, in purchasing bread in areas outside the main towns (such as Ghanzi), the cost and hygiene considerations outweighed the need to buy from smaller bakeries. The District Council thus sources bread from cheaper, high quality, and well-established suppliers in Ghanzi.

In 2009, the purchase of fresh garden produce/seasonal crops such as watermelon and green maize from local farmers started following a Presidential Directive (commonly known as the Letlhafula initiative) requiring public primary schools to purchase surplus produce from farmers (Masilo, 2009). The fresh produce is thus, purchased through the schools, but with the funds devolved to the District Councils. However, as highlighted above, these foods are not reflected in the menu and the amount allocated for such purchase is too small to provide smallholder farmers with a meaningful market.⁶

On the whole, whether from centralized or decentralized procurement, a major concern in dealing with the suppliers is the late delivery of commodities. There have also been concerns in some instances, around the quality of food delivered. For many parts of Botswana, although there is the desire to procure locally, there remains concerns about the use of local suppliers, transport and storage systems, and their ability to provide uninterrupted supplies to the Division of Food Relief Services throughout the school year.

Transportation and storage

The DLGFPS relies on the suppliers such as the Botswana Agricultural Marketing Board and the Botswana Meat Commission to transport food commodities from the source to the seven receiving food depots.⁷ The DLGFPS then provides government transport to distribute food commodities from the receiving depots to the District Food Depots attached/linked to them and from there to the individual schools. However, transport is not always available and it was raised as an issue affecting the smooth delivery of food to the depots.

Storage is generally managed and controlled by the MLGRD. At the district level, the DLGFPS maintains Regional and District Food Depots for storage of school feeding supplies. There are 24 depots (four of them also

⁶In the 2011 cropping season, the amount allowed for seasonal purchase was only 1% of the total budget for school feeding.

⁷Four Regional Food Depots and an additional three District Food Depots have been designated as receiving points.

serving as Regional Food Depots) placed in the main districts across the country. Food is transported from these depots and stored in school store-rooms that are owned and maintained by local authorities. Concerns have been raised on the problem of food spoilage encountered due to unfavorable conditions at the warehouses. Some of the storage facilities in some districts are also very old.

Links with local food production, smallholder farmers, and local communities

The food basket in Botswana lends itself well to linkages with local agriculture. The majority of food commodities are produced nationally, such as beef, sorghum, sunflower⁸ and some of the beans and maize and therefore, benefit local/national agriculture. However, these commodities are not necessarily produced by smallholder farmers. For instance, all the sorghum and raw sunflower are grown in commercial farms in northern Botswana. The Botswana Agricultural Marketing Board is expected to purchase nationally first, in order to promote local production. However, the Board officials indicated that it was very difficult for them to source supplies from local subsistence farmers because of inconsistency in quality and quantity of produce. However, as noted above, the government has made efforts to link local farmers to school feeding by enabling them to sell surplus produce during the cropping season and in 2009, the guidelines for procurement of agricultural produce were developed to support this (Republic of Botswana, 2009a).

Policy and Legal Frameworks

Although there is no specific policy for school feeding in Botswana, the MLGRD uses the guidelines for school feeding prepared by WFP in 1993 at the start of the transition to government ownership (Bornay *et al.*, 1993). As these guidelines (1993) have a strong focus on nutrition (Bornay *et al.*, 1993), the program design was premised on the need to address problems of

⁸ Sunflower is grown locally, but the seeds are sent to South Africa for processing and re-imported as sunflower oil which is supplied to the school feeding program.

malnutrition and aimed to provide a nutritious meal. Public primary school children in the country are considered vulnerable to problems of poor nutrition and school feeding is meant to provide supplementary feeding to improve their nutritional status.

School feeding is more closely aligned to the social protection policies (e.g. the *National Strategy for Poverty Reduction of 2003*, [Republic of Botswana, 2003]) and acts as a social safety net by providing supplementary feeding to school children who are at risk of food insecurity and malnutrition. Primary school feeding is thus, co-ordinated as one of several vulnerable group feeding and food security programs implemented under *The Revised National Food Strategy* and supervised by the Ministry of Finance and Development Planning (Republic of Botswana, 2000).

The education policy does not specifically mention school feeding, but there is a definite link between school feeding and improving access to education. The *Botswana National School Health Policy and Procedures Manual* (1999) indicates that health education and nutrition for pupils is one of the major components of the school health program and gives guidelines on different components of the school feeding environment, namely: hand washing facilities; food hygiene (with respect to kitchen and storage conditions, state of food, cooking and serving utensils); and food handlers (Republic of Botswana, 1999).

With regard to agriculture, the Botswana National School Feeding Programme is not directly linked to agricultural production under the *National Agricultural Policy: 1991* (Republic of Botswana, 2009b). The present agriculture strategy aims to enhance production levels and sustain livelihoods for small-scale farmers in rural areas and contribute to household food security, and poverty alleviation (Republic of Botswana, 2010). Thus, current agricultural policy objectives address food security, diversification of the production base, increased output and productivity, employment opportunities, provision of a secure and productive environment, and conservation of scarce agricultural and land resources. In 2009, the government introduced guidelines for procurement of agricultural produce for the National School Feeding Programme to absorb excess production of water melons, green maize, and other green or fresh crops from subsistence farmers (Republic of Botswana, 2009a). These guidelines have created a link between agriculture and school feeding. In addition, the current agricultural

policy objectives could play a major supportive role in a future school feeding program that links to agriculture.

Institutional Arrangements

School feeding in Botswana is managed by the MLGRD, under the DLGFPS which houses two interlinked departments or sub-units: Finance and Division of Food Relief Services. The DLGFPS is responsible for operations, accounting, and reporting. It is from here that the school feeding program is managed at the national level. The current structure within the MLGRD has a core staff of five people⁹ at the national headquarters, and up to 550 staff in Regional and District Food Depots. The District Councils employ hand stampers (for processing of sorghum) and cooks in public primary schools.

At the district level, institutional arrangements are not as clear cut and some functions are under the District Administration headed by the District Commissioner, such as the Division of Food Relief Services which supervises the program, while the decentralized purchase of fresh food is managed by the District Councils (Local Authorities) in consultation with the School Heads. District Councils also employ the cooks and hand stampers. School Heads are directly under the supervision of the District Council's Heads of Education Departments. The district-level food resource warehouses are managed by food depot managers and support staff who supply the food directly to all the public primary schools in a district.

Multisectoral co-ordination

The key role players in terms of intersectoral collaboration are the Ministry of Agriculture and Ministry of Health for monitoring food quality, and the Ministry of Education and Skills Development for the responsibility of teachers who monitor feeding in their respective schools. However, there is no specific committee or task team given the responsibility for the co-ordination of the National School Feeding Programme. School feeding is discussed as one of the key items by district- and national-level committees that are tasked with overseeing food relief under *The Revised National Food*

⁹Some positions remain vacant for a long time.

Strategy (Republic of Botswana, 2000). Such committees are the Botswana Vulnerability Assessment Committee (BVAC) (which functions as an early warning committee) that receives information/reports on the National School Feeding Programme among other types of information. The BVAC receives reports (among other district reports) on the National School Feeding Programme from the District Drought Committee which in turn receives reports from the district-based Department of Food Relief Services. This information goes directly to the Deputy Permanent Secretary at the MLGRD, and then to the Inter-Ministerial Development Committee (IMDC) which has representation from all government sectors implementing *The Revised National Food Strategy* (Republic of Botswana, 2000). However, just like the BVAC, the IMDC discusses the National School Feeding Programme only as part of other food relief programs.

Co-ordination appears to be a challenge. There is limited collaboration with other role players in the feeding program both within and outside the MLGRD (especially on local procurement) as the different departments are not obliged to consult one another.

Monitoring and evaluation

The Botswana National School Feeding Programme has benefited from the record keeping and reporting systems established during WFP's transition to government ownership (1993–1997). There is therefore, a fairly structured system of monitoring food flows from national level (DLGFPS at the MLGRD) down to school level. For instance, there are weekly stock-level forms submitted three times a week to the DLGFPS, which enables them to check/evaluate the supply (or lack of) at the various districts. Food Relief Services Depot Managers also undertake monthly visits to schools to monitor food handling and food usage. The main objective is to check whether or not food supplies are available at feeding points, and whether or not they are suitable for human consumption. The school principals or a delegate, manage the school feeding program within the school by supervising the food commodities received, the food preparation, and serving of meals.

The DLGFPS at the MLGRD collaborates with the Ministry of Agriculture responsible for all grain procured for the National School Feeding Programme, and with the Ministry of Health which is responsible for

processed food and to monitor food quality. Testing is carried out on a monthly basis or when the Division of Food Relief Services receives new consignments, before commodity is distributed to feeding points.

However, the system is not without its challenges and the program still suffers from poor manual record keeping and incomplete information transfer from district to national level. In addition, the monitoring of other aspects of the program such as the decentralized procurement of bread, bread spreads, and seasonal purchase of fresh agricultural produce is still weak. This is partly due to lack of communication between different implementing departments within the MLGRD. There have also been complaints about the inefficiencies in the supply of bread. Most importantly, there is no monitoring of the food that eventually reaches the child's plate. At the same time, no formal evaluation of the National School Feeding Programme has been carried out.

Funding and Budgeting

The Botswana National School Feeding Programme is financed entirely by the government and there is a budget line for the program included in the MLGRD's budget. The budget is prepared annually by the MLGRD's DLGFPS at the Division of Food Relief Services using school enrollment data. In general, the enrollment for public primary schools has stabilized at over 330,000 school children since 2009, but the expenditure has been steadily growing. For the three-year period, 2009/2010–2011/2012 the average estimated cost of school feeding per child was about 769.77 Pula (US\$104.02) a year (comprising about 185 school days), or 4.16 Pula (US\$0.56)¹⁰ per child per day. In 2012–2013 the cost of school feeding is estimated at 295,141,548.64 Pula (US\$39,401,395.23)¹¹ for an estimated enrollment of 331,000 pupils.¹⁰ The funds for the decentralized perishable food component (bread, bread spreads, the fresh/green agricultural products, and the wages for hand stampers)¹² are budgeted for at the national level (DLGFPS)

¹⁰ Calculation based on 331,000 school children, the number used for budgeting over the same period. Exchange rate of US\$1 = P7.4 in early 2012.

¹¹ This budget includes the total cost of food (including agricultural produce), hand stampers, supervisors, pallets, pest control, transport, and fuel. The 2009/2010–2011/2012 figures do not include transport and fuel.

¹² The cooks are paid by the local authorities.

and released to District Councils. However, the amount budgeted for agricultural products are irregular and inadequate. The total reported expenditure for procurement from local farmers in the 2011 cropping season was 1% of the total National School Feeding Programme budget for the year. As a result, very few farmers sold their produce to schools. In some cases, the school budgets were very small, less than P2,000 in some cases (US\$270), and could not support local farmers with a meaningful market.

While the government finances the entire school feeding budget without external support since 1998, this budget only meets about 80% of the program's requirements.¹³

Community Participation

According to the school feeding guidelines (1993), the community in Botswana's National School Feeding Programme includes the Parent–Teacher Association of a particular school and the community of that particular school or village/place (Bornay *et al.*, 1993). The community, through the Parent–Teacher Associations monitors food preparation and is more recently involved, directly or indirectly, in procurement of local produce.

Community contributions have changed overtime from Parent–Teacher Associations as employers of cooks to local authorities being the main employers of cooks. The community is no longer required to supply wood fuel because the local authorities use liquid petroleum gas and electricity as the main energy sources for cooking. However, parents (through the Parent–Teacher Associations) pay fees in schools to purchase utensils, cleaning detergents, and salt. The National School Feeding Programme has (as one of its aims since 1993) to create employment for hand stampers and cooks (Bornay *et al.*, 1993). Community members, usually women, therefore, benefit from the program through employment as cooks and as hand stampers (who process sorghum grain with their own equipment). They are paid a small fee, about P300 (US\$40.50) per month and the funds are part of the budget. Employment of women, often from poorer families, contributes to household food security and other household needs.

¹³ DLGFPS data shows a difference between food quantities requested and actual amounts delivered in the period between 2006 and 2010, with a variance of 66% (in 2007) and 84% (in 2009) of requirements (Republic of Botswana, 2012).

Evidence of Program Impact

Botswana has successfully implemented its National School Feeding Programme continuously for 45 years. Anecdotal evidence from stakeholders indicates that the country has witnessed growth in enrollments and school attendance rates that are highly associated with the availability of food at school. In addition, the school children do not feel hungry during school days. However, there has been no impact evaluation and therefore, the outcomes expressed above or implied in the objectives could not be verified. Most importantly, the benefits of the National School Feeding Programme on the nutritional status of school children have not been evaluated. There was very little quantitative data found on the school feeding outcomes and processes, emphasizing the need for more robust data collection, analysis, and reporting as part of the program monitoring activities.

Conclusions

The Botswana National School Feeding Programme highlights a number of successes and strengths, but also challenges and trade-offs in the implementation of school feeding in public primary schools.

Notable modifications have been made to the menu over the years to improve the nutritional content, to diversify it and to incorporate foods sourced locally. Even though Botswana is described as a desert country, most foods in the menu are procured nationally, or even locally.

Although the meal is offered as a mid-morning meal/snack, there is evidence to show that it meets the objective of ‘preventing school children from feeling hungry’. However, there is still room for improvement in the menu, particularly to address the micronutrient content.

There are several implementation challenges, many of which have to do with the supply chain and logistics. Some of the concerns that have been cited as affecting the smooth running of the National School Feeding Programme are: shortage of transport; late deliveries by suppliers or irregular supply of some food commodities; delivery of some food commodities that do not comply with the set quality standards; spoilage of food commodities due to unfavorable conditions at the warehouses; and old storage facilities.

The predominant mode of procurement in Botswana is centralized. Most procurement is conducted through two main State institutions, the Botswana Agricultural Marketing Board and the Botswana Meat Commission. There have been concerns that these two State institutions crowd out private sector participation in the program. However, a positive aspect is the decentralization of procurement of perishable food items such as bread and bread spreads. Some districts are able to purchase bread from their immediate local communities, i.e. local women bakers thus, supporting local economies, while others approach bigger, more reliable and cost-effective suppliers from within or outside the district.

It is worth noting that even though the program was not designed with the HGSF concept in mind, there have been efforts to link school feeding to smallholder farmers through the Letlhafula initiative (Masilo, 2009) which encourages the National School Feeding Programme to absorb excess production of watermelons, green maize, and other crops from subsistence farmers when in season. This is a positive aspect of the program that could be further developed.

Although the Botswana National School Feeding Programme enjoys government support and financing, there is no policy to govern implementation, and this presents a risk to the program. In addition, the lack of a policy that spells out linkages between smallholder farmers and the National School Feeding Programme hampers the development of this aspect of the current program.

The Botswana National School Feeding Programme has been financed exclusively with government funds since 1998, long after the exit of WFP. The changes made in the program have been significant due to an increase in the overall budget over the years. It is evident from the Botswana case that the development of physical facilities for school feeding requires special funding. The Government of Botswana committed 272 million Pula (US\$36,176,000) in 2002 as one-off capital costs towards the improvement of the physical facilities (kitchens and storage facilities) of the National School Feeding Programme¹⁴ — a notable achievement indeed.

The National School Feeding Programme has been used to help create employment at the community level by paying for cooks and for hand stampers

¹⁴ See the report on Botswana's transition (Isler, 2012a).

of sorghum grain. Sorghum grain is purchased for schools in rural areas instead of sorghum flour so that local community members (usually women) can process the grain through hand stamping. The funds for paying the cooks and hand stampers are included in the budget. The employment of women adds a positive gender dimension to the program.

Abbreviations and Acronyms

BVAC	Botswana Vulnerability Assessment Committee
DLGFPS	Department of Local Government Finance and Procurement Services
FAO	Food and Agriculture Organization of the United Nations
HGSF	Home Grown School Feeding
IMDC	Inter-Ministerial Development Committee
MLGRD	Ministry of Local Government and Rural Development
PCD	The Partnership for Child Development
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is based on *The Botswana School Feeding Programme: A Case Study* compiled by the Botswana Institute of Development Policy Analysis, with Dr. Pelotshweu Moepeng as the lead case study researcher (Republic of Botswana, 2012). The report also draws on information from the report *Botswana: The Transition to a National School Feeding Programme* commissioned by WFP (Isler, 2012a).

This chapter was compiled by Josephine Kiamba (The New Partnership for Africa's Development [NEPD]); reviewed by Kathryn Taetzsch (World Vision, Southern Africa), Emilie Sidaner (WFP), Dick Commandeur (Netherlands Development Organization), Alice Woolnough and Cai Heath (The Partnership for Child Development [PCD]) external to Botswana; and at the country level by Vanity Mafule (MLGRD); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by Edna Kalima (NEPAD) and Aulo Gelli (was PCD now IFPRI).

This chapter was reviewed and signed off by the MLGRD in August 2014.

References

- Bornay, O., Chengeta, J., Chotani, H., Magole, M., Rambukwelle, N. and York, C. (1993). *Suggested Guidelines on the Management of Primary School Feeding Programmes in Botswana*. Government Printer, Gaborone.
- Central Statistics Office. (2012). *Education Statistics, 2011*. Government Printer, Gaborone. Available from: <http://www.cso.gov.bw/index.php/sector-statistics> (Accessed 8 November 2012).
- Central Statistics Office. (2011). *Education Statistics, 2010*. Government Printer, Gaborone. Available from: <http://www.cso.gov.bw/index.php/summary-statistics/22-education> (Accessed 8 November 2012).
- Central Statistics Office. (2010). *Sector Statistics*. Government Printer, Gaborone. <http://www.cso.gov.bw/index.php/sector-statistics>
- Central Statistics Office. (2005). *Education Enrollment Projections 2004–2016*. Government Printer, Gaborone.
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Isler, A. (2012a). *Botswana: The Transition to a National School Feeding Programme*. WFP and Ministry of Local Government and Rural Development. Botswana, Rome.
- Isler, A. (2012b). *School Feeding in Botswana: A Case Study of Transition*. Government Printer, Gaborone.
- Masilo, D. (2009). *Purchase of Watermelons for Botswana Producers*. Presidential Directive PPO1/1/IV (69) of 29 April. Office of the President, Gaborone.
- PCD. (2014). *School Meals Planner*. [online] HGSF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 17 February 2014).
- Republic of Botswana. (2012). *The Botswana School Feeding Programme: A Case Study*. Ministry of Local Government and Rural Development. Government Printer, Gaborone. Available from: http://www.hgsf-global.org/en/bank/downloads/doc_details/290-botswana-nsfp-final-report (Accessed 8 November 2012).
- Republic of Botswana. (2011). Internal Reports. Department of Local Government Finance and Procurement, Ministry of Local Government and Rural Development. Government Printer, Gaborone.
- Republic of Botswana. (2010). *Financial Statements, Tables and Estimates of the Consolidated Funds Revenues 2010/2011*. Ministry of Finance and Development Planning. Government Printer, Gaborone.

- Republic of Botswana. (2009a). *Guidelines for Procurement of Agricultural Products for School Feeding*. Ministry of Agriculture, Ministry of Local Government and Rural Development and Ministry of Education and Skills Development. Government Printer, Gaborone.
- Republic of Botswana. (2009b). *National Agricultural Policy: 1991*. IT Unit, Ministry of Agriculture. Government Printer, Gaborone.
- Republic of Botswana. (2003). *National Strategy for Poverty Reduction of 2003*. Ministry of Finance and Development Planning (MFDP). Government Printer, Gaborone.
- Republic of Botswana. (2002). *Revised National Policy for Rural Development*, p. 16. Ministry of Finance and Development Planning. Government Printer, Gaborone.
- Republic of Botswana, (2001). Inter-Ministerial Taskforce. Report on the Review of the Primary School Menu. Internal Report. Ministry of Local Government and Rural Development. Government Printer, Gaborone.
- Republic of Botswana. (2000). *The Revised National Food Strategy*, p. 12. Ministry of Finance and Development Planning. Government Printer, Gaborone.
- Republic of Botswana. (1999). *Botswana National School Health Policy and Procedures Manual*. Family Health Division, Ministry of Health. Government Printer, Gaborone.
- Statistics Botswana*. (2011a). Population and Housing Census Preliminary Results. Stats Brief, Gaborone.
- Statistics Botswana*. (2011b). Education Statistics. Stats Brief, Gaborone.
- Statistics Botswana*. (2011c). *2009/2010 Botswana Core Welfare Indicator Survey, Preliminary Results*. *Statistics Botswana*, Gaborone.
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 1 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 26 November 2013).
- World Bank. (2013). *World DataBank: World Development Indicators — Botswana*. The World Bank Group, Washington, D.C. Available from: http://databank.worldbank.org/data/reports.aspx?Report_Name=Botswana&Id=623b3f51 (Accessed 18 February 2014).

Case Study 2: Brazil — National School Feeding Programme

Country Profile

Population in 2013: 201,032,714 (IBGE, 2013).

Gross Domestic Product Per Capita in 2013 (US\$): 11,208 (World Bank, 2013).

Population ages 0–14 years in 2013 (% of total): 24 (World Bank, 2013).

Primary School Gross Enrollment Ratio (%): Data unavailable.

Primary School Net Enrollment Ratio in 2011 (%): 92 (Todos Pela Educação and Moderna, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 7 (UNICEF, 2013).

Employment in agriculture in 2011 (% of total employment): 15 (World Bank, 2013).

Introduction

Brazil is the largest country in both the South and Latin American regions (Figure 1) and is the fifth largest country in the world, geographically (8,514,877 kilometer squared) and by population (around 201,032,714 inhabitants in 2013) (IBGE, 2013). Brazil is also the seventh largest economy in the world with a gross domestic product per capita of 24,658 Brazilian Reais (R\$) (US\$11,208) in 2013.¹

Brazil has 26 semi-autonomous, self-governing States plus the Federal District. Despite their relative autonomy they all have the same administration model, as set by the Federal Constitution (Chamber of Deputies, 2010). Brazil has five macro regions with diverse weather and vegetation and specific particularities in tradition, eating habits, and beliefs. Brazil's primary school net enrollment rate in 2011 was around 92% (Todos Pela Educação and Moderna, 2013).

Since 2003, the eradication of poverty and hunger has been a top priority. This has translated into Brazilian foreign policy through South–South



Figure 1: Map of Brazil by region and in South America

Source: GADM (2013).

co-operation. Internally, the promotion of food and nutrition security became the basis for a long-term cross-cutting strategy, which included a set of different complementary programs. This strategy, known as *Fome Zero* or Zero Hunger (Graziano da Silva, Del Grossi and Galvão de França, 2011), was launched in the first days of the former President Lula's term and has received international recognition as an effective public policy.

Within the Zero Hunger context, Brazil has fulfilled the commitment of Millennium Development Goal 1 to 'eradicate extreme poverty and hunger' and halved, between 1990 and 2015, the proportion of people living on less than R\$2.75 (US\$1.25) per day (United Nations, 2013). Over the past 10 years, approximately 20 million Brazilian people left the condition of absolute poverty. This was the result of a comprehensive approach of strategies and programs, which promoted food and nutrition security. The percentage of undernourished children less than five years of age (weight-for-age) decreased from 13% in 2003 to 5% in 2008 (Ministério da Saúde, 2010). School feeding is a central pillar in the Zero Hunger Strategy (Graziano da Silva, Del Grossi and Galvão de França, 2011).

School feeding was first introduced in the early 1940s when the Institute of Nutrition then proposed to the Federal Government to provide food in schools. The name was changed from the School Meals Campaign in 1955 to the National School Lunch Campaign in 1956 with the intention of making it a universal program. By 1965, the name had been modified again to the National School Feeding Campaign. The National Institute for Food and Nutrition was created in 1972 to administer the program and was attached to the Ministry of Health. It was a highly centralized program where the States and municipalities were responsible only for storage and delivery of foodstuff to schools. In 1979, the program was given its current name the 'Programa Nacional de Alimentação Escolar (PNAE) — the National School Feeding programme' and is Brazil's oldest ongoing food program. Until 1993, school feeding implementation in Brazil was centralized at the Federal level. The logistics were very complex and expensive with constant losses due to long distances. Controlling program implementation and monitoring were major challenges.

The National Fund for Educational Development (Fundo Nacional de Desenvolvimento da Educação [FNDE]) is the institution within the Ministry of Education responsible for the PNAE's implementation at the central level. In 2014, the PNAE had a budget of R\$3.8 billion (US\$1.7 billion) for the sole purchase of food. States and municipalities complemented the

amount transferred from Federal level and provided all necessary infrastructure and logistics for program implementation. Sharing responsibilities between the three Federative levels is an important principle of the PNAE.

School feeding benefited when it was prioritized by the food and nutrition security policies and when it was integrated into the Zero Hunger Strategy (Graziano da Silva, Del Grossi and Galvão de França, 2011) to guarantee access to food and improve food security indicators, along with educational indicators. The PNAE incorporated new dimensions and contributed to intersectoral co-ordination amongst the different ministries, especially between agriculture and education. The PNAE has shown how a sustainable and national-led school feeding program can be progressively built through the years. Brazil has customized the school feeding experience to its own realities and challenges. In 2010, the social right to food was included in the Constitution of Brazil through Constitutional Amendment 64/2010 (Chamber of Deputies, 2010), which consolidated the role of school feeding in the promotion of food and nutrition security in the country. Approximately one-quarter of Brazilian children access food through the PNAE. In the PNAE, the menus for breakfast, lunch, and/or a snack are very diverse and change according to regions and local habits, all respecting a standard composition of nutritional need per child per day. In 2014, the PNAE reached 42,333,722 school children in 163,000 public, communitarian and/or philanthropic schools (children with special education needs, kindergarten, pre-primary, primary, secondary, youth and adult education, indigenous, and slave-descendant [*quilombola*] communities) making the PNAE the second largest program in the world behind India.

As Brazil has more than 50 years of experience in school feeding, it is now playing an important role of sharing lessons learned and best practices for other countries.

Methodology

This chapter provides an overview of the PNAE, and offers a unique example of a universal program, completely regulated, and sponsored by the national government.

This chapter is based on a desk review on the Brazilian school feeding programme, which since 2009 has been based in a school feeding law and has recently approved a new operational resolution (Presidência da República,

Country School Feeding Program Factsheet

Start Date

1940s

Design and Implementation*

Rational/Impact

To contribute to the psychological, bio-social growth and development of students; improve learning and school performance; promote healthy eating habits through educational actions and supply of healthy meals covering at least 20% of the nutritional needs.

Implementation Levels

Universal coverage: In 2014, 42,333,722 school children were reached in 163,000 public, communitarian and/or philanthropic schools (children with special education needs, kindergarten, pre-primary, primary, secondary, youth and adult education, indigenous, and slave-descendant communities).

Supply, Storage, and Logistics

- *Centralized model:* The municipality is responsible for logistics and purchasing, storing and distributing food to schools.
- *Decentralized model:* States and municipalities transfer the funds to the school cashiers, Parent-Teacher Associations, non-profit juridical entities, which are responsible for purchasing and storing food, logistics, and meal preparation.

Modality, Food Basket Details

Modalities (breakfast, lunch, and/or snack) vary across States and municipalities, but follow national nutritional standards.

Food Preparation

School meals prepared by cooks hired by the State or the municipality.

Policy and Legal Frameworks Documents

- 1988 Federal Constitution — Articles 205 and 208 (Chambers of Deputies, 2010).
- Guidelines and Basis of Education Law No. 9.394 of 1996 (Presidência da República, 1996).
- Zero Hunger Strategy (Graziano da Silva, Del Grossi and Galvão de França, 2011).
- National Law on Food and Nutritional Security (LOSAN) Law No. 11.346 of 2006 (Presidência da República, 2006).
- Law No. 11.947 of 2009 (Presidência da República, 2009).
- National Health Policy, Normative No. 2.715 of 2011 (Ministério da Saúde, 2012).
- Resolution No. 26 of 2013 (FNDE, 2013).

(Continued)

(Continued)

Start Date	1940s	
Institutional Arrangements	Lead Institution	FNDE within the Ministry of Education.
Finance	Supporting Institutions	Ministry of Education (central level) and State and Municipal Secretariats of Education (local level).
Community Involvement	Annual Budget	R\$3.8 billion (US\$1.7 billion) (for food only) in 2014.
Innovations/Good Practices	Cost Per Child Per Year	2014 Food costs: <i>In full time schools</i> : Kindergarten, pre-primary, primary; secondary, youth and adult education, indigenous; and slave-descendant communities R\$220 (US\$100). In <i>shift (morning or afternoon) schools</i> : Primary, secondary, and youth and adult education R\$66 (US\$30); special education needs, and pre-primary R\$110 (US\$50); indigenous, and slave-descendant communities R\$132 (US\$60); and kindergarten R\$220 (US\$100). States/municipalities cover associated costs including storage, cooking utensils and staff (within the schools and at the management level).
Weaknesses/Risks		The School Feeding Council (CAE) has a supervisory role across the supply chain, from food purchase to delivery, overseeing the use of transferred funds and ensuring product quality. <ul style="list-style-type: none">• At least 30% mandatory purchase from smallholder farmers.• Menu includes three portions of fruits and vegetables.• Awareness of the program from central to local level; and the existence of the CAE.• Inclusion of the food and nutrition thematic into the school curriculum.• Presence of a nutritionist as the technical lead responsible for the program. <ul style="list-style-type: none">• Logistics and infrastructure problems at the school level.• Compliance to legislation standards.• Effective compliance to local purchases from smallholder farmers.• Fragile and non-systematic monitoring and evaluation system at the national level.• Lack of resources at the local level to complement the school feeding resources at the school level.• No program impact evaluation at the national level.

*Design and implementation after 2003.

GLOBAL SCHOOL FEEDING SOURCEBOOK: LESSONS FROM 14 COUNTRIES. <http://www.worldscientific.com/worldscientific/book/9789814421070>
©Lesly Drake, editor. For online publication, non-commercial use only (CC BY-NC)

2009; FNDE, 2013). Analysis of the PNAE involved both primary and secondary data sources; an extensive desk review with consultation to documents, presentations and websites; and qualitative and quantitative data to subsidize information on the program.

Design and Implementation

The PNAE is universal and targets all school children in the public, communitarian and/or philanthropic school system, including those in land reform settlements, indigenous, and slave-descendant communities.

Initially, the PNAE was highly centralized with the government controlling all aspects of the program, from planning of menus to acquisition, storage, and distribution of food. This system received complaints on the quality and taste of food, as well as the inefficiency of the distribution process as some schools did not receive their allocations. The program was decentralized in 1994. The States and municipalities became responsible for managing and implementing the PNAE. States are generally responsible for secondary education while municipalities are in charge of primary education. This arrangement reflects the management of the PNAE with different implementation modalities.

Objectives

The PNAE has four main components: nutrition, local purchase, social development, and community participation. All of the components are embedded in the educational framework and the pedagogical objective, which are the basic pillars of the program. The objectives of the PNAE are to:

- provide in-school meals (breakfast, lunch, and/or snack) that respect local eating habits to all public school children and students;
- provide at least 20% of the daily nutritional needs of students;
- promote healthy eating habits through food and nutrition education;
- contribute to the growth, development, and learning capabilities of students; and
- support sustainable development through the acquisition of food from local and family farmers.¹

¹ Article 4 in Law No. 11.947 of 2009 (Presidência da República, 2009).

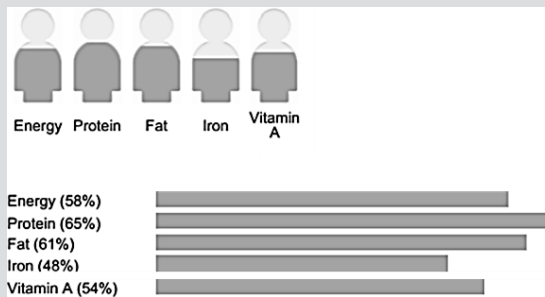
Targeting and coverage

In 2014, the PNAE covered 42,333,722 school children in 163,000 public, communitarian and/or philanthropic schools (kindergarten, pre-primary, primary, secondary, youth and adult education, indigenous, and slave-descendant communities). The program also targets children with special education needs registered in these public, communitarian, and/or philanthropic schools. The PNAE targeted schools are either full time or on a shift basis (either a morning or afternoon attendance). Table 1 provides the number of students and schools by school level that were targeted in 2013.

Modalities, food basket, and nutritional norms

The PNAE is aligned with the National Food and Nutrition Policy which is part of the National Health Policy, Normative No. 2.715 of 2011 (Ministério

Gingerbread men representing the average daily nutritional content of a sample weekly school menu for children in Early Childhood Education in Brazil's PNAE



FAO/WHO/UNU Recommended Dietary Allowance (4–6 year olds): 40%–100%

- A weekly menu issued by the FNDE for children in Early Childhood Education (aged 4–6 years) was used for the nutrient content calculations. Each of the five daily menus consisted of a meal and a snack. An average of the nutritional content of the five daily menus was obtained.

Sources: PCD (2014); FNDE (2014).

Table 1: Number of students and PNAE targeted schools in 2013 by school level

School Level	Number of Students	Number of Schools
Special Education Needs*	248,952	21,362
Kindergarten	2,016,351	41,842
Pre-primary School	3,309,649	84,339
Primary School	25,394,109	140,209
Secondary School	7,777,487	21,685
Youth and Adult Education	3,707,920	36,433
Indigenous	237,321	3,300
Slave-Descendant Communities	201,340	2,594
Total	42,893,129	163,000**

*Children with special education needs are special groups, registered in public, communitarian, and/or philanthropic schools. Depending on the school level they receive the daily per capita as the children in the other school groups. ** As some schools are included in more than one school level, this number is not the total amount resulting from the addition of the number of schools.

Source: Xavier (2013).

da Saúde, 2012). These are a set of government policies aimed at achieving the universal human right to adequate food and nutrition. Taking into account the intersectoral approach among these policies, the PNAE has the goal to deliver to all students both a healthy meal and also to educate school children to understand the importance of how to have a balanced diet.

Based on the goals of the PNAE to build healthy food habits, the PNAE menus for breakfast, lunch, and/or a snack are very diverse and change according to regions and local habits, all respecting a standard composition of nutritional need per child per day. The school menu is planned at the beginning of the fiscal year and reflects the local eating habits and preferences of the various communities. The menus are developed and supervised at the local level by qualified nutritionists appointed by the State or municipality who prepare menus for different school levels and groups (children with special education needs, kindergarten, pre-primary, primary, secondary, youth and adult education, indigenous, and slave-descendant communities). Menus must be shared with the CAE. In Article 14 of Resolution

No. 26 of 2013 (FNDE, 2013), the minimum daily nutritional requirements are:

- A minimum of 20% of daily nutritional needs, if one meal is served to school children enrolled in primary school in one school period shift (morning or afternoon).³
- A minimum of 30% of daily nutritional needs, if two or more meals are served to school children enrolled in primary school, except for kindergartens, in one school period shift (morning or afternoon).
- A minimum of 30% of daily nutritional needs of school children enrolled in schools within the indigenous and slave-descendant communities, except for kindergartens.
- A minimum of 70% of the daily nutritional needs of school children enrolled in full time primary school.
- A minimum of 30% of daily nutritional needs, if at least two meals are served to children in kindergartens in one school period shift (morning or afternoon).
- A minimum of 70% of daily nutritional needs, if at least three meals are served to children in full time kindergartens, including those located in indigenous and slave-descendant communities.
- A minimum of three portions of fruits and vegetables per week (200 grams per student per week).

Article 16 of Resolution No. 26 of 2013 (FNDE, 2013) recommends that on average, school feeding provides a maximum:

- of 10% of the total energy from simple sugar additives;
- of 15%–30% of total energy from total fats;
- of 10% of total energy from saturated fats;
- of 1% of total energy from trans fats;
- of 20% of the daily nutrition needs (400 milligrams of sodium) per capita for one school period shift (morning or afternoon) when one meal is offered;
- of 30% of daily nutrition needs (600 milligrams of sodium) per capita for one school period shift (morning or afternoon) when two meals are offered; and

- of 58% of the daily nutrition needs (1,400 milligrams of sodium) per capita for full time education when three or more meals are offered.

In addition, drinks with low nutritional content, such as soft drinks, instant powdered juices and other similar drinks are forbidden to be purchased. Foods that have high levels of sodium or saturated fats in their composition such as sausages, sweets, and canned, processed or concentrated foods are also restricted.

Food procurement, transportation, storage, and preparation

The PNAE has different design and implementation modalities throughout the country. States and municipalities choose their modalities according to their characteristics (e.g. proximity to local markets and farmers, etc.). The different combinations and arrangements in the PNAE result directly from the intention to develop a national programme according to the Brazilian context with all the complexities and challenges at the local level.

State Implementation: Federal resources from the FNDE are transferred to the States Secretariat of Education (Figure 2). The Secretariat can decide to decentralize to the implementing entity responsible for buying and executing the program. Normally, this arrangement occurs in large States where schools are dispersed and as a result the distribution, in terms of human resources and logistics, is very expensive. The responsible unit at the State Secretariat of Education signs a formal agreement or contract with the Parent–Teacher Association. The Director and President of the Parent–Teacher Association are responsible for the implementation of the program at the local level and for funds management. They do not have access to the money in the account; instead cheques are used to pay suppliers. Recently, as an attempt to avoid misuse of funds, management guidelines (FNDE, 2013) were established to make bank transfers mandatory for supplier payments.

Municipal Implementation: Around 80% of Brazilian municipalities manage the procurement and supply on behalf of their schools. A combination of the implementation arrangements is used in some regions. Funds are transferred to the Municipal Secretariat of Education within the municipal government (Figure 3). The majority of municipalities have less than 40,000 inhabitants which are considered small municipalities. Their tendency is to

State-Oriented Implementation (Most Usual)

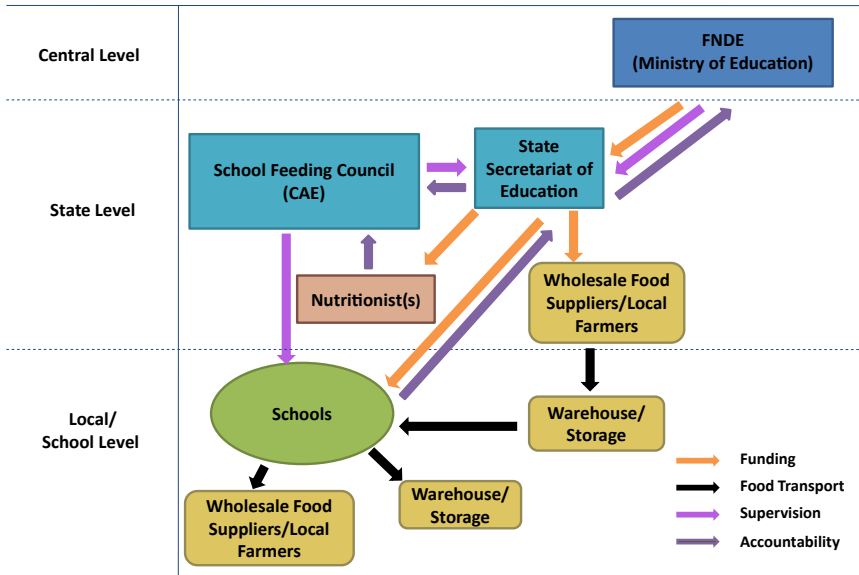


Figure 2: State implementation of the PNAE

Source: Sourcebook author in consultation with the United Nations World Food Programme (WFP) Centre of Excellence and WFP School Feeding Unit.

implement a semi-decentralized modality. States that have schools spread throughout the territory tend to implement decentralized or “scholarization” models with schools responsible for procurement.

The modality used by the municipality is to purchase food according to a pre-defined menu, to store the food in the warehouses and then to distribute the food to all schools. Normally, this arrangement occurs in medium/large municipalities where buying the full food requirement for all schools is more practical and cost-effective. The non-perishable food is normally distributed for 26 school days. Perishable foods together with family agriculture products are distributed normally once or twice a week directly at the schools and supervised by the municipality. Payments are all organized by the Municipal Secretariat of Education.

Mixed Implementation: Mixed implementation is where centralized and decentralized management are combined. Normally, non-perishable foods

GLOBAL SCHOOL FEEDING SOURCEBOOK: LESSONS FROM 14 COUNTRIES. <http://www.worldscientific.com/worldscibooks/10.1142/p1070>
 ©Lestley Drake, editor. For online publication, non-commercial use only (CC BY-NC)

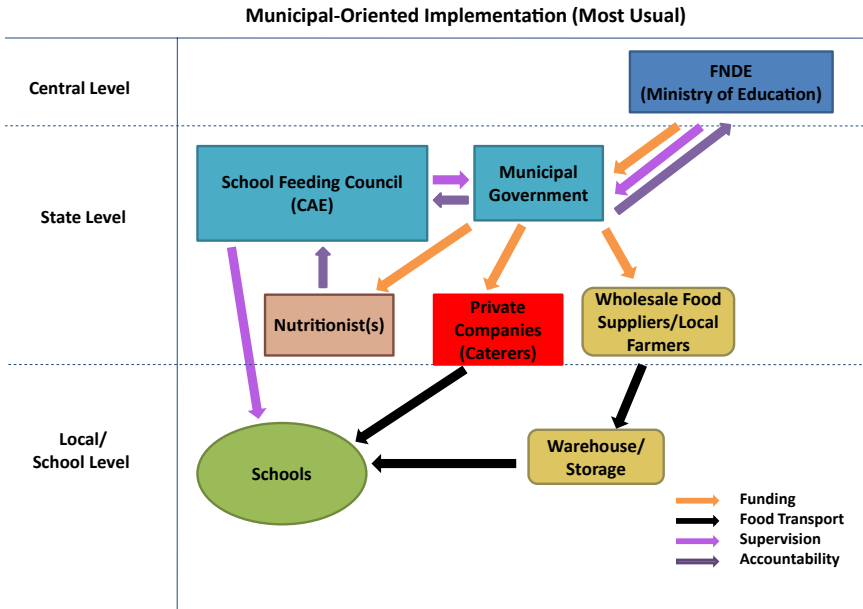


Figure 3: Municipal implementation of the PNAE

Source: Sourcebook author in consultation with WFP Centre of Excellence and WFP School Feeding Unit.

are bought at the municipality or State level and perishable foods are purchased at the local level by schools.

Procurement

The FNDE disburses funds to the States or municipalities, which are responsible for the procurement of foodstuff, transport/storage arrangements, and preparing and delivering school meals, which can be breakfast, lunch, and/or a snack. Normally, a semi-decentralized management by municipality facilitates the purchase process, distribution, and monitoring of the PNAE in the respective municipalities. Purchasing for large number of schools and buying in larger quantities result typically in better prices and often better quality and diversity of products.

Fresh perishables such as fruit and vegetables are mainly procured from local rural farmers. In more than 700 municipalities and schools, pedagogical

gardens have been created in order to promote educational activities and on healthy eating habits. Any excess fresh perishables can be used to complement the supply of basic vegetables required for the school meals, which can be breakfast, lunch, and/or a snack. Non-perishable food items such as rice, flour, beans, and vegetable oil are sometimes acquired through public tendering, which is administered by the municipal governments or the State Secretariats of Education, and sometimes in collaboration with the Secretariats of Agriculture.

When procuring from smallholder farmers, States and municipalities prepare a specific and new process known as “Public Call”, which is specified under the 2009 law (Presidência da República, 2009). The States and municipalities have to spend at least 30% of the funds transferred from the Federal Government in this procurement modality. However, some regions purchase more than 30% and up to 100%. The other modality for general purchasing in Brazil is a bidding process, which follows the regulations of Law No. 8.666 of 1993 (Presidência da República, 1993), requiring complex documentation to make companies eligible. This process made it almost impossible for smallholder farmers to access, and hence, resulted in the development of the new purchase process for products coming from smallholder farmers. (Presidência da República, 2009).

Family farming

The introduction of a mandatory link between family farming and school feeding programs caused countrywide discussions on the impact this could have had on these farmers and on the implementation of the PNAE. There was also an internal struggle between large and smallholder farmers, which demonstrated the crucial role of civil society to push for changes to the system.

The link to family farming has been consolidated in a mandatory purchase of at least 30% from smallholder farmers, which was established by Law No. 11.947 of 2009 (Presidência da República, 2009). This represents an effort to create and strengthen shorter food supply chains, and to support local production with respect to food habits. This approach is consistent with the development of local food security circuits and is an important feature of the Brazilian food and nutrition security experience.

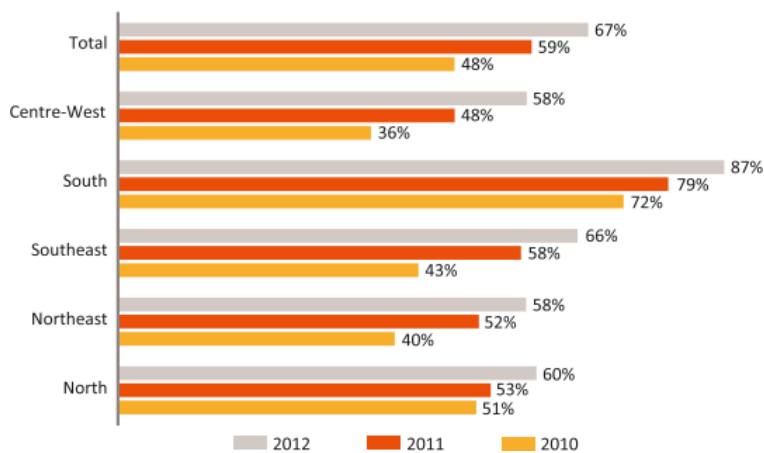


Figure 4: Percentage of States and municipalities purchasing from smallholder farmers in the PNAE region during 2010–2012

Source: WFP Centre of Excellence against Hunger and IPC-IG, 2013.

Since the approval of Law No. 11.947 of 2009 (Presidência da República, 2009) and its implementation, the amount purchased from smallholder farmers has been increasing. In Figure 4, the majority of States and municipalities which have submitted their expenditure reports are purchasing some food from smallholder farmers with the PNAE's resources. In 2012, about 67% of States and municipalities were buying from family farmers to feed students under their jurisdiction (WFP Centre of Excellence against Hunger and IPC-IG, 2013).

The minimum resource allocation of 30% shall be used for direct purchase from family farmers and rural family entrepreneurs. Priority is given to local smallholder farmers, co-operatives, agrarian reform settlements, traditional indigenous and slave-descendant communities, and organic and agro-ecological producers, with support from the municipal and State Governments (FNDE, 2013).

In addition, guidelines for purchasing from smallholders were established in Article 19 of Resolution No. 26 of 2013 (FNDE, 2013). These include respecting a menu planned by a nutritionist and purchasing if possible, at the same State/municipality in which schools are located, with priority given to

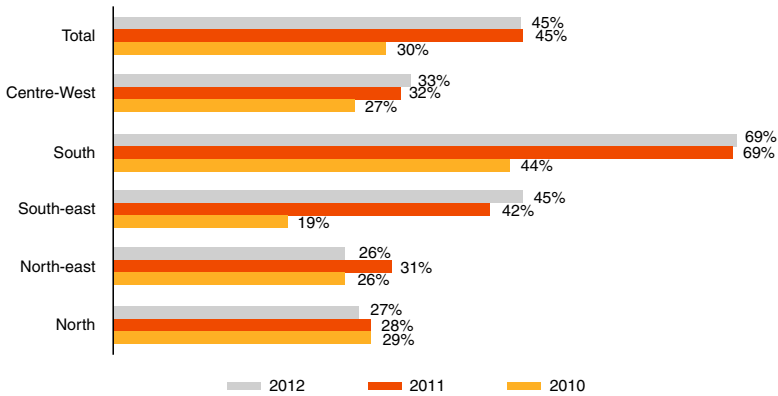


Figure 5: Percentage of States and municipalities that comply with the minimum 30% of purchases from smallholder farmers during 2010–2012

Source: WFP Centre of Excellence against Hunger and IPC-IG, 2013.

organic foods. The purchases are organized in a 10 step-by-step process² to make it more accessible to smallholder farmers in the country, independent of their location. The proportion of municipalities that reaches the minimum level requested by the legislation increased from 30% in 2010 to 45% in 2011–2012 as shown in Figure 5 (WFP Centre of Excellence against Hunger and IPC-IG, 2013).

Policy and Legal Frameworks

In 1994, Law No. 8.913 of 1994 (Presidência da República, 1994) decentralized the program through the establishment of agreements with the Municipal and State Secretariats of Education. The consolidation of the decentralized process came with the Provisional Measure No. 1.784 of 1998 (Presidência da República, 1998),⁵ which established the direct fund transfer from central-level to all municipalities and States. The change in the process, of no agreements to transfer the resources, allowed the process to be more efficient.

The PNAE law was approved at Congress in 2009 and established the institutional framework of the PNAE with a major participation by civil society. The National Council on Food and Nutrition Security (CONSEA) played a crucial role in pushing for the approval of the PNAE law.

² For more details see WFP Centre of Excellence against Hunger and IPC-IG, 2013 (page 20, Box 2).

Box 1: The CONSEA experience

The CONSEA is an advisory body to the presidency and is composed of representatives from government and civil society that debate the multiple dimensions of food and nutrition security. The CONSEA provides the public space for civil society to participate and engage in formulating, implementing and monitoring public policies. In 2006, the National Law on Food and Nutritional Security (LOSAN) Law No. 11.346 of 2006 (Presidência da República, 2006) established a public policy strategy and long-term objectives for the issue of food and nutrition security in the country. The document created a structured framework for the development of the topic with specific steps to build the National System for Food and Nutrition Security (SISAN) and its main components. CONSEA greatly contributed to the establishment of the human right to food.

Source: Sourcebook author.

After the approval of Law No. 11.346 of 2006 (Presidência da República, 2006), legal and policy advances were achieved through the SISAN. Two major benchmarks were established. The first was the approval of the National Policy on Food and Nutrition Security (PSAN),³ which established a multisectoral approach to the National Plan on Food and Nutrition Security (CAISAN, 2011) and provides further regulations on Law No. 11.346 of 2006 (Presidência da República, 2006). The key concepts of PSAN are the right to food, food sovereignty, agro-ecology, food production and supply, research and education, traditional populations and land reform settlers, health and nutrition, access to water, and international affairs.

The second was the Zero Hunger Strategy (Graziano da Silva *et al.*, 2011). Although in Brazil, school feeding was well embedded in legal and

³The Presidential Decree No. 7.272 of 2010 (Presidência da República, 2010) has instituted the PSAN and has established the parameters for the elaboration of the first National Plan on Food and Nutrition Security (CAISAN, 2011). This decree was followed by two CAISAN (Interministerial Chamber of Food and Nutritional Security) Resolutions (Nos. 3 and 4), which structured the CAISAN Secretariat and allowed States and municipalities to subscribe to the SISAN (CAISAN, 2010a; CAISAN, 2010b).

policy frameworks since its beginning, it was only in 2009 that a specific law and a resolution were approved for a school feeding program (Presidência da República, 2009; FNDE, 2013).

After intensive stakeholder discussions between 2003 and 2009, Law No. 11.947 of 2009 (Presidência da República, 2009) and its Resolution (FNDE, 2013) were approved with new directives and program design which created the National School Feeding Policy. This law established school meals (breakfast, lunch, and/or a snack) as a universal right for all students in the public school system. It also created an institutional link between the school meal (breakfast, lunch, and/or a snack) menu and family agriculture in the region they were located (Presidência da República, 2009). The main legal and policy benchmarks which culminated in to Law No. 11.947 of 2009 (Presidência da República, 2009) and its Resolution (FNDE, 2013) were:

- Federal Constitution — Articles 205 and 208 (Chambers of Deputies, 2010).
- Guidelines and Basis of Education Law No. 9.394 of 1996 (Presidência da República, 1996).
- Zero Hunger Strategy in 2003 (Graziano da Silva *et al.*, 2011).
- National Law on Food and Nutritional Security (LOSAN) Law No. 11.346 of 2006 (Presidência da República, 2006).
- Law No. 11.947 of 2009 (Presidência da República, 2009).
- National Health Policy, Normative No. 2.715 of 2011 (Ministério da Saúde, 2012).
- Resolution No. 26 of 2013 (FNDE, 2013).
- FNDE Resolutions (FNDE, 2012a).

Institutional Arrangements

Three levels of government (Federal, State and municipality) have the responsibility for implementing the PNAE. Institutional capacity has been developed and reinforced at the three levels in order to manage program implementation.

The FNDE is considered the operational arm of the Ministry of Education, which has the mission to provide technical and financial assistance and

to implement actions which contribute to a better quality of education to all. The FNDE intends to be a reference in the implementation of public policies and its functions include:

- providing funding to States, municipalities and schools for the PNAE;
- supervising the application of financial resources and taking action in the case of mismanagement of funds; and
- establishing guidelines, overseeing program implementation and evaluating its effectiveness.

To improve institutional capacity, especially at the local level, the FNDE has established partnerships with Federal universities at eight different States and created Collaboration Centres for School Feeding and Nutrition (CECANES). The rationale was to provide more technical support to local PNAE managers in nutrition, monitoring and program implementation. The work of CECANE is monitored by FNDE staff.

At State level, the State Secretariat of Education or the municipal government is responsible for: food procurement, which also includes complementary resources for complying with the menus; hiring and training staff; storage; making logistical arrangements for the delivery of foodstuff to schools; and providing school meals (breakfast, lunch, and/or a snack) to all beneficiaries of the program. Every State or municipality, by law, has to establish a CAE which consists of one representative of the government and two elected members from each of the following groups: parents (usually from the Parent–Teacher Associations); teachers, students and other educational professionals; and civil society (e.g. the church, and rural union). The members of the CAE have a mandate of four years, after which they can either be substituted or have their membership renewed after being reappointed by their representatives. The CAE is a central part of the PNAE and functions as an autonomous monitoring and supervisory unit. In Article 34 of Resolution No. 26 of 2013 (FNDE, 2013), its responsibilities include:

- ensuring that States and municipalities comply with the PNAE guidelines;
- overseeing the application of financial resources provided by the FNDE;

- ensuring food quality, hygiene conditions, and suitability and acceptability of menus according to the nutritional guidelines;
- conducting regular meetings and visits to the schools;
- evaluating the execution of the PNAE based on the annual management report; and
- reporting any irregularities and mismanagement of execution of funds to the FNDE and other control bodies such as the Brazilian Court of Audit (FNDE, 2013).

At the school level, capacity for program implementation is also required. The CAE increasingly assumes tasks involving the program, especially when funds are decentralized to schools where the implementation takes place at this level.

Co-ordination

In Brazil, strong intersectoral co-ordination fostered linkages between school feeding, nutrition, education, social protection and programs that support local family farming. Strong national leadership at the higher level of the State was the determinant to foster co-ordination within the food and nutrition security framework. The co-ordination aims at maximizing resources and to improve policy and program implementation.

The main FNDE partners from agriculture are: the Ministry of Agrarian Development (through the National Family Farming Secretariat); the Ministry of Social Development and Fight against Hunger; the National Food Supply Company (Companhia Nacional de Abastecimento [CONAB]); Ministry of Fishery; Ministry of Health; and others. These partners openly discuss their programs with each other and the influences they may have on each of the programs. This promotes positive synergies and improves program implementation.

Monitoring and evaluation

Monitoring and evaluation of the PNAE is mainly carried out by FNDE technical staff and the CAE although individuals and other entities

(e.g. Parent–Teacher Associations) are encouraged to report any irregularities, corruption or non-compliance of the FNDE guidelines on monitoring.⁴

In 2008, a new monitoring system, the SIM-PNAE (System for Monitoring the PNAE), was developed and implemented by the FNDE in collaboration with CECANE (which works regionally). This system has been gradually developed, according to continuous evaluation of its results, and has been implemented in all municipalities since 2008. The SIM-PNAE assesses, other than the budget transfer, aspects of program implementation (e.g. food procurement procedures, school menu, food safety, and other program implementation issues) for each beneficiary school.

The FNDE technicians at the national level supervise States and municipalities implementation annually following the pre-determined criteria established by the national co-ordination of the program. These technicians guide the different social actors involved directly or indirectly with the school feeding program, such as Secretariats of Education, nutritionists, managers, and representatives of the CAE in terms of program implementation. After conducting in loco visits, these technicians request updated information about the program implementation. If they find any irregularities and/or improprieties, the FNDE informs the external control bodies as well as the FNDE internal audit unit.

The profile of monitoring activities in 2011 demonstrates a concentration of activities in the north-eastern region, which is normally the poorest region that has more infrastructure and logistical problems.

Funding and Budgeting

As school feeding is a right for students guaranteed by the Federal Constitution (Chamber of Deputies, 2010), this guarantees funding for the PNAE. The funding is provided through the annual budget legislation and comes from the National Treasury Revenues, through taxes and contributions, such as the Federal lottery taxes and income tax. The FNDE has an annual budget of R\$40 billion (US\$18 billion) to R\$50 billion (US\$23 billion)⁵ (República

⁴ Article 49 in Resolution No. 26 of 2013 (FNDE, 2013).

⁵ Estimates based on US\$1 = R\$2.20.

Federativa do Brasil, 2011) for the implementation of different educational programs, such as the PNAE, for school transport and for school books programs.

Although the PNAE has had a budget allocation since its beginning, the law has reinforced its budget allocation. Article 5 of Law No. 11.947 of 2009 (Presidência da República, 2009) guarantees this as well as the modality for resource transfer to the executing entities. This law (Presidência da República, 2009) compiled the criteria for States and municipalities to be part of the program:

- the creation of a CAE and execution of necessary adjustments to allow its full functioning;
- the presence of a nutritionist as the technical lead responsible for the program;
- to provide annual financial reports on funds received; and
- to have a bank account opened by the FNDE.

Resource allocation is based on the data provided by the National Institute for Educational Studies and Research (INEP) which collects information at the school level through a yearly census.⁶ The most critical information for school feeding is the number of students in different schools and different levels. Once the census data is communicated to the FNDE, the calculation applied is: **Number of days × number of students × per capita = total amount transferred.**

This methodology is established by the Ministry of Education regulations, which is responsible for determining the number of school days, whether schools are full time or a shift (morning or afternoon), the curriculum, and other pedagogical issues. In Table 2, the amount per capita in 2014 per day and per year varies according to the beneficiaries, school level and school period. As some schools are either full time or on a shift basis (a morning or afternoon) this directly impacts on the number of meals offered and the percentage of nutritional needs to be reached for each school level.

⁶The school census statistically gathers national information on education. Annually it is organized and co-ordinated by the INEP with support and collaboration from State and Municipal Secretariats of Education. All public and private schools are obliged to participate.

Table 2: Per capita in 2014 based on the school level and period and per child cost (day and year)

School Level	School Period	Daily Cost Per Child (US\$)	Yearly Cost Per Child (US\$)
Special Education Needs	Shift	0.25	50
Kindergarten	Full Time	0.50	100
	Shift	0.50	100
Pre-Primary School	Full Time	0.50	100
	Shift	0.25	50
Primary School	Full Time	0.50	100
	Shift	0.15	30
Secondary School	Full Time	0.50	100
	Shift	0.15	30
Youth and Adult Education	Full Time	0.50	100
	Shift	0.15	30
Indigenous	Full Time	0.50	100
	Shift	0.30	60
Slave-Descendant Communities	Full Time	0.50	100
	Shift	0.30	60

Source: Xavier (2014).

Since the launch of the Zero Hunger Strategy, the per capita allocation has increased through the years reflecting the priority of school feeding as a social and development policy (Graziano da Silva *et al.*, 2011). From 2011, priority was also given to children aged under 6 years old (kindergarten and pre-primary).

The FNDE funding covers a period of 200 school days. The allocated funds are automatically transferred in 10 monthly instalments (starting in February) to the States and municipalities who are charged with managing the funds. The FNDE funding exclusively covers the cost of food and is considered as complementary financial assistance to the funding provided by the States/municipalities who are expected to cover the rest of the associated costs including storage, cooking utensils and staff (within the schools and at the management level). Successful implementation requires funding beyond that

provided by the government and most often provided by the implementing bodies themselves. In certain cases, supplementary financial assistance may be provided to schools by the Direct Money in Schools Programme.⁷

Resources are allocated to the municipality or State level, normally at their respective Secretariat of Education. There is a specific budget line for receiving these funds. Funds are transferred to a specific bank account opened by the FNDE. States and municipalities may choose their implementation modality. Either transferring the money to schools (decentralized) or administering it (semi-decentralized).

The 2014 food budget was R\$3.8 billion (US\$1.7 billion) and was approximately 5% of the total annual education budget of R\$16 billion (US\$7 billion) (República Federativa do Brasil, 2011).

Figure 6 shows the evolution of funding for the PNAE from 2003 to 2011. With a few exceptions, the program has had yearly increases in its annual budget. The budget has risen significantly from R\$450 million (US\$205 million) in 1995 to R\$3.8 billion (US\$1.7 billion) in 2014. The large increase between 2009 and 2010 can be attributed to the increase in beneficiaries due to the inclusion of secondary school children and youth and adult education students. In addition, the per capita amount increased for the indigenous and

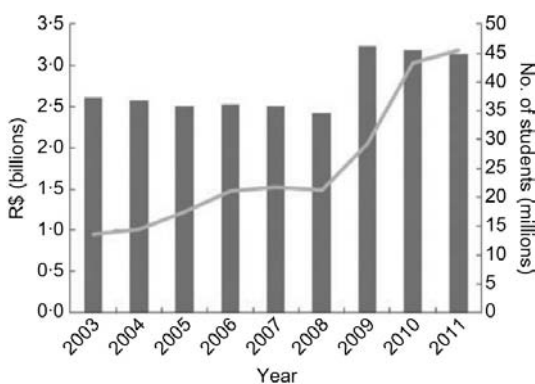


Figure 6: Evolution of funding and number of beneficiaries in the PNAE from 2003 to 2011

Source: Sidaner, Balaban and Burlandy, 2012.

⁷For more information on the Direct Money in Schools Programme see FNDE (2012b).

slave-descendant schools, schools with special education needs children, kindergartens, and all PNAE targeted schools that are full time.

Program accountability is carried out through the Management Accountability System (SIGPC). The State or Municipal Secretariat of Education must submit an annual report on the program and submit financial statements to the CAE for evaluation. Having assessed the documents, the CAE prepares and sends a report to the FNDE, with the accountability and proof of all expenditures, through a computerized system called the Social Control Accountability System (SIGECON).

Community Participation

Community participation is mostly through the CAE which is a collegiate, deliberative and autonomous body that comprises representatives from executive, civil society, teachers, students, and parents of students. The main purpose of the CAE is to oversee the use of funds, and to ensure the quality of the PNAE's implementation. The CAE counsellors are not involved in the PNAE's implementation, but in the supervision of program implementation.

The CAE has also a supervisory role across the supply chain, from food purchase to delivery to students. The CAE is involved in checking the menus and has the obligation to denounce irregular practices in the implementation of the program. The role of supervision has proven crucial to successful program implementation.

As highlighted previously, the CONSEA is another example of community participation in the policymaking process at national and local levels as two-thirds of members are composed from civil society.

Pedagogical gardens are also widely practiced in schools. They serve as food and nutrition education tools for pedagogical purposes, and have a strong community participation component involving families, farmers and the whole school community.

Evidence of Program Impact

The universalization of school feeding in Brazil is based on a successful process of decentralization, where resources for food procurement are transferred from Federal, States, municipalities and schools. The establishment of

operational guidelines for program implementation, and monitoring and evaluation are in the heart of the FNDE's role in school feeding. The fact that the program is decentralized and implementing entities are at the local level, leads to different program configurations across the country, in which a combination of modality implementations exist. This also represents challenges for program implementation, especially since some States and municipalities face infrastructure gaps and constraints to complement the resources for school feeding. The day-to-day implementation also faces problems in the supply chain logistics, such as inadequate transport and storage systems. Food quality and monitoring were also important issues of concern.

Currently, there is no direct national data as yet on the evidence of the impact of the Brazilian program outside of the improvement of educational indicators for each municipality or State on the implementation of the PNAE at the local level. However, the implementation of a new and integrated system for reporting and accountability from 2012 will facilitate access to this data and make it possible to measure the overall costs of the Brazilian program. There is a study currently being prepared on the costs of the Brazilian program beyond Federal funds which will support the analysis of this issue in Brazil.

Conclusions

Brazil has developed a successful national school feeding programme, despite the country's continental dimensions, which contributes to the diversity of experiences and arrangements. The complexity of the PNAE results from it being constantly adapted and adjusted to the Brazilian context over many years. This is also a major advantage for South–South co-operation and the sharing of its experience and lessons with other countries, which is being operationalized in partnership between the WFP Centre of Excellence against Hunger and the FNDE.

The lessons learned from the Brazilian experience which may be of interest to other countries wishing to develop a sustainable school feeding program are:

- *School feeding is included within the framework of the human right to adequate food:* Since 2010, Brazil has included in the Constitution the human right to adequate food as a social right (Chamber of Deputies, 2010). This was a benchmark for the consolidation of the SISAN and the programs related to the fight against poverty and hunger.

- *Intersectoral co-ordination and collaboration:* The PNAE involves different stakeholders from education, agriculture, health, social development, planning and other stakeholders on program implementation. Cross-cutting discussions occur at the central level to ensure collaboration between ministries and civil society.
- *The PNAE is included into national policies and legislation:* A major hallmark of Brazil's experience is that Law No. 11.947 of 2009 (Presidência da República, 2009) guarantees that dissemination of information on school feeding exists from central to local government for all different stakeholders.
- *Strengthened links between school feeding and local purchases from smallholder farmers:* Legislation has guaranteed that at least 30% of funding is earmarked for local purchases from smallholder farmers. Despite the challenges in implementation, the legislation has created a large demand for produce by smallholder farmers and has resulted in healthier and nutritious food for students.
- *Community involvement and awareness:* Community oversight through the CAE is another successful component of the Brazilian experience.

The history of the creation and development of the PNAE was much influenced by and accompanied the improvement of the Brazilian social and economic development. The PNAE was translated into the prioritization of and investment in a group of national public policies.

Despite 50 years of experience, the PNAE is still under refinement and has several challenges mainly related to, infrastructure problems at the school level, compliance to the legislation standards at the implementation level, and in the national monitoring and evaluation system. Monitoring the implementation in all States and municipalities remains a major challenge with one of the main reasons being the large number of municipalities to monitor (approximately 5,570 by 2013). Other major problems involve monitoring and evaluation centring only in supervision and in the control of cash transfers, and less for the food quality and effective implementation of the school feeding program. This also represents challenges for program implementation, especially since some States and municipalities face infrastructure gaps and constraints to complement the resources for school feeding. The day-to-day implementation also faces problems in the supply chain logistics, such as

inadequate transport and storage systems. Food quality and monitoring were also important issues of concern.

Acknowledgments

This chapter is largely based on a desk review on the Brazilian school feeding programme and on practical experiences which since 2009 has been based in a school feeding law and has recently approved a new operational resolution (Presidência da República, 2009; FNDE, 2013).

This chapter has been written by Christiani Buani with support from: Daniel Balaban, Cynthia Jones, Flávia Lorenzon, Nadia Goodman, Sharon Freitas, Vinicius Limongi, Andrea Galante, and Fabricio Almeida (WFP Centre of Excellence against Hunger); and Albaneide Peixinho (FNDE, Ministry of Education).

This chapter was reviewed by Alice Woolnough and Cai Heath (The Partnership for Child Development [PCD]) external to Brazil; and by Albaneide Peixinho (FNDE, Ministry of Education) at the country level; country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by the Ministry of Education, especially the FNDE and the leading group of the PNAE.

This chapter was reviewed and signed off by the FNDE, Ministry of Education in January 2015.

Abbreviations and Acronyms

CAE	School Feeding Council
CAISAN	Interministerial Chamber of Food and Nutritional Security
CECANE	Collaboration Centre for School Feeding and Nutrition
CONAB	National Food Supply Company
CONSEA	National Council on Food and Nutrition Security
FAO	Food and Agriculture Organization of the United Nations
FNDE	National Fund for Educational Development
INEP	National Institute for Educational Studies and Research
LOSAN	National Law on Food and Nutritional Security

PCD	The Partnership for Child Development
PNAE	Programa Nacional de Alimentação Escolar
PSAN	National Policy on Food and Nutrition Security
R	Real (Brazilian currency)
SIGECON	Social Control Accountability System
SIGPC	Management Accountability System
SIM-PNAE	System for Monitoring the PNAE
SISAN	National System for Food and Nutrition Security
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

References

- CAISAN (Câmara Interministerial de Segurança Alimentar e Nutricional). (2011). *Plano Nacional de Segurança Alimentar e Nutricional: 2012–2015*. CAISAN, Brasília, D.F. (Accessed 01 April 2014).
- CAISAN (Câmara Interministerial de Segurança Alimentar e Nutricional). (2010a). *Resolução Nº 3, de 24 de Novembro de 2010*. Gabinete do Ministro. Ministério do Desenvolvimento Social e Combate à Fome, Brasília, D.F. Available from: <http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?jornal=2&pagina=42&data=25/11/2010> (Accessed 21 July 2015).
- CAISAN (Câmara Interministerial de Segurança Alimentar e Nutricional). (2010b). *Resolução Nº 4, de 30 de Dezembro de 2010*. Gabinete do Ministro. Ministério do Desenvolvimento Social e Combate à Fome, Brasília, D.F. Available from: <http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?jornal=1&pagina=148&data=31/12/2010> (Accessed 21 July 2015).
- Chamber of Deputies. (2010). *Constitution of the Federative Republic of Brazil*, 3rd Edition. Chamber of Deputies, Brasília, D.F. Available from: http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/1344/constituicao_ingles_3ed.pdf (Accessed 01 April 2014).
- FNDE (National Fund for Educational Development). (2014). Nutritional data on menu for Early Childhood School provided by FNDE representative to C. Buani (WFP — Brazil). 3rd December.
- FNDE (Fundo Nacional de Desenvolvimento da Educação). (2013). *Resolução nº 26 de 17 de Junho de 2013*. Conselho Deliberativo. Ministerio de Educação, FNDE, Brasília, D.F. Available from: <http://www.fnde.gov.br/fnde/legislacao/>

resolucoes/item/4620-resolucao-cd-fnde-nº-26,-de-17-de-junho-de-2013 (Accessed 01 April 2014).

FNDE (Fundo Nacional de Desenvolvimento da Educação). (2012a). *Legislação*. [online]. Conselho Deliberativo. Ministério de Educação, FNDE, Brasília, D.F. Available from: <http://www.fnde.gov.br/programas/alimentacao-escolar/alimentacao-escolar-legislacao> (Accessed 21 February 2014).

FNDE (Fundo Nacional de Desenvolvimento da Educação). (2012b). *Apresentação*. [online]. Conselho Deliberativo. Ministério de Educação, FNDE, Brasília, D.F. Available from: <http://www.fnde.gov.br/programas/dinheiro-direto-escola/dinheiro-direto-escola-apresentacao> (Accessed 21 February 2014).

GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 21 February 2014).

Graziano da Silva, J., Del Grossi, M.E. and Galvão de França, C. (2011). *The Fome Zero (Zero Hunger) Program: The Brazilian Experience*. Brasília, D.F, Ministry of Agrarian Development and FAO. Available from: http://www.grazianodasilva.org/wp-content/uploads/2011/06/Zero-Hunger-Book-ENGLISH_full.pdf (Accessed 21 February 2014).

IBGE (Instituto Brasileiro de Geografia e Estatística). (2013). *Estimativas da População Residente nos Municípios Brasileiros com Data de Referência em 10 de Julho de 2013*. IBGE, Rio de Janeiro. Available from: ftp://ftp.ibge.gov.br/Estimativas_de_Populacao/Estimativas_2013/nota_metodologica_2013.pdf (Accessed 03 October 2014).

Ministério da Saúde. (2012). *Política Nacional de Alimentação e Nutrição. Portaria Nº 2.715, de 17 de Novembro de 2011*. Secretaria de Atenção à Saúde Departamento de Atenção Básica. Ministério da Saúde, Brasília, D.F. Available from: <http://189.28.128.100/nutricao/docs/geral/pnan2011.pdf> (Accessed 03 October 2014).

Ministério da Saúde. (2010). *Saúde Brasil 2009. Uma Análise da Situação de Saúde e da Agenda Nacional e Internacional de Prioridades em Saúde*. Ministério da Saúde, Brasília, D.F. Available from: http://bvsm.sau.gov.br/bvs/publicacoes/saude-brasil_2009.pdf. or http://portal.sau.gov.br/portal/arquivos/pdf/SAUDE_BRASIL_2009_COLETIVA.pdf (Accessed 21 February 2014).

PCD. (2014). *School Meals Planner*. [online] HGsf-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 21 February 2014).

Presidência da República. (2010). *Lei No. 7.272, de 25 de Agosto de 2010*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F. Available from: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/decreto/d7272.htm (Accessed 21 February 2014).

Presidência da República. (2009). *Lei No. 11.947, de 16 de Junho de 2009*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F.

- Available from: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/111947.htm (Accessed 21 February 2014).
- Presidência da República. (2006). *Lei No. 11.346, de 15 de Setembro de 2006*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F. Available from: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/111346.htm; http://www.planalto.gov.br/consea/3conferencia/static/Documentos/Lozan_Ingl%EAs.pdf (Accessed 21 February 2014).
- Presidência da República. (1998). *Medida Provisória nº 1.784, de 14 de Dezembro de 1998*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F. Available from: http://www.planalto.gov.br/ccivil_03/mpv/Antigas/1784.htm (Accessed 01 April 2014).
- Presidência da República. (1996). *Lei No. 9.394, de 20 de Dezembro de 1996*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F. Available from: http://www.planalto.gov.br/ccivil_03/leis/l9394.htm (Accessed 21 February 2014).
- Presidência da República. (1994). *Lei No. 8.913, de 12 de Julho de 1994*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F. Available from: http://www.planalto.gov.br/ccivil_03/Leis/L8913.htm (Accessed 21 February 2014).
- Presidência da República. (1993). *Lei No. 8.666, de 21 de Junho de 1993*. Casa Civil Subchefia para Assuntos Jurídicos. Presidência da República, Brasília, D.F. Available from: http://www.planalto.gov.br/ccivil_03/leis/l8666cons.htm (Accessed 21 February 2014).
- República Federativa do Brasil. (2011). *Orçamentos da União Projecto de Lei Orçamentaria Exercício Financeiro 2012. Volume I*. Ministério do Planejamento, Orçamento e Gestão, Secretaria de Orçamento Federal, Brasília, D.F.
- Sidaner, E., Balaban, D. and Burlandy, L. (2012). The Brazilian School Feeding Programme: An example of an Integrated Program in Support of Food and Nutrition Security. *Public Health Nutr.*, **6**, 1–6.
- Todos Pela Educação and Moderna. (2013). *Anuário Brasileiro da Educação Básica 2013*. Todos Pela Educação and Moderna, São Paulo, Brasília, D.F. (Accessed 03 October 2014).
- United Nations. (2013). *Millennium Development Goals*. Goal 1: Eradicate Extreme Poverty & Hunger. United Nations, New York. Available from <http://www.un.org/millenniumgoals/poverty.shtml> (Accessed 29 April 2013).
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 19 December 2013).

- WFP Centre of Excellence against Hunger and IPC-IG (International Policy Centre for Inclusive Growth). (2013). *Structured Demand and Smallholder Farmers in Brazil: The Case of PAA and PNAE*. IPC-IG, UNDP, Brasília, D.F. Available from: <http://brazilcentreofexcellence.files.wordpress.com/2013/10/structureddemand.pdf> (Accessed 01 April 2014).
- World Bank. (2013). *World DataBank: World Development Indicators — Brazil*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 03 October 2014).
- Xavier, V. (2014). *Financial Aspects of the Brazilian School Feeding Programme*. Presentation for the Delegation of Gambia during the study visit to Brazil, February. FNDE, Brasília, D.F.
- Xavier, V. (2013). *Financial Aspects of the Brazilian School Feeding Programme*. Presentation for the Delegation of Ethiopia during the study visit to Brazil on 20 March. FNDE, Brasília, D.F.

Case Study 3: Cape Verde — National School Nutrition Programme

Country Profile

Population in 2013: 498,897 (World Bank, 2013).

Gross Domestic Product Per Capita in 2013 (US\$): 3,785 (World Bank, 2013).

Population ages 0–14 years in 2013 (% of total): 30 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 112 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2012 (%): 97 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) (%): Data unavailable.

Employment in agriculture (% of total employment): Data unavailable.

Introduction

Cape Verde obtained independence from Portugal in 1975. It initially was one country together with Guinea Bissau, but after a coup d'état in the 1980s, both countries agreed to go separate ways. At the time of its independence, Cape Verde was poor and food insecurity was rampant. In 1988–1989, World Bank figures placed 44% of the population in Cape Verde below the poverty line, 14% of whom were considered ultra poor (World Bank, 1994). Cape Verde has made much progress since those early days, and in 2008 the country was formally a middle-income country. Poverty rates are currently estimated to be below 25%.

The particular geographical location of Cape Verde (ten relatively small islands in the Atlantic Ocean 600 kilometers off the West African Coast (Figure 1), which places the country within the Sahel Zone) has a very particular impact on the economy and life of the estimated 498,897 inhabitants (World Bank, 2013). Rainfall is concentrated in a few months and water

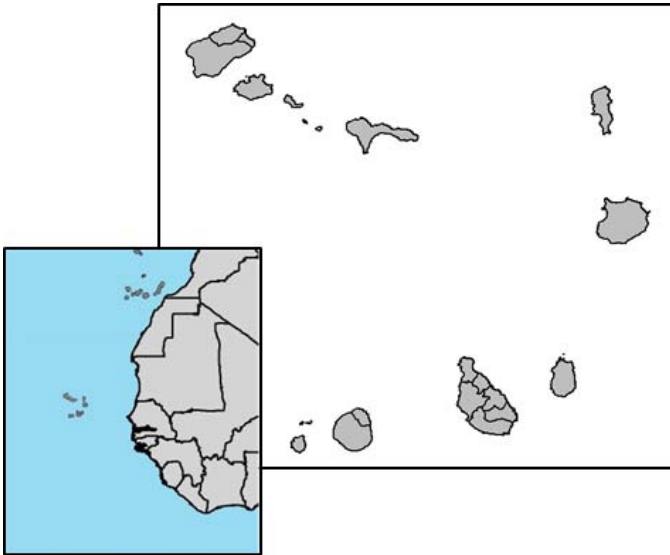


Figure 1: Map of Cape Verde by region and in Africa

Source: GADM (2013).

supply, even drinking water, represents a challenge throughout the year. Agriculture production is limited, and even during a good crop year maximum 20% of the country's food needs are met through local production. With 80% or more of its food imported, Cape Verde is very dependent on the volatility of the international food market. This dependency is further aggravated by the financial and subsequent economic crisis that affects the world since 2008. As part of a strategy to reduce dependency on imports and diversify food consumption, the Government of Cape Verde has been investing in agriculture, in particular, through large-scale irrigation schemes complemented with good water management practices (e.g. drip irrigation and hydroponics). Given the limited scale and high costs of production, farmers focus on high value crops, namely fruits (papaya and banana), vegetables (tomatoes, cabbage, carrots, and pumpkin), and tubers (sweet potato and irish potato), but newly irrigated valleys are opening opportunities for increased maize and bean production — two traditional staples of the Cape Verdean diet. Fishing is of course present, but limited by the depth of waters near the coasts and dangerous water currents.

The improvements to the economic and food security situation in Cape Verde can be attributed to several factors, such as good governance, the development of the tourism industry and trade, as well as recent strategic investments in agriculture and irrigation. But government members and the population also attribute the success to investments made in education and in Cape Verde's National School Nutrition Programme, which was initiated with a United Nations World Food Programme (WFP) pilot in 1979.

The Government of Cape Verde demonstrated its commitment to the National School Nutrition Programme by taking over full responsibility for the management and funding of the program, transitioning away from WFP support, in 2010. The program provides every pre-primary and primary school child with 'one hot meal per day'. The school menu is composed largely of cereals (rice or pasta), beans, oil (vegetable or soya), sugar, and in some schools a glass of milk is provided. Contributions from external donors (e.g. canned meat), school and municipal gardens, parental contributions, and purchasing from local farmers help to diversify the ration.

The National School Nutrition Programme has not only provided an essential food supply in times of crisis, but also helped the country achieve near universal primary school attendance. In the 2011–2012 school year, 85,079 school children benefited from the program; 68,019 in primary school and 17,060 in public pre-primary school (Semedo, 2012). The gross primary school enrollment rate in 2012 was 112 (World Bank, 2013).

The Cape Verde National School Nutrition Programme is now at a very interesting turning point as the government is revisiting the objectives of the program in light of the country’s evolution (Figure 2). Universal primary school attendance is now achieved and many households have grown out of poverty, but control of non-communicable diseases and promoting healthy diets are key public health priorities. Market access for local agriculture also needs to be developed and wide socioeconomic disparities still exist.

In Cape Verde, school feeding is evidently evolving into a more integrated school nutrition program with multiple objectives, but questions and challenges remain regarding how it can be sustainably funded and most efficiently run. The United Nations is currently supporting the government in strengthening the program through a United Nations Joint Programme on Food Security and Nutrition in Schools, funded with a grant from the Luxembourg Government, which is providing the country with an

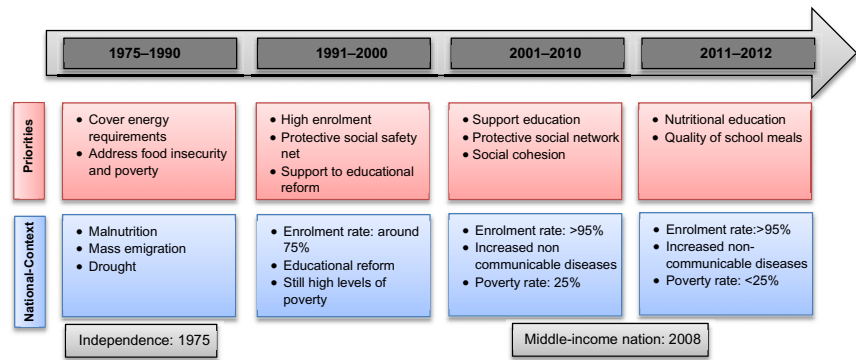


Figure 2: Evolution of school feeding priorities in Cape Verde

Source: FICASE, Draft.

opportunity to expand the scope of the program and explore various modalities of implementation.

Methodology

This chapter is drawn largely from a WFP research and capitalization exercise *Cape Verde: The Transition to a National School Feeding Programme* (Mirabile, 2012) and the draft *National School Nutrition Strategy* (FICASE, Draft). The information provided is also based on monitoring reports of the school feeding program, selected studies, key informant interviews, reports of departments and ministries, draft policy documents and observations, and insights from the management team of the National School Nutrition Programme and the support team of the United Nations Joint Programme on Food Security and Nutrition in schools.

Design and Implementation

Objectives

When school feeding started in 1979, following independence with WFP assistance, it was an intervention to address food insecurity. Since then, the role of the program has changed. While addressing food insecurity remains one of the objectives, since the 1990s the program also has educational goals and aims to ensure social cohesion and solidarity. The steady improvement of the country's economic situation, formally marked by its official admission in the middle-income group of nations in 2008 and the departure of WFP from the country in 2010 has recently catalyzed a series of further changes in the program. The role of the National School Nutrition Programme in addressing poverty has been integrated in the Growth and Poverty Reduction Strategy III 2012–2016 (República de Cabo Verde, 2012).

The government is exploring how the program can address some of the new developments in the country. For example, the prevention of non-communicable diseases has become a government priority and possibilities to improve the nutritional composition of the food ration by diversifying it with fresh produce are being explored. This also responds to the fact that as the economic situation

Country School Feeding Program Factsheet

Start Date	1979	
Design and Implementation	<i>Rational/Impact</i>	Main objectives (since 1990s): To encourage school attendance and provide a safety net to poor families. The objectives are currently being reviewed, with greater emphasis on nutrition, improving the food ration and promoting local agriculture.
	<i>Implementation Levels</i>	Nationwide blanket coverage. In 2011–2012 school year, 85,079 school children were covered (68,019 of all primary school children in grades 1–6, and 17,060 public pre-primary school children).
	<i>Supply, Storage, and Logistics</i>	All managed through the government by the Foundation for Social and Educational Action (Fundação Cabo-verdiana de Acção Social Escolar [FICASE]). Central procurement from traders (largely imports). Storage facilities are present on each island. Transport to schools is managed by FICASE at the decentralized level.
	<i>Modality, Food Basket Details</i>	Warm meal prepared at school. School menu composed largely of cereals (rice or pasta), beans, oil (vegetable or soya), sugar, and in some schools a glass of milk is provided. Efforts are underway to diversify the ration with contributions from external donors (e.g. canned meat), school and municipal gardens, parental donations, and purchasing from local farmers.
	<i>Food Preparation</i>	Food prepared at the school level by cooks hired by FICASE from local communities.
Policy and Legal Frameworks Documents	<ul style="list-style-type: none"> • Growth and Poverty Reduction Strategy III 2012–2016 (República de Cabo Verde, 2012). • <i>National School Nutrition Strategy</i> (FICASE, Draft) prepared for approval to the Council of Ministers in 2015. 	
Institutional Arrangements	<i>Lead Institution</i>	FICASE (autonomous government foundation; funded through the Ministry of Education and Sports budget).

Finance	<i>Supporting Institutions</i>	Ministry of Education and Sports; Ministry of Public Health; Ministry of Agriculture; municipalities; and private sector through sponsorships (small-scale).
	<i>Annual Budget</i>	Cape Verdean Escudo (CVE) 335.1 million (US\$4.2 million)* for 2011–2012 (plus estimated local-level contributions of CVE 39.5 million [US\$0.5 million]).
	<i>Cost Per Child Per Year</i>	2011: CVE 3,480 (US\$44) (or up to CVE 3,960 [US\$50] if local contributions are included).
Community Involvement		Parental contributions of CVE 50 (US\$0.63) per child per month and in-kind (food) contributions from parents and/or local farmers.
Innovations/Good Practices		<ul style="list-style-type: none"> • School feeding activities are being incorporated in a broader school nutrition program that includes: nutrition education; reorganizing school gardens; and greater involvement of local communities in school nutrition activities. • FICASE is exploring opportunities to improve the nutritional quality of the food ration and piloting ways of purchasing diverse food items from local producers and retailers. • The government is testing various models of supply and management to adapt to the country's geography.
Weaknesses/Risks		Challenging to reconcile improvements in the quality of school meals and development of purchases from local farmers with the policy of providing free school meals for all primary school children, especially since primary schools will now also include grades 7 and 8 (previously only grades 1–6 were included).

*Estimates based on US\$1 = CVE 79.

has improved for parents and their children, they have become more demanding with regards to the quality of the meals received at school.

Discussion on these new and additional objectives is an ongoing process and is part of the transition process from a WFP-assisted school feeding program to a national resourced school nutrition program. While many of the partners involved are committed to seeing such developments in the National School Nutrition Programme, questions remain regarding their cost and sustainability (see Funding and Budgeting; and Conclusions).

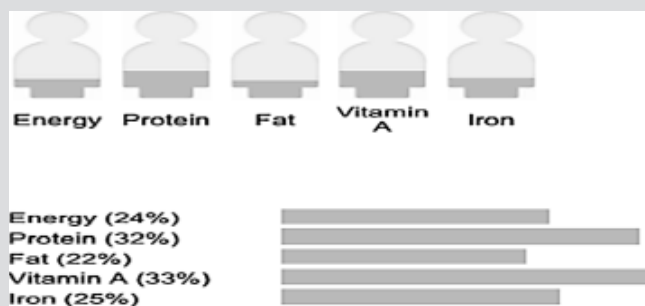
Targeting and coverage

School feeding in Cape Verde is now universal, i.e. all children in primary schools from grades 1 to 6 as well as all children in public pre-primary schools are covered by the program. This corresponds with the free education guaranteed under the Constitution of Cape Verde (República de Cabo Verde, 1992). In the 2011–2012 school year, 85,079 school children benefited from the program; 68,019 in primary school and 17,060 in public pre-primary school (Semedo, 2012).

Program coverage has evolved over time. The school feeding program started as a pilot project in 1979, and gradually expanded until 1987 when full coverage of primary school children was achieved. In 1996, there was a first attempt to transition away from WFP assistance to a government-run program, but the inherent challenges of this partial handover led to an unintentional loss of coverage. In 2002, when WFP resumed full-scale assistance, universal coverage of primary school children was restored and pre-primary children in public pre-primary schools were included into the program, in line with the government's educational policy that was extended to include pre-primary school children. In 2006, when WFP and the Government of Cape Verde agreed on a roadmap towards phasing out WFP assistance, a transition towards geographical targeting was proposed; but in 2007–2008, the Government of Cape Verde decided to maintain the policy of universal coverage.

In 2010, the basic education law (Conselho de Ministros, 2010) was updated and has expanded obligatory free education to also include grades 7 and 8. Based on the 2011–2012 records, this would add an additional 24,904 students to the school nutrition program, bringing its future total in the neighbourhood of some 110,000 beneficiaries.

Gingerbread men representing the average daily nutritional content of a sample weekly school menu in the Cape Verde National School Nutrition Programme



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40%

- A standard weekly school menu (five daily menus) was used in the nutrient content calculations and an average was obtained of the nutritional content of the five daily menus.
- In Cape Verde, milk is a pre-lunch snack, but for the purposes of the nutrient content calculations it was taken to be part of the main school meal.
- The nutritional value of cow's milk, with 3.5% fat, was used to calculate the approximate nutritional content of the milk served as part of the menu.
- The raw version of each food item was used in the nutrient content calculations.
- The beans on the menu were taken to be white beans.
- The nutritional value of catfish was used to calculate the approximate nutritional content of the fish served as part of the menu.

Source: PCD (2014).

Modalities, food basket, and nutritional norms

The National School Nutrition Programme in Cape Verde aims at providing every pre-primary and primary school child with 'one hot meal per day'.

With limited space in schools, primary schools run in two shifts: from 8:00 a.m. to 12:30 p.m. and from 13:00 p.m. to 17:30 p.m. During the first shift, meals are distributed around 10:30 a.m. and during the second shift, meals are distributed around 15:00 p.m. When available, through in-kind donations from a donor, a glass of milk is given twice a day at the beginning of the school day at 8:30 a.m. for breakfast and at the beginning of the afternoon shift at 13:30 p.m. Donations of powdered milk from Switzerland have for the past decade made it possible for nearly all children to regularly receive milk.

The main food commodities are provided centrally by FICASE and include rice, pasta, oil (vegetable, but mainly soya), and pulses. Since the withdrawal of WFP assistance, some donors are providing in-kind contributions to complement the ration such as sugar, wheat flour or milk. With the exception of the milk from Switzerland, the scale and nature of donations have been varying, and so far not very predictable. Finally, schools are expected to diversify the ration with local produce, bought using a parental contribution of CVE 50 (US\$0.63) or CVE 75 (US\$0.95) in some municipalities, per month.

Table 1 provides an overview of the commodities and total tonnage of food distributed by FICASE in 2011–2012 as well as the rations used. Tonnage distributed and rations do not perfectly match due to operational reasons and, at times, local in-kind donations of commodities.

Table 1: Commodities and total tonnage of food distributed in the National School Nutrition Programme in 2011–2012

Commodity	Total Tonnage (Metric Ton)	Daily Ration (per child per day)	
		Pre-primary	Primary
Rice	472.3	31 grams	38 grams
Vegetable Oil	79.0	4 grams	5 grams
Sugar	17.2	—	—
Pulses	178.0	21 grams	24 grams
Pasta	255.4	18 grams	21 grams
Milk	121.2	8 grams	8 grams

Source: Semedo (2012).

Table 2: Example of a weekly standard menu for primary schools in the National School Nutrition Programme (Second Trimester 2011–2012)

Day	Dish	Food Items	Daily Ration (per child per day)
Monday	Pasta with Vegetables	Pasta	65 grams
		Vegetable Oil	4 grams
		Salt	1 gram
		Fish	15 grams
		Carrots	20 grams
		Peppers or Portuguese cabbage	10 grams
		Tomatoes	10 grams
Tuesday	Soup	Rice	30 grams
		Vegetable Oil	2 grams
		Salt	1 gram
		Chicken or fish	20 grams
		Cassava or potato	20 grams
		Carrots	10 grams
		Portuguese cabbage (couve)	10 grams
Fruit	50 grams–100 grams		
Wednesday	Rice with Fish and Vegetables	Rice	70 grams
		Congo beans	10 grams
		Vegetable Oil	4 grams
		Salt	1 gram
		Fish	15 grams
		Carrots	20 grams
		Beetroot	10 grams
Cassava leaves or Portuguese cabbage	5 grams		
Thursday	Vegetable Soup	Pasta	20 grams
		Congo beans	20 grams
		Vegetable Oil	2 grams
		Salt	1 gram
		Fish	20 grams
		Carrots	20 grams
		Pumpkin	15 grams
Spinach	10 grams		
Fruit	50 grams–100 grams		
Friday	Beans and Rice	Congo beans	50 grams
		Rice	50 grams
		Vegetable Oil	5 grams
		Salt	1 gram
		Fish	15 grams
		Potato	20 grams
		Portuguese cabbage	10 grams
Watercress or okra	10 grams		

Source: Mirabile (2012).

The menu for school meals is provided from central level and includes daily variation throughout the week. An example of such a menu is given in Table 2. These meals are to provide around 300 kilocalories per day, approximately 15% of the recommended dietary requirements. In practice, the menu is not always followed, and due to insufficient funding to buy the complementary commodities such as fruit, meat, fish or even vegetables, the meals are mainly limited to one dish composed of the main commodities distributed from central level. Some vegetables or fish can be provided, but in much lower quantities than the recommended amount.

The food basket has slightly changed since the transition from WFP towards a government-supported program. The main changes were: the replacement of lentils by a local type of bean, because of acceptability considerations; the introduction of pasta, with the aim of diversifying the ration; the elimination of fortified corn soya blend and canned meat, as these are not commercialized local commodities; and the elimination of dried fruit for contamination risk issues. A study commissioned by the Government of Luxembourg in 2011 (LuxDev, 2012) measured the quantities of food children received in a small sample of schools and found that the actual ration met the planned 300 kilocalories per day, but lipid, fibre, micronutrient and protein intakes were low. Fruits were absent and vegetables were served in insufficient quantities. FICASE is now prioritizing efforts to diversify the ration with local produce, and various modalities to do so are being piloted with support from the United Nations Joint Programme on Food Security and Nutrition in Schools.

Food procurement, transportation, storage, and preparation

With only 20% of domestic needs covered by in-country production, most food products and all the main commodities for the National School Nutrition Programme are imported.

For the procurement process, FICASE publishes tenders in a number of national newspapers, in accordance with national legislation. Bids are evaluated following the applicable regulations and the winning bid obtains a contract. So far, all bids have been awarded to Cape Verdean companies that have experience in the importation of food products for commercial purposes. The quantities procured are relatively small (see Table 1) such that it

is not interesting for international and non-resident companies to bid for this specific procurement process.

Separate contracts are issued for each commodity. Once the procurement contracts have been awarded, the winning contractors deliver (by a given date) the commodities to one of the two main regional warehouses of FICASE: Praia on Santiago Island for the Sotavento Islands and Mindelo on San Vicente Island for the Barlavento Islands. From these main stores, FICASE transports the food to 17 municipality-level stores it has across the country. Depending on the geography, this transport is either carried out by truck or by boat/ferry. FICASE inherited a number of five-ton trucks from WFP, a number of which are still being used for the transport of food. In other cases, commercial trucks are rented. The transport from the municipality warehouses to the schools is similarly carried out by either FICASE trucks or rented trucks. Schools normally receive quantities of food that last one or two months, depending on the capacity of their stores. Once the commodities arrive at the school level, the responsibility for managing the food items is transferred to a delegated teacher by the school principal and who releases the necessary commodities to the cooks on a daily basis. All schools are equipped with a kitchen and a small store, but much of the infrastructure needs to be improved. A comprehensive review of the school canteen infrastructure is underway through the United Nations Joint Programme on Food Security and Nutrition in Schools and FICASE is considering upgrade the facilities. As for staff, the average ratio of cooks per child, during WFP support was one cook per 75 children, and post-transition is now one cook per 87 children (with variations depending on the size of the school).

Links with local food production, smallholder farmers, and local communities

To date, the linkages with local production and smallholder farmers are not systematic and as such vary largely from place to place. Vegetables in the menu are primarily from school gardens and municipality gardens, where available, or are purchased through a local market. A few schools have more direct arrangements with farmers — some of whom are parents of children in the school — to deliver some of their production (usually excess) to the school

canteen. There are even a few schools that have a similar arrangement with fishermen. For example, one school assisted a fisherman in purchasing a boat in return for part of his catch. The exact extent of such linkages has not yet been fully documented, but is currently being reviewed.

Around 2008, when the departure of WFP (planned for 2010) was imminent, a number of municipalities created municipal gardens to supply the schools with fresh produce. In most cases, the land was donated by the Department of Agriculture at no cost, but in a number of cases outside donors such as non-governmental organizations (NGOs) donated additional funds to prepare the gardens for production. The success of these gardens varies and in some cases the economic viability can be questioned, for example, some farmhands are paid a salary and the land is rented costing almost as much as the market value of the produce. There are also situations where the management of these gardens risk diverting Ministry of Education and Sports staff and resources from their main functions, such as in one school where the education delegation car was regularly used to transport produce from the garden to schools. The cost of running municipal gardens most likely turns out to be higher, and the process less efficient, than purchasing items from farmers. Furthermore, there initially was confusion amongst some stakeholders who expected that the municipal gardens could replace the WFP ration. However, producing the staple produce in the required quantities is clearly challenging given local agro-ecological conditions, and would likely be more expensive than purchasing imported goods through traders.

The government is now seeking ways to maximize investments in the local economy and to support domestic agricultural production by purchasing more food items locally (especially fresh produce such as fruits, vegetables, fish and beans). The government is adopting a more systematic approach and piloting various modalities to purchase produce from local producers. During the 2012–2013 and 2013–2014 school years, FICASE started to examine several models of local procurement of fresh food produce and fish, with technical assistance by the United Nations Joint Programme on Food Security and Nutrition in Schools. Local production can essentially be used to diversify the ration, rather than replace the main imported commodities, except for beans. A total of 8,942 school children in primary schools benefitted from this initiative and the experience proved it

is possible to supply canteens with locally produced fresh foods. Additional benefits included the creation of incentives for producers to enhance the quality of their produce, and possibilities for producers and local retailers to increase their sales (Bigaud, 2014). However, the diversification represents an additional cost of about 20% compared to the current ration and this raises the question of how to finance improvements in the nutritional quality of the meals. Given the popularity of this initiative with students, families, producers and retailers, FICASE is exploring potential modalities for scaling up local procurement of fresh foods, including means of covering associated costs.

Efforts are also being made to link the program further into local communities and to integrate school meals with nutrition education activities in schools. For example, one aspect which is not always fully appreciated is the job creation the National School Nutrition Programme generates within communities through the employment of over 1,000 women as cooks (767 in primary schools and some 400 in public pre-primary schools). In a country with a population of less than 500,000 and with an average household size of around five, this means that school feeding has created employment for 1% of households. This figure is not insignificant, especially as these cooks are all poor women who are most likely unable to obtain any other formal employment.

Policy and Legal Frameworks

In 2009, shortly before the departure of WFP, the Cape Verdean School Social Action Institute (Instituto Cabo-verdiano Acção Social Escolar [ICASE]), which was then implementing the WFP-supported school feeding programme, drafted the 2010–2020 National School Nutrition Programme. The document which was produced was deemed too ambitious, complex and detailed, and as a result, was not approved by the Council of Ministers. But it was also recommended to better integrate the program in the national poverty reduction strategy, and this process was taken up in 2012 during the formulation of the new Growth and Poverty Reduction Strategy III 2012–2016 (República de Cabo Verde, 2012). This is a clear indication that the government sees the National School Nutrition Programme as more than just an education intervention, but also as a social safety net.

The withdrawal of WFP support by the end of 2010 has created both a need to have a well-defined legal and policy setting for school feeding, as well as an opportunity to look beyond what is normally covered by a WFP-supported school feeding program. The momentum to review and improve the approach and scope of the program was created when in 2011 a United Nations Joint Programme on Food Security and Nutrition in Schools was established in support of the National School Nutrition Programme. With the assistance of the United Nations Joint Programme on Food Security and Nutrition in Schools the reformed ICASE (see Institutional Arrangements) has revisited the National School Nutrition Programme and supported the development of a *National School Nutrition Strategy*, which clarifies the program’s vision and objectives (FICASE, Draft). The revised objectives framework of the *National School Nutrition Strategy* (Figure 3) has been validated by the Ministers of Agriculture, Education, Health, and Labor (FICASE, Draft). Furthermore, a ‘Law to Establish the Legal Framework for School

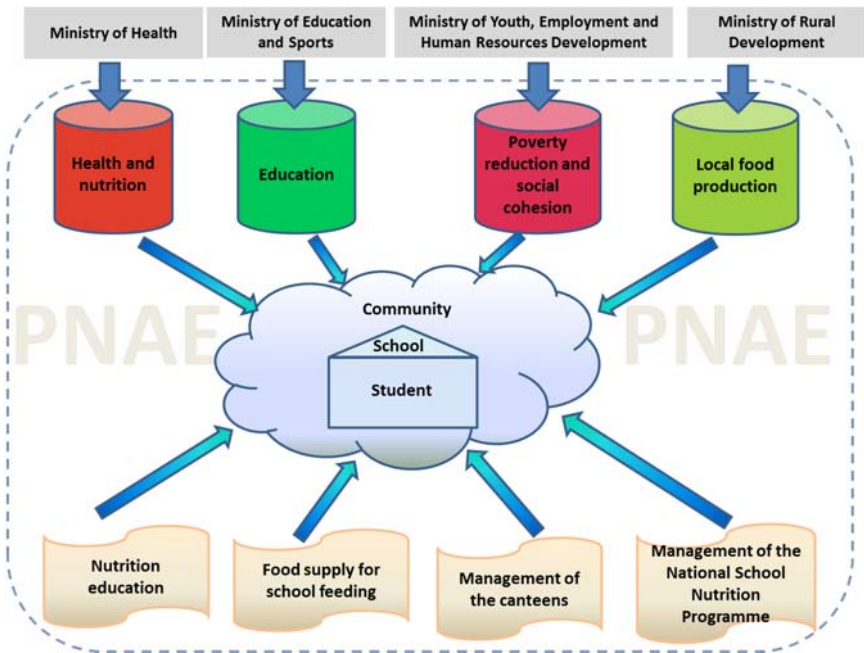


Figure 3: The reviewed national school nutrition strategy

Source: FICASE, Draft.

Nutrition and Health’ was approved by the Council of Ministers in January 2015 and by the Parliament in March 2015.

The reviewed *National School Nutrition Strategy* (Figure 3) is built on four pillars: (1) health and nutrition; (2) education; (3) poverty reduction and social cohesion; and (4) local food production (FICASE, Draft). School feeding is at the core of the program where nutritionally balanced meals form part of an education effort to improve nutritional habits and knowledge, thus, addressing the non-communicable diseases (i.e. cardiovascular disease and obesity). As part of efforts to improve nutritional habits, the link between nutrition and the school curriculum is being reinforced by introducing and strengthening nutrition modules in regular teaching, and by introducing or improving school gardens designed primarily for educational purposes. The diversification of school rations can also help shape children’s eating habits, by providing an example of healthy meals. School nutrition also contributes to reducing poverty, not only through the long-term impact of a better educated population, but also by the direct creation of over 1,000 jobs for poor women who work as cooks in the program and by increasing demand for agricultural products through linking school feeding to local food production. Figure 3 illustrates the links in the reviewed *National School Nutrition Strategy* (FICASE, Draft).

Institutional Arrangements

ICASE has been the implementation unit of the National School Nutrition Programme since the institution’s creation in 1983. In May 2010, ICASE became FICASE. The Foundation was formed by the fusion of three different institutions¹: ICASE; the Textbooks Edition Fund (Fundo de Edição de Manuais Escolares [FAEME]); and the Education and Training Support Fund (Fundo de Apoio ao Ensino e Formação [FAEF]). FICASE is a public institution with administrative and financial autonomy and is embedded in financial terms within the budget of the Ministry of Education and Sports.

¹Additional structures with their management autonomy such as student residence services were also placed under the direction of the Presidency of FICASE (Imprensa Nacional de Cabo Verde, 2010).

FICASE's mission is to develop social actions targeted to students with limited financial resources. The aim is to give these students the opportunity to pursue their education and promote academic success by improving their learning conditions. FICASE supports several projects, such as school feeding, school health, students' residences, subsidies for registration fees, scholarships, teaching materials, and school transportation. In order to fulfil its mission, FICASE works in partnership with several partners such as the United Nations Joint Office, the Luxembourg Government and the Brazilian National Fund for Education Development (Fundo Nacional de Desenvolvimento da Educação [FNDE]).

FICASE manages the entirety of the National School Nutrition Programme, from procurement and delivery of commodities to monitoring of school meal delivery.

The FICASE nutritionist develops the menus (see Table 2) to ensure that the minimum nutritional requirements for children are met. Through its municipality offices, FICASE monitors the performance of canteens, and compiles reports sent to the national level. Unfortunately, the computerized monitoring and reporting software used while WFP was still supporting the program is no longer used due to hardware problems. Staff in charge of the warehouses, assure food quality through visual inspection and occasionally, when necessary, will request for laboratory analysis.

The 767 cooks in the 420 primary schools are paid by FICASE, as is the gas used in the kitchens of these schools. Since pre-primary education falls under the responsibility of the municipalities, they pay the salaries for cooks in public pre-primary schools as well as the gas for cooking. The base commodities for the public pre-primary schools and transport are, however, paid for by FICASE.

Funds from parental contributions of CVE 50 (US\$0.63), or CVE 75 (US\$0.95) in some municipalities, per child per month in primary schools are administered by the schools. With this money and other financial donations that schools receive (e.g. from some NGOs and support programs), condiments and complementary commodities such as vegetables and fish are purchased.

As the National School Nutrition Programme is evolving towards a more comprehensive "school nutrition" approach, several other institutions are involved, namely, the Ministry of Health (Nutrition Department), the

Ministry of Agriculture (Directorate General of Agriculture and Animal Husbandry and the Directorate of the Service of Food Security) and recently the Ministry of Youth, Employment and Human Resources which is the lead institution for poverty reduction. Collaboration between these Ministries is managed through the National School Feeding Commission, which was established in 2007 to manage the handover of the program from WFP to the government. The Commission ceased to exist after the handover in 2010 and FICASE is in the process of establishing a new multisectoral co-ordination mechanism operating at the national and district levels to support linkages between the National School Nutrition Programme and sectoral programs, and thereby, maximizing impact.

Other institutions that are increasingly involved in the program include the University Institute of Education (IUE), which is working with FICASE, the Ministry of Education and Sports, and nutritionists from the Ministries of Health and Agriculture on nutrition education in the school curriculum. The Public Acquisition Regulating Authority (Autoridade Reguladora das Aquisições Públicas [ARAP]) is also involved in piloting procurement of food from local producers and the Food and Drug Regulation and Supervision Agency (Agência de Regulação dos Produtos Farmacêuticos e Alimentares [ARFA]) is increasingly involved in food quality control.

At the municipality level, all the relevant government departments/delegations are co-ordinated through Municipal School Feeding Commissions chaired by the FICASE delegates. Through the piloting of modalities to diversify the school meals with local agricultural produce (fruits, vegetables, fish, and meat) supported by the United Nations Joint Programme on Food Security and Nutrition in Schools, FICASE is strengthening linkages with not only local farmers, but also produce organizations and traders as well as NGOs and civil society organizations.

The various partners are regularly consulted through thematic workshops (e.g. national- and local-level planning workshops), to design pilot projects for local procurement; to create a working group on nutrition education in schools; and to host school feeding forums — FICASE hosted two national forums on school feeding and school health where relevant stakeholders from all municipalities gathered to share experiences.

Table 3: Sources of funding for the National School Nutrition Programme

Source of Funding	2009 (CVE)	2010 (CVE)	2011 (CVE)
Community	21,201,900	20,790,900	20,405,700
Donations	88,444,000	127,060,000	84,000,000
FICASE	145,562,778	147,783,136	218,423,762
MED*	12,312,000	12,312,000	12,312,000
Grand Total	267,520,678	307,946,036	335,141,462

*MED = Ministry of Environment, Rural Development, and Marine Resources.

Source: FICASE (2012).

Funding and Budgeting

The total cost of the school feeding program for 2011 (Table 3) was estimated at CVE 335.1 million (US\$4.2 million)² or CVE 3,480 (US\$44) per child per year. The main source of funding is from FICASE (through the Ministry of Education and Sports budget, i.e. the government's regular budget), which provides an estimated 65% of the total cost CVE 218.4 million (US\$2.8 million) in 2011 (Table 3). Other sources include in-kind food donations by external donors (25%), contributions from parents (6%), and district-level staff salaries paid by the Ministry of Education and Sports (4%). Unfortunately, due to lack of available data, the contributions by the municipalities (which pay all non-food costs for public pre-primary schools, salaries for cooks, and kitchen running costs) and those from domestic sponsors, have not been included in this program cost calculation. A rough estimate would put these additional contributions at CVE 39.5 million (US\$0.5 million), and lead to a total estimated annual cost per child at CVE 3,960 (US\$50).

For primary schools, all payments of food, transport, gas for the kitchens, as well as salaries for cooks, are made directly by FICASE from central level. Thus far, the schools manage the contributions from parents, but with the introduction of an electronic government financial system, this money will now have to be sent to the Ministry of Education and Sports municipality offices.

² Estimates based on US\$1 = CVE 79.

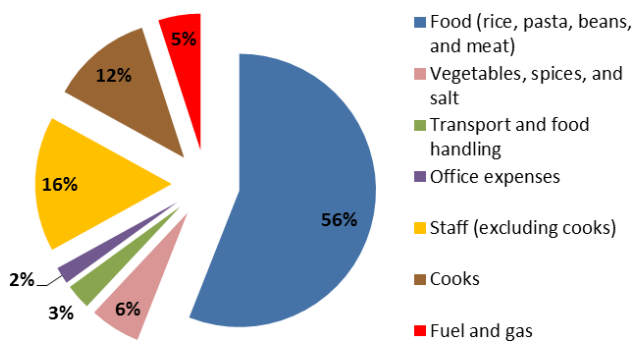


Figure 4: Cost categories

Source: Mirabile (2012).

Food purchase is the main cost driver accounting for 61% of total program costs (food, and fuel and gas in Figure 4). Staff costs account for 28% (staff and cooks in Figure 4). Logistics costs are low at 3% of total program costs (transport and food handling in Figure 4). This cost is underestimated as the cost of staff working in warehouses and for drivers are included under category “Staff”. Overall though, the program cost is driven by the cost of purchasing and preparing food, amounting to 79% of total program costs (food, vegetables, cooks, and fuel and gas in Figure 4).

At the municipality level, a system of partnerships and sponsorships was developed with national and international private enterprises. This was to serve as an alternative way to mobilize resources for school feeding. In this system, municipalities elaborate projects and send them to private companies for funding. Many of the schools therefore, develop local partnerships (*patrocinios*). Before 2010, the process was bilateral between the school and the private company (e.g. a hotel). From 2010, many of these partnerships have been formalized by FICASE at the central level. This allows FICASE to keep track of schools that receive alternative funding and for companies to apply for the “Maecenas Law” (Lei no. 45/VI/2004), which represents an incentive as this allows them to deduct their contributions from taxes (Imprensa Nacional de Cabo Verde, 2004). While schools receive additional resources through this system, having a local partnership does not, however, affect the quantity of food FICASE sends to the schools and does not represent, as a consequence, a saving for the government’s budget. These resources are

instead used to make qualitative improvements in the program at the local level by, for instance, buying additional equipment for the school kitchens or additional vegetables or fish.

While WFP left Cape Verde in 2010, the National School Nutrition Programme still receives direct support from international donors to complement the Ministry of Education and Sports allocations. Since 2010, the program received in-kind donations from Brazil, Libya, Spain, and Switzerland. Some in-kind donations fall within the standard food basket of FICASE, such as the recent Brazilian donation of rice thus, constituting a net saving for the government's budget. Others, such as powdered milk donations by Switzerland, are used in addition to the standard food basket.

The Government of Cape Verde now faces several challenges with regards to funding. The first is how to maintain the current level of support to school feeding in a context of economic downturn and volatile food prices. The second is the absorption of an increased number of students, since grades 7 and 8 will become part of primary schools. The third is the fact that improvements in the quality of the school meal also comes with a higher price tag. These challenges are why issues of management structure, funding strategies (including the strengthening of partnerships with civil society and private sector), and targeting modalities, are central to the current strategic thinking process. FICASE, with support from the United Nations Joint Programme on Food Security and Nutrition in Schools, is conducting exploratory studies and piloting various modalities with a view of reconciling emerging program priorities with financial sustainability.

Community Participation

The formal contribution from communities to the school feeding program in Cape Verde is limited to approximately CVE 50 (US\$0.63) per child per month. In some schools, parents are also allowed to pay in-kind contributions such as food products when they cannot afford the cash. The amount has remained unchanged since the introduction of contributions in 1996. The funds collected in this way are used to pay for condiments, vegetables, fruits, and occasional fish. However, given the small contribution, the amounts that can be used are limited.

The effective payment rate of this small contribution is around 60% with large variations between schools and municipalities. An important reason behind this relatively low payment rate is the perception that as school feeding is an integral part of the education package and that primary education is obligatory and free under the Constitution of Cape Verde (República de Cabo Verde, 1992), many parents do not feel compelled to pay.

The picture varies distinctly though between municipalities, for example, the Island of Brava has a 100% payment rate of CVE 100 (US\$1.27) per month, double the national rate, of which CVE 75 (US\$0.95) goes to the school feeding program. Cash payment rates on the Island of Brava vary from 84% in an urban school to only 21% in a rural school (FICASE, 2013). However, those who cannot pay in cash contribute in-kind by bringing an equivalent amount of food commodities for the canteens. All children receive food, even when their parents do not provide a contribution.

As pre-primary education is neither free nor compulsory, the contribution requested from parents for their child's education is much higher, up to some CVE 1,000 (US\$12.66) per child per month, with a small part that goes to school feeding. There are anecdotal reports of children whose parents claim not to be able to pay the requested contribution to the National School Nutrition Programme once their children enter primary school, but who apparently did pay the much higher public pre-primary school fees.

The parental contributions are managed by the school and in some cases with the support/involvement of parent associations. With the new financial procedures, about to be put in place, cash received by the school will have to be sent to the Ministry of Education and Sports municipality office, which will then redistribute it to the schools; but how this will affect the willingness of parents to contribute, still remains to be seen.

Evidence of Program Impact

It is difficult to make explicit statements about the impact of the National School Nutrition Programme. In view of the universal attendance in school and reduced rates of poverty, one can say that the program's initial objectives (prevention of severe food insecurity in the 1970s and 1980s, and improving school attendance and the social safety net in the 1990s and 2000s) have

been achieved. While it can be assumed and many Cape Verdeans attest that the National School Nutrition Programme has been a contributing factor to these positive developments, no impact evaluation has been carried out that makes it possible to attribute impact in an explicit way.

The question of program impact has to be viewed in the context of the situation in Cape Verde today and that is why the government is now revising the objectives of the program. For example, while the provision of a free school meal may have been a decisive factor in parents sending their children to school when poverty was very prevalent, this may still be the case for 24% of the population who still live below the poverty line, but less likely for the rest of the population. That is why FICASE, with the support of the United Nations Joint Programme on Food Security and Nutrition in Schools, is identifying priorities for the program, and identifying (together with other government and development partners) relevant baseline indicators. If the nutritional quality of the program is confirmed as a government priority, for example, then indicators of school meal quality as well as diet diversity in households should be considered. The strengthening of the school feeding program monitoring and impact evaluation system is a priority for the coming years to ensure clear attribution of program impact.

Conclusions

The major challenge that now faces the Government of Cape Verde, and FICASE in particular, is how to reconcile growing demands on the program — in terms of nutritional quality and contribution to the local economy and agriculture — with financial imperatives and issues of economic sustainability, in a context of economic downturn.

In an attempt to keep the financial requirements of a school feeding program manageable, several levers can be used: maximizing the managerial efficiency of the program (e.g. reducing running costs by optimizing management and logistics and reducing staff requirements); adjusting the quality of the ration and the type of preparation (e.g. limiting to staples and opting for fortified biscuits rather than cooked meals); adjusting the coverage; and introducing cost-recovery mechanisms. However, these must be weighed up against the important benefits the program can have on the local economy (through employment and purchasing local produce), the population's nutri-

tion (providing healthy meals and shaping healthy eating habits), and contributing to social cohesion.

In Cape Verde, the government and communities are clearly interested in diversifying rations and developing linkages to local production. The fact that the food items and preparation represent 80% of program running costs is pointing towards a good degree of efficiency in management by limiting overhead costs. The most delicate questions, however, concern the issues of coverage and cost recovery.

The Government of Cape Verde has repeatedly shown its commitment to a policy of universal coverage of the school feeding program in both public pre-primary and primary schools. It clearly illustrates that this choice, often desired by many governments, is actually feasible in a middle-income country. At the same time, while it is a commendable choice, the cost of the program is high and in the current climate of budgetary slimming and cuts, continuing to finance the program places a serious pressure to the government. Meanwhile, poverty rates in the country have fallen from some 50% in the years after independence to less than 25%. If the program is to function as a safety net for the poor (poverty less than 25%), is 100% coverage the best approach? If the program is meant to promote school attendance, is 100% coverage still needed to sustain the current high enrollment and school attendance rates, in a situation where the economic situation of households have improved significantly? In 1996, when WFP had attempted a partial withdrawal, there were anecdotal reports of school dropouts (though no formal study was conducted), but levels of poverty were much higher then. This said, with the current economic crisis, will poverty rates continue to drop? Also, is the school meal a sufficiently significant safety net, to the extent that its withdrawal would put some families at even greater risk? Finally, if the National School Nutrition Programme is to play a role in the prevention of non-communicable diseases, this would warrant continuing the 100% coverage and diversifying meals with fresh food products. Reconciling these different objectives with financial sustainability will only be possible through stronger partnerships with contributions from partners in other ministries, civil society, private sector, and not in the least, parents. The latter might be, at first, difficult to introduce, for political reasons, but increased and variable contributions that are in line with households' economic capacities, should be defensible. Partnerships with the private sector at

both national and local levels are also a promising area that is increasingly explored in Cape Verde.

These challenges, but also these opportunities, explain why the Government of Cape Verde and its partners have started engaging in a thorough and comprehensive rethinking exercise of the why and how of the National School Nutrition Programme in Cape Verde, to transform it into a modern and sustainable program adapted to the country's current development priorities.

Abbreviations and Acronyms

ARAP	Public Acquisition Regulating Authority
ARFA	Food and Drug Regulation and Supervision Agency
CVE	Cape Verdean Escudo
FAO	Food and Agriculture Organization of the United Nations
FAEF	Education and Training Support Fund
FAEME	Textbooks Edition Fund
FICASE	Foundation for Social and Educational Action
FNDE	Brazilian National Fund for Education Development
ICASE	Cape Verdean School Social Action Institute
IUE	University Institute of Education
MED	Ministry of Environment, Rural Development, and Marine Resources
NGO	Non-governmental organization
PCD	The Partnership for Child Development
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is drawn largely from a WFP research and capitalization exercise *Cape Verde: The Transition to a National School Feeding Programme* compiled by Mariana Mirabile (Mirabile, 2012) and the draft *National School Nutrition Strategy* (FICASE, Draft); and technical assistance from the United Nations

Joint Programme on Food Security and Nutrition in Schools, funded by the Government of Luxembourg.

This chapter was compiled by Piet Vochten (WFP Regional Office for West Africa and United Nations Joint Programme on Food Security and Nutrition in Schools) with support from Charlotte Dufour (FAO).

This chapter was reviewed by Alice Woolnough and Cai Heath (The Partnership for Child Development [PCD]) external to Cape Verde; and by Ana Paula Spencer (United Nations Joint Programme on Food Security and Nutrition in Schools) and Felisberto Moreira (FICASE) at the country level; country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by João Semedo (FICASE).

This chapter was reviewed and signed off by the Ministry of Education and Sports in October 2014.

References

- Bigaud, N. (2014). *Approvisionnement des cantines scolaires en produits locaux: d'un projet-pilote à la préparation d'un programme national durable. Le cas du Cap-Vert*. Mémoire de Mission Professionnelle, Supagro, Montpellier, France.
- Conselho de Ministros. (2010). *Lei de bases do sistema educativo, Decreto-Legislativo nº2/ 2010 de 7 de Maio de 2010*. Aprovada pelo Conselho de Ministros. Conselho de Ministros, Praia, Cape Verde.
- FICASE (Foundation for Social and Educational Action). (2013). *2012 Monitoring Data*. Presentation given by FICASE representation in Vila Nova Sintra, Municipality of Brava, Cape Verde.
- FICASE (Foundation for Social and Educational Action). (2012). *Financial Records of FICASE*. Internal documents consulted in November 2012 with M. Mirabile. FICASE, Praia, Cape Verde.
- FICASE (Foundation for Social and Educational Action). *National School Nutrition Strategy*. FICASE, Praia, Cape Verde.
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Imprensa Nacional de Cabo Verde. (2010). *Resolução nº 24/2010: Defi ne e regula a fusão do Instituto Cabo-verdiano de Acção Social Escolar, do Fundo Autónomo de Edição de Manuais Escolares e do Fundo de Apoio ao Ensino e à Formação numa*

única instituição, a Fundação Cabo-verdiana de Acção Social e Escolar, abreviadamente FICASE, bem como a respectiva transferência de atribuições e patrimónios. Segunda-feira, 17 de Maio de 2010. Boletim Oficial: I Série Número 19. INCV, Cidade da Praia, República de Cabo Verde.

Imprensa Nacional de Cabo Verde. (2004). *Lei n° 45/VII/2004: Estabelece o Regime Jurídico do Mecenato.* Segunda-feira, 12 de Julho de 2004. Boletim Oficial: I Série Número 20. INCV, Cidade da Praia, República de Cabo Verde. Available from: http://www.sdtibm.cv/documentos/BO/bo_%20I_12-07-2004_20.pdf (Accessed 20 March 2014).

LuxDev (Luxembourg Agency for Development Co-operation). (2012). *Relatorio de analise do impacto nutricional das cantinas escolares em Cabo Verde.* FICASE, Praia, Cape Verde.

Mirabile, M. (2012). *Cape Verde: The Transition to a National School Feeding Programme.* July, WFP, Praia, Cape Verde.

PCD. (2014). *School Meals Planner.* [online] HGSGF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 08 October 2014).

República de Cabo Verde. (2012). *Estratégia de Crescimento e de Redução da Pobreza III (2012–2016).* República de Cabo Verde, Praia, Cape Verde. Available from: <http://www.mindbank.info/item/3807> (Accessed 19 February 2014).

República de Cabo Verde. (1992). *Segunda Constituição da República de Cabo Verde, 25 Outubro de 1992* (Aprovada com a abertura política em Cabo Verde em 1990). República de Cabo Verde, Praia, Cape Verde.

Semedo, J.D.S. (2012). *Funcionamento do Programa Nacional de Alimentação escolar 2011/2012; Ganhos e desafios.* Presentation during the “Reflectir a Sustentabilidade da Alimentação e Saúde nas Escolas”, 24–26 October 2012, Boa Vista, FICASE, Praia, Cape Verde.

World Bank. (2013). *World Data Bank: World Development Indicators — Cape Verde.* The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 25 February 2014).

World Bank. (1994). *Poverty in Cape Verde: A Summary Assessment and a Strategy for its Alleviation.* Report No. 13126-CV, June 30. World Bank Africa Region, Country Operations Division, Washington, D.C. Available from: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPA/0,,contentMDK:20204292-menuPK:435735-pagePK:148956-piPK:216618-theSitePK:430367,00.html> (Accessed 14 February 2014).

Case Study 4: Chile — Programa de Alimentación Escolar (PAE)

Country Profile

Population in 2013: 17,619,708 (World Bank, 2013).

Gross Domestic Product Per Capita in 2013 (US\$): 15,732 (World Bank, 2013).

Population ages 0–14 years in 2013 (% of total): 21 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 101 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2012 (%): 93 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) (%): Data unavailable.

Employment in agriculture in 2011 (% of total employment): 10 (World Bank, 2013).

Introduction

The Republic of Chile is a country in South America (Figure 1), occupying a long, narrow strip between the Andes Mountains to the east and the Pacific Ocean to the west. Chile is a middle-income country with a population in 2013 of over 17 million of whom 21% are under 14 years of age (World Bank, 2013). In 2011, Chile was ranked 44th in the Human Development Index Table, with an average life expectancy at birth of 79 years and an adult literacy rate of 99% (UNDP, 2011). In 2012, Chile had a gross domestic product per capita of US\$15,732 (8,977,780.44 Chilean Peso [CLP])¹ (World Bank, 2013).

Chile is divided into 15 regions and is highly urbanized, with more than 40% living in or near the capital, Santiago (Espinoza *et al.*, 2012).

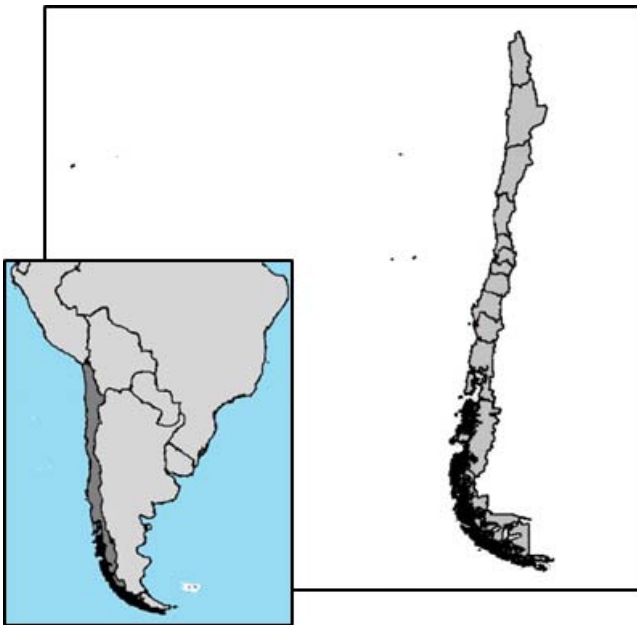


Figure 1: Map of Chile by region and in South America

Source: GADM (2013).

¹ Estimates based on US\$1 = 570.67 CLP.

Economic growth is driven by exports based on the rich mineral resources in Chile and its agriculture, forests, fisheries and factories (New Agriculturalist, 2005). Copper dominates, particularly as the world price for copper has hit an all-time high, but the global demands for Chilean fruit, wine and fish are also strong. About 25% of Chile's land is used for growing crops or raising livestock. The cultivated land consists of only 3%; hence, Chile is unable to meet the entire food needs of its people (Espinoza *et al.*, 2012). In 2011, agriculture employed 10% of the workers making around one-third of the nation's gross domestic product (World Bank, 2013; Espinoza *et al.*, 2012). Fruit, which makes up most of Chile's agricultural exports, is an especially important crop and wheat is also a valuable crop. The area immediately north and south of Santiago is the heartland of Chilean agriculture, growing predominantly orchard and berry fruits for export and grapes for wine, but also such grains as wheat and maize, as well as potatoes. Fruit production is the fourth most important industry in Chile with a wide variety of fruits grown for marketing in the Northern Hemisphere during the winter months.

The nutritional status of nearly 100% of children under 6 years old are efficiently monitored by the public health system. Undernutrition (wasting, underweight, and stunting) has virtually been eradicated. The prevalence of overweight is increasing progressively in infant and school populations.

In terms of primary education, 98% of primary school-age children are enrolled in school, compared to 78% in secondary schools (UIS, 2014). Average school life expectancy is 15 years, with high rates of transition from primary to secondary school. Expenditure in education accounts for approximately 18% of the national budget, with roughly equal shares for primary and secondary education.

School feeding began in Chile as a strategy to support access to primary education in 1929 through the Boards of School Assistance and Scholarships at the country level, with resources being allocated from county and national levels. In 1952, the Ministry of Education took centralized control of the program and began administering the national school feeding programme '*Programa de Alimentacion Escolar (PAE)*', centrally (Kain *et al.*, 2002). With over 60 years of national program implementation, Chile has a progressively rich history of school feeding, starting from fortified powdered milk and biscuits to high quality and low cost fresh food, milk, cereals, and yogurt. The current program boasts an impressive intervention which

includes sophisticated management and governance systems that enable efficient and effective service delivery (Espejo and Vigil, 2010). A number of evaluations have also documented the impact of the PAE on education, health and nutrition.

The PAE is strongly embedded within a social protection policy framework, designed and individually targeted to provide support to vulnerable children from birth to adolescence. The PAE is aimed at ensuring the right to basic education and supporting the improvement of educational outcomes, including enrollment, attendance, and attainment (JUNAEB, 2005). The PAE provides nutrition services throughout the school year and has a program for extension activities during winter and summer school holidays. In 2012, the PAE covered almost 9,670 primary and secondary schools throughout the country, reaching approximately 1,850,000 school children, with a breakfast and/or lunch (JUNAEB, 2014). The daily ration for schools involved: for pre-primary schools a breakfast and lunch or lunch and snack (600 kilocalories per day); for primary schools a breakfast and/or lunch and/or snack (700–1,000 kilocalories per day); for secondary schools, a breakfast or lunch (350–650 kilocalories per day); and for home students in the PAE, a full daily ration (Espinoza *et al.*, 2012).

The PAE is under the responsibility of a specialized institution, which reports to the Minister of Education: the National Board of School Assistance and Scholarships (*Junta Nacional de Auxilio Escolar y Becas* [JUNAEB]), an institution set up by law in 1964 that manages the program design and budget, and provides a range of different regulatory and management functions, including standard setting, and monitoring and evaluation.

The PAE has two salient characteristics: Food procurement, distribution, and catering are outsourced to private companies; and food is allocated at the individual level (not school level) through a sophisticated targeting system.

The implementation of the PAE is outsourced to private sector catering companies selected on a competitive basis to cover all geographic areas of the country, including the most difficult areas, using a transparent tendering process. This system has significantly improved the cost-efficiency of the PAE; however, it has also hindered the ability of the PAE to link with small-holder suppliers: the catering firms operate in a free market; and they can buy

food at the best price/quality rate regardless of whether it is imported or locally produced. This is primarily because there are no policies or regulatory requirements for the school feeding service providers to involve smallholders, although there have been remarkable instances where some companies have made this link.

Methodology

This chapter is largely drawn from *Chile: Home Grown School Feeding Case Study* (Espinoza *et al.*, 2012).

This chapter involves both primary and secondary data collection. Collection of primary data was limited to qualitative methods, including key informant interviews and focus group discussions with a range of stakeholders. Grey literature was reviewed and fed into the design of the interview and group discussion guides. Interviews were held with the main participants involved in policy and program implementation, including local suppliers, managers of the service provider catering companies (Osiris S.A., Santa Cecilia S.A., and Cook and Chill) and staff from JUNAEB, the Institute of Agricultural Development (INDAP), and *El Programa de Desarrollo Local* (PRODESAL)² in the Quinchao commune. The field visits, discussed herein, provide different perspectives on the Home Grown School Feeding (HGSF) experience in Chile.

Design and Implementation

Objectives

The PAE is aimed at ensuring that all children have the right to basic education, and supporting the improvement of educational outcomes, including enrollment, attendance, and attainment (JUNAEB, 2005). The PAE provides nutrition services to children throughout the school year and

²PRODESAL is INDAP's Local Development Program with the purpose to encourage smallholder production.

Country School Feeding Program Factsheet

Start Date	1952 (JUNAEB not created by law until 1964).	
Design and Implementation	<i>Rational/Impact</i>	<ul style="list-style-type: none"> • Ensuring the right to basic education, supporting the improvement of educational outcomes, including enrollment, attendance, and attainment, and allowing vulnerable children to have equal opportunities in the education system. • Providing nutritional services to children throughout the school year and extension activities during school holidays (summer and winter).
	<i>Implementation Levels</i>	In 2012, the PAE covered 9,670 primary and secondary schools reaching 1,850,000 school children. Children are targeted individually for free school meals. Schools are provided with free school meal allocations on the basis of a vulnerability index built on socio-economic household data of first grade school children. Teachers are then asked to target the free school meal allocations to the most vulnerable children in the classroom.
	<i>Supply, Storage, and Logistics</i>	Centralized procurement model with decentralized program implementation being outsourced to private sector companies.
	<i>Modality, Food Basket Details</i>	<p>Pre-primary: Breakfast and lunch or lunch and snack (600 kilocalories per day).</p> <p>Primary: Breakfast and/or lunch and/or snack (700–1,000 kilocalories per day).</p> <p>Secondary: Breakfast or lunch (350–650 kilocalories per day).</p> <p>Home student (homes managed by JUNAEB): Full daily ration.</p>
	<i>Food Preparation</i>	Although meal plans are standardized, private sector firms are responsible for managing the entire supply chain, inclusive of food preparation. Therefore, food preparation itself is not standardized.

Policy and Legal Frameworks Documents

- Law No. 15.729 of 1964 (Ministerio de Hacienda, 1964).
- Law No. 17.301 of 1970 (Ministerio de Educación Pública, 2004).

Institutional Arrangements

Lead Institution

JUNAEB — an autonomous public corporation functionally dependent from the Ministry of Education.

Supporting Institutions

- INDAP has worked closely with JUNAEB in some regions (1998–2010).
- Ministry of Planning leads a National Socioeconomic Survey every two years.

Finance

Annual Budget

An annual investment, in 2012, of approximately US\$624 million (356,000,000,000 CLP), for 192 days of annual service at a daily cost of approximately US\$1.72 (985.36 CLP) per ration.

Cost Per Child Per Year

2012: Approximately US\$331.52 (189,189 CLP).

Community Involvement

- Strong community support in program delivery, but varies dependent on region.
- Self-help groups are targeted by JUNAEB to develop catering services and school feeding service delivery.

Innovations/Good Practices

- A sophisticated centralized procurement model where the entire supply chain is outsourced, maintaining standards while increasing cost-efficiency.
- Sophisticated targeting mechanism where teachers ensure the most vulnerable children are reached. Whilst all schools are covered, not all children are, with coverage depending on the vulnerability of the child.

Weaknesses/Risks

Whilst the tendering process is cost-effective, it has hindered the programs ability to link with small-holder suppliers and there are no policies or regulatory requirements for the school feeding service providers to involve smallholders.

has a program for extension activities during the winter and summer school holidays. The PAE allows vulnerable children to have equal opportunities in the education system.

The mission of JUNAEB is to:

“...facilitate the incorporation, retention, and success in the educational system of children and young people living in social, economic, or psychological disadvantage by delivering quality services that contribute to equality of opportunity in the educational process...” (JUNAEB, 2007).

To carry out its mission, JUNAEB provides different programs of assistance to most vulnerable students, including areas different than school feeding such as nutrition, school health, mental and dental health, student housing, recreation, school materials, and scholarships.

Targeting and coverage

The targeting mechanisms in Chile have been evolving progressively over time, and school children are currently targeted individually for free school meals. Schools are provided free school meal allocations on the basis of a vulnerability index built on socio-economic household data of first grade school children. Teachers are then asked to target the free school meal allocations to the most vulnerable school children in the classroom. The current system has evolved during the course of the last 50 years to different levels of sophistication as shown schematically in Figure 2.

This increased sophisticated targeting system has been impressive with evaluations showing marked improvements in the targeting efficiency over time. In 2001, a study found that 80% of the total funding for primary schools is concentrated in the two lowest income quintiles (Figure 3), whilst those children whose parents can afford meals are able to purchase the meals (Kain *et al.*, 2002).

In 2012, the PAE covered almost 9,670 primary and secondary schools throughout the country, reaching approximately 1,850,000 school children, with a breakfast and/or lunch (Figure 4).

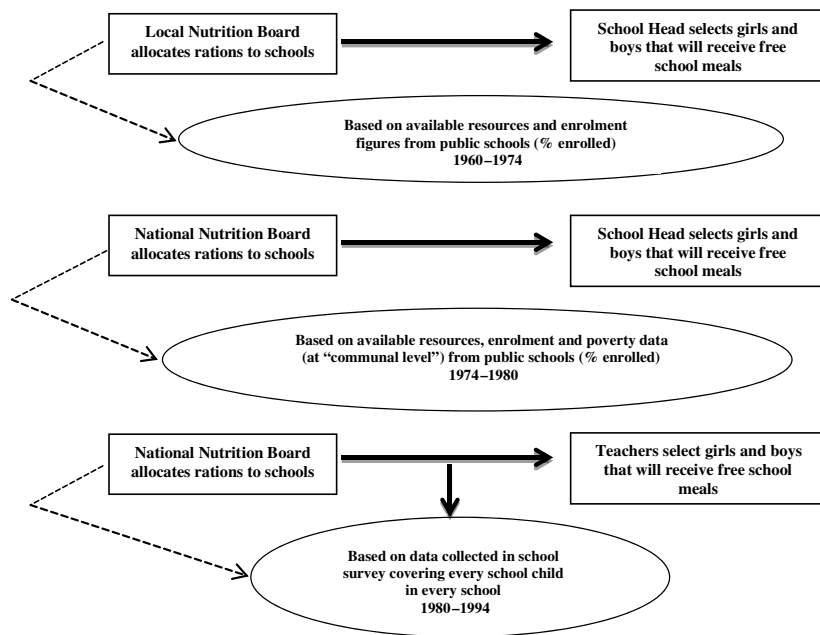


Figure 2: Evolution of targeting for the PAE

Source: Adapted from Espinoza *et al.* (2012).

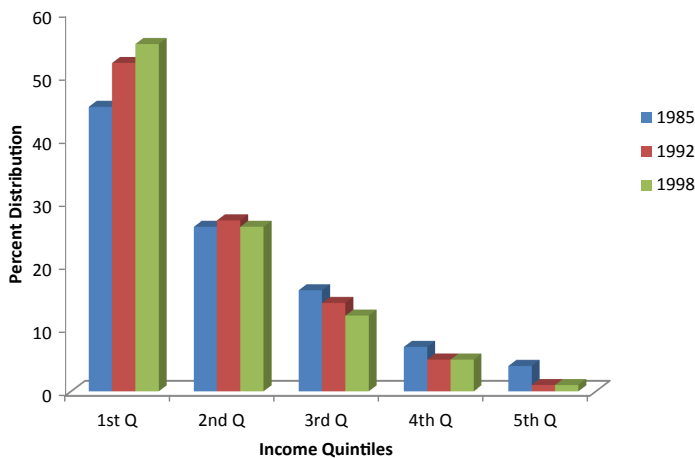


Figure 3: Distribution of the PAE resources among primary school children by income level

Source: Kain *et al.* (2002).

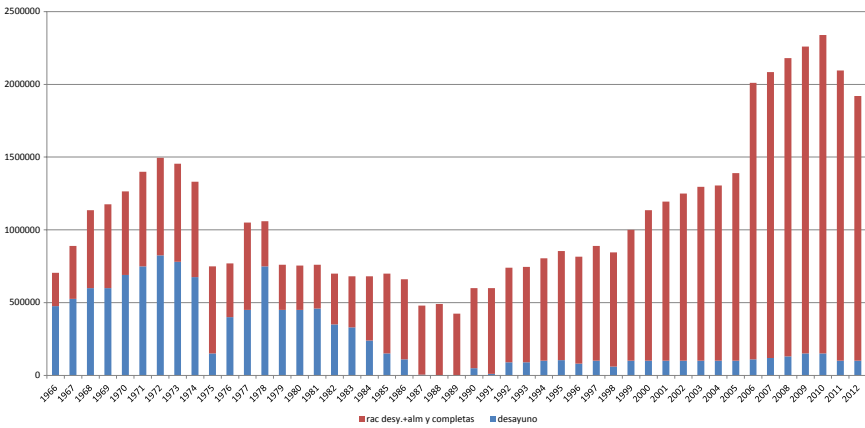


Figure 4: Historical evolution of food services in Chile (1964–2013)

Source: JUNAEB (2014).

Modalities, food basket, and nutritional norms

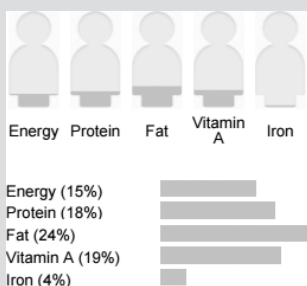
The nutritional content of the menus is aimed at providing a balanced diet and increasing the intake of fresh fruit and vegetables to ensure the intake of vitamins, minerals, fibres, and antioxidants as well as to stimulate a positive change in the nutritional habits of the children and their families. Whilst JUNAEB sets and controls nutritional standards for their programs including the number of kilocalories per meal (see Table 1), for quantities of protein, fruit and vegetables, implementing companies have some flexibility in determining the food basket.

Food procurement, transportation, storage and preparation

The PAE is managed through a centralized procurement model at the national level (Figure 5), and since 1980 program implementation has been outsourced to private sector companies. Public tenders are carried out using a sophisticated tendering process aimed at providing transparent selection of national and international private companies that can deliver high quality standard meals all over the country (Catalan *et al.*, 2009).

Each bidding process covers one-third of the country, which is divided into 15 regions and 346 communes. Each contract is awarded for three years,

Gingerbread men representing the average daily nutritional content of a sample weekly school meal menu in Chile's PAE



FAO/WHO/UNU Recommended Daily Allowance for 6–12 year olds: 0%–40%

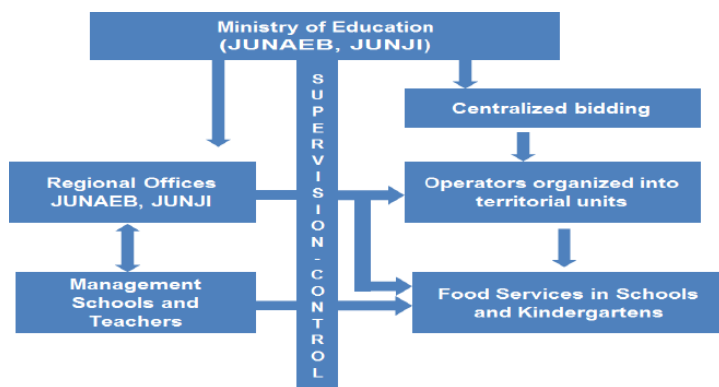
- A sample weekly school menu was used to calculate the approximate nutritional content of a daily school meal. The sample menu specified that some food items are only included a certain number of times per week/month; this was taken into account in calculating the estimated nutritional content of a daily meal.
- The raw version of each food item was used in the nutrient content calculations.
- The nutritional value of cow's milk, with 3.5% fat, was used to calculate the approximate nutritional content of the milk as well as the yoghurt served as part of the menu.
- The ingredients of the “sweet adding” component were not specified in the menu. However, it was calculated that the daily ration of the “sweet adding” component amounted to 2.5 grams per child per day. Since the ingredient of this was not known, it was assumed that the 2.5 grams would contain around 1 gram of sugar.
- As the exact ingredients of the cookie were not specified, it was assumed to contain 45% flour, 37% butter and 18% sugar (as indicated by a recipe for plain cookies [UKTV, 2014]).

Source: PCD (2014).

Table 1: Caloric contributions to the diet per meal

Educational Level	Modality	Daily Ration (per child per day)
Pre-primary (pre-kinder- and kinder levels)	Breakfast	200 kilocalories
	Lunch	400 kilocalories
	Afternoon snack	200 kilocalories
Primary Education (primary level)	Breakfast	250 kilocalories
	Lunch	450 kilocalories
	Afternoon snack	250 kilocalories
Secondary Education (secondary level)	Breakfast	350 kilocalories
	Lunch	650 kilocalories
Homes	Breakfast	350 kilocalories
	Lunch	800 kilocalories
	Afternoon snack	350 kilocalories
	Dinner	800 kilocalories

Source: Espinoza *et al.* (2012).

**Figure 5: Stylized flow of the PAE**

JUNJI = National Board of Day Care and Kindergartens.

Source: Espinoza *et al.* (2012).

providing market stability to the selected supplier. Currently, there are 36 suppliers ranging from large multinationals to small enterprises. With regards to the tendering process, this is initiated by JUNAEB contacting and registering potential vendors. JUNAEB then evaluates the companies from a managerial, technical, and financial point of view, and eliminates those that do not meet minimum reliability standards. Qualifying vendors are classified

according to two characteristics: their financial capacity (based on data from the firms' balance sheets); and their managerial competence.

Potential vendors submit their bids through an online system. Meal plans are standardized and firms compete on prices. Upon winning a contract, the firm is responsible for managing the entire supply chain associated to all meal services in the corresponding territorial units, starting from sourcing food inputs through to cooking and serving the meals in schools (Olivares *et al.*, 2010).

The school feeding service providers operate on a profit basis in a free market environment; therefore, they may purchase the foods and supplies anywhere within the national territory or even abroad. The service providers are responsible for managing the entire supply chain, taking on all costs for food handling, transport, products, and infrastructure involved in the service provision.

The new auction process has been used every year since its inception awarding around US\$3 billion (1,712,010,000,000 CLP) of contracts since its creation (US\$577 million [329,276,590,000 CLP] were awarded in 2008, each contract is for three years), yielding significant social benefits. It has been estimated that this auction process improved the price-quality ratio of the meals with yearly savings of around 22% of the budget (Olivares *et al.*, 2010).

Box 1: The case of Chiloé Island: Linking small-scale producers to the PAE

In Chiloé Island, in the Los Lagos Region of Chile, the PAE has been linked to smallholder producers through a project by the provincial authority JUNAEB, INDAP, and the private sector caterer involved in the school feeding service provision. The project aimed to provide fresh vegetables to students on the Chiloé Island at an accessible market value. At the same time, farmers from the community were able to increase produce for their own consumption and carry out improved trade, thus, promoting their economic development.

Smallholder producers were hired by the school feeding service providers under a special social Directive in the province of Chiloé Island. JUNAEB carried out a series of meetings with the different

(Continued)

(Continued)

stakeholders involved to define clear roles and responsibilities. INDAP, with its PRODESAL agents were charged with identifying families with the appropriate holdings who were interested in teaming up with other local groups to supply the PAE. In addition, INDAP was charged with providing the necessary technical support and the agricultural extension services, and also bolstering the crop reconversion process and production in the family vegetable gardens. Home gardens were mainly involved with the production of potatoes, chards, carrots, lettuce, parsley, coriander, beets, and cabbage.

In the food procurement process, the catering company initially requested the required products to the local PRODESAL office, which in turn, planned and requested the vegetables needed from the family producers registered in the commune. The producers delivered the products to PRODESAL, who stored them and then sent them to the storage center of the school feeding service provider in the area, with the corresponding invoice. The entire process had the technical support of INDAP and was monitored by JUNAEB. Market prices corresponded to market wholesale prices as informed by the headquarters of the school feeding service provider. Over the project period, local producers generally provided around 30% of the overall requirements set by the school feeding service provider.

The project was formulated with a strong push from JUNAEB, the main client of the school feeding service providers, and hence, the source of the structured demand. Stakeholders highlighted that this had fostered local production as long as JUNAEB was directly involved in promoting this initiative through the local authorities and local development programs. However, changes in the leadership of the provincial JUNAEB office led to changes in priorities for the duties of the school feeding supervisors, and focusing on monitoring duties, at the expense of the local development objectives. This fact marked a turning point in the project. Traded amounts started to decline and smallholder suppliers, facing uncertainties in the market, turned to

(Continued)

(Continued)

better short-term prices offered in the local market, opting for short-term profitability instead of maintaining steady commercial channels with buyers that provided a stable market (albeit at lower prices than the local market).

Currently, suppliers have renewed their faith in the project and sales have continued. However, only parts of their produce are sold to the school feeding service providers, the rest is sold at the local market. From this perspective, the procurement for school feeding has provided a stable base for family income as well as an opportunity for additional income through the local market.

Source: Espinoza *et al.* (2012).

In Chile, there are no specific legal, budgetary or regulatory provisions that foster purchases from smallholder farmers for the PAE. However, some intersectoral efforts have been made to encourage the development of smallholder producers to provide fruits and vegetables to service suppliers, as in the case of **Chiloé Island** in Los Lagos Region (see also Box 1). Although this was a spot initiative, it provided insights for other cases of HGSF adopted by some of the school feeding service providers, such as the cases of **Valparaíso** and **Bío Bío Regions**. In one region within **Valparaíso** the Cook and Chill plant, which provides food to schools which have no infrastructure for cooking, is purchasing the needed horticultural products from local farmers. While in **Alto Bío Bío**, a public–private partnership is utilizing the structured demand of the PAE as an incentive for farmers to increase their knowledge and to invest in the production of a particular variety of potatoes.

Policy and Legal Frameworks

The PAE is an integral component of the comprehensive national social protection system. The PAE is implemented by JUNAEB which is an autonomous public corporation functionally dependent from the Ministry of Education, created in 1964 through Law No. 15.729 of 1964 (McEwan, 2013; Ministerio de Hacienda, 1964).

Six years after the creation of JUNAEB, in 1970, the Government of Chile also passed Law No. 17.301 of 1970 (Ministerio de Educación Pública, 2004), creating JUNJI which supports free childcare centers for eligible infants and toddlers throughout the country.

The large-scale nutrition programs provided by JUNAEB and JUNJI focus on providing vulnerable children the support they require to succeed in the national education system and are integral components of the national social protection system covering children from birth to adolescence (Espinoza *et al.*, 2012; Winch, 2009).

Institutional Arrangements

At its inception, the PAE was operated entirely by JUNAEB and JUNJI, including administration, hiring and training cooks, and serving meals. However, as the program and institutions grew, it was decided to outsource the school feeding service to private sector companies, while JUNAEB would remain the administering agency.

Currently, as the implementation of the PAE is outsourced to private sector companies, JUNAEB provides the necessary regulatory, monitoring, and quality control along with co-ordination activities. Whilst implementing companies are held accountable through strict regulations and continuous monitoring, JUNAEB is held accountable through the targeting system.

Targeting is constantly monitored by comparing the results with information from the National Socioeconomic Surveys provided by the Ministry of Planning. Therefore, the PAE is continuously tested for validity by determining if the program is indeed reaching the neediest children (Kain *et al.*, 2002).

In terms of multisectoral linkages, Chile currently does not have an institutional framework of co-ordination to include sectors outside of the Ministry of Education. Rather, focus is given to improving the direct services of the private contractors hired by JUNAEB, and considering the quantity, quality and timeliness of service. For this reason, it has not been a priority to take responsibility for the positive externalities that the school catering program in Chile actually generates, including the systematic training of qualified personnel (which include 30,000 cooks working for the PAE) or the design or implementation of a formal HGSF programme.

In addition, the Ministry of Agriculture continues to support the development of smallholder farmers, by focusing on production capacity and not on market side or purchasing power support. This approach is aimed at minimizing the dependency of smallholder farmers on the purchasing capacity of the PAE school feeding service providers.

Funding and Budgeting

In 2010, the Government of Chile made an annual investment in the PAE of approximately US\$450 million (256,801,500,000 CLP),³ for 180 days of annual service at a daily cost of US\$1.13 (644.86 CLP) per ration unit or US\$213 (121,552.71 CLP) per child per year (Espinoza *et al.*, 2012). The cost of the ration varies depending on the educational level to which it is directed (pre-primary, primary and secondary), the levels of nutrients, and the number of services to provide daily. The annual investment in 2012 was approximately US\$624 million (356,000,000,000 CLP), for 192 days of annual service at a daily cost of approximately US\$1.72 (985.36 CLP) per ration or US\$331.52 (189.189 CLP) per child per year (JUNAEB, 2012).

According to the *Rethinking School Feeding* analysis (Bundy *et al.*, 2009), the Government of Chile's investment in school feeding amounted to approximately 7% of the per capita expenditure on primary education, in line with current benchmarks for high- and middle-income countries.

As the school feeding services are outsourced centrally to private companies, all money flows directly from the national government to the implementing company with no money passing through the State or regional government bodies. However, as school feeding service providers are paid per meal served per child, a private contractor based at the school and a designated teacher from the school, monitor and record the daily meal participation of each student and ensure that the pre-identified students receive free meals. At the end of each month, JUNAEB pays the private contractors for the number of meals served in the previous month (Kain *et al.*, 2002).

³Estimates based on US\$1 = 570.67 CLP.

Community Participation

The PAE has historically received strong support from the community. In terms of program delivery, teachers have been involved in the targeting and selection of the free school meal allocations to vulnerable children (Espinoza *et al.*, 2012). This type of engagement at the community level has enabled the program to reach vulnerable children with increasing efficiency (Kain *et al.*, 2002), making program delivery more equitable and overall performance more effective. In some cases, JUNAEB has also supported the capacity building of self-help groups run by community-level stakeholders, often the mothers of vulnerable children targeted by the program, to develop catering services and school feeding service delivery. A number of these micro-enterprises have graduated from State support and are now operating on a free market basis and competing with other service providers in the PAE bidding process.

Evidence of Program Impact

A number of evaluations have been undertaken of the PAE to examine its impact on education outcomes. In terms of targeting, a mixed-methods quasi-experimental evaluation found that 93% of beneficiaries had at least one risk factor⁴ within the targeting criteria (Cornejo *et al.*, 2005). The National Socioeconomic Survey, conducted every two years, has served to verify that the PAE targeting model is in fact reaching school children from poor families and is influencing the equality of access to education in Chile.

As the PAE provides a significant proportion of the daily energy needs, it has given a strong incentive for parents to send their children to school. In fact, school completion has seen noticeable increases in recent years. In 1986, 40% of children in rural areas completed primary education, by 1999 this proportion increased to 70%. It is believed that the PAE has significantly contributed to this increase (Cornejo *et al.*, 2005).

The PAE was also found to reduce absenteeism by 4% and drop out by 3%. It was also estimated that every 100 CLP (US\$0.175) the State invested

⁴Including children: with overcrowded households; mothers as the sole-income provider for the household; household head in low paid employment; mother's education less than 10 years; and who are receiving social security benefit.

annually would generate benefits equivalent to 130 CLP (US\$0.228) in social returns (Cornejo *et al.*, 2005).

Conclusions

Chile has a long history of school feeding with over 60 years of program implementation. As a result, the PAE is well-established within national policy and legal frameworks, with a stable budget and strong accountability systems in place. The PAE is considered an integral component of the comprehensive national social protection system, which covers children from birth to adolescence. Program design and implementation has benefited from decades of sustained investments, progressively increasing program sophistication and strengthening institutional capacity, resulting in remarkable overall improvements in governance, effectiveness, and efficiency.

The Government of Chile has given significant financial commitment to the PAE since its initiation. Their investment has amounted to approximately 7% of the per capita expenditure on primary education, which is in line with current benchmarks for high- and middle-income countries. This sustained financial support has ensured that the PAE has operated consistently for the past 60 years.

National ownership and guidance of the PAE has enabled impressive coverage across the country maintaining similar standards in design and implementation. This is largely the result of strict regulations enforced through the tendering process initiated by JUNAEB, ensuring standardized meal plans. The sophisticated centralized procurement model has enabled the entire supply chain to be outsourced, maintaining standards while increasing cost-efficiency. However, this process has also limited the ability of smallholder producers to compete in a free market environment.

Despite the longevity of the program, intersectoral integration is weak, with almost no linkages to the Agriculture and Health Ministries. There are a few provincial-level exceptions where pilot programs are promoting the use of local agricultural production in the PAE; however, these examples have developed organically and are not supported by any national- or provincial-level policies.

The PAE has historically received strong support from the community. This is particularly true when considering the involvement of the teachers, who are responsible for individual targeting and school-level monitoring of

meal numbers. However, the involvement of the broader community is unclear and seems to differ in each school. There are some examples of community engagement where JUNAEB supports capacity building of self-help groups to engage in the food service delivery process; however, this is not mainstream and differs on a school-by-school basis.

Abbreviations and Acronyms

CLP	Chilean Peso
FAO	Food and Agriculture Organization of the United Nations
HGSF	Home Grown School Feeding
INDAP	Institute of Agricultural Development
JUNAEB	National Board of School Assistance and Scholarships
JUNJI	National Board of Day Care and Kindergartens
PAE	Programa de Alimentacion Escolar
PCD	The Partnership for Child Development
PRODESAL	El Programa de Desarrollo Local
UNU	United Nations University
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from *Chile: Home Grown School Feeding Case Study* (Espinoza *et al.*, 2012) by Manuel Espinoza and Jorge Palma (Latin American School Feeding Network) with contributions from Aulo Gelli (was The Partnership for Child Development [PCD] now The International Food Policy Research [IFPRI]).

This chapter was compiled by Brie McMahon (PCD); reviewed by Alice Woolnough and Cai Heath (PCD) external to Chile; and at the country level by Cristian Martinez (JUNAEB); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by Cristian Martinez former Director of JUNAEB and former Undersecretary of Education, and Francisco Espejo former Director of JUNAEB.

This chapter was reviewed and signed off by JUNAEB in April 2014.

References

- Bundy, D., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*. Directions in Development Series. The World Bank Group, Washington, D.C.
- Catalan, J., Epstein, R., Guajardo, M., Yung, D., Henriquez, L., Martinez, C. and Weintraub, G.Y. (2009). No Such Thing as a Free Lunch? *OR/MS Today*, 32–35.
- Cornejo, A.B., Céspedes, P., Escobar, D.R., Núñez, R., Reyes, G.V. and Rojas, K.V. (2005). *SINAE Sistema Nacional de Asignación con Equidad para Becas JUNAEB. Una nueva visión en la construcción de igualdad de oportunidades en la infancia*. JUNAEB, Santiago. Available from: <http://www.junaeb.cl/estudios> (Accessed 28 October 2014).
- Espejo, F. and Vigil, J. (2010). *Estudios sobre el papel de los Programas de Alimentación Escolar como parte de los Sistemas de Protección Social en América Latina y el Caribe*. WFP, Rome.
- Espinoza, M.A., Palma, J.I. and Gelli, A. (2012). *Chile: Home Grown School Feeding Case Study*. PCD, London.
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- JUNAEB (National Board of School Assistance and Scholarships). (2014). *CIDPAE (Centro de Investigación y Promoción de la Alimentación Escolar) 2013*, First Edition. JUNAEB, Santiago.
- JUNAEB (National Board of School Assistance and Scholarships). (2012). *Official Fiscal JUNAEB Budget 2012*. JUNAEB, Santiago.
- JUNAEB (National Board of School Assistance and Scholarships). (2007). *Balance Internal Management: Year 2007*. JUNAEB, Santiago.
- JUNAEB (National Board of School Assistance and Scholarships). (2005). *SINAE: Sistema Nacional de Asignación con Equidad para Becas*. JUNAEB, Santiago.
- Kain, J., Uauy, R. and Taibo, M. (2002). Chile's School Feeding Programme: Targeting Experience. *Nutr. Res.*, **22**, 599–608.
- McEwan, P.J. (2013). The Impact of Chile's School Feeding Program on Education Outcomes. *Econ. Educ. Rev.*, **32**, 122–139.
- Ministerio de Educación Pública. (2004). *Ley 17.301 de 22-04-1970. Crea Corporación Denominada Junta Nacional de Jardines Infantiles*. Ultima Version de 06-11-2004. Ministerio de Educación Pública, Santiago. Available from: <http://www.leychile.cl/Navegar?idNorma=28904> (Accessed 26 February 2014).

- Ministerio de Hacienda. (1964). *Ley 15.729 de 24-10-1964. Aumenta, por Gracia, laPension de Dona Blanca Candon Bessoain Viuda de Escala*. Ministerio de Hacienda, Santiago. Available from: <http://www.leychile.cl/Navegar?idNorma=236845> (Accessed 26 February 2014).
- New Agriculturalist. (2005) *Country profile — Chile*, July. WREN media, Suffolk. Available from: www.new-ag.info/en/country/profile.php?a=846 (Accessed 26 February 2014).
- Olivares, M., Weintraub, G.Y., Yung, D. and Epstein, R. (2010). *The Design of Combinatorial Auctions for Procurement: An Empirical Study of the Chilean School Meals Auction*. Colombia Business School and University of Chile, Chile.
- PCD. (2014). *School Meals Planner*. [online] HGsf-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 26 February 2014).
- UKTV. (2014). *Basic Cookie Recipe*, by Rachel Allen. The Good Food Channel. Available from: <http://uktv.co.uk/food/recipe/aid/607380> (Accessed 27 February 2014).
- UNDP (United Nations Development Programme). (2011). Human Development Report 2011. Sustainability and Equity: A Better Future for All. UNDP, New York. Available from: http://www.undp.org/content/undp/en/home/librarypage/hdr/human_developmentreport2011.html (Accessed 26 February 2014).
- UIS (UNESCO Institute for Statistics). (2014). *UIS Statistics in Brief Education (All Levels) Profile — Chile*. UIS, Montreal, Quebec. Available from: http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=289&IF_Language=eng&BR_Country=1520&BR_Region=40520 (Accessed 26 February 2014).
- Winch, M. (2009). *Political Will, Equality of Opportunity, and Innovation: Foundations of the Success of the School Feeding Programme in Chile*. Global Child Nutrition Foundation, National Harbor, MD, USA.
- World Bank. (2013). *World DataBank: World Development Indicators — Chile*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 25 February 2014).

Case Study 5: Côte d'Ivoire — *Programme Intégré de Pérennisation des Cantines Scolaires (PIP/CS)*

Country Profile

Population in 2012: 23,202,000 (INS, 2012).

Gross Domestic Product Per Capita in 2012 (US\$): 1,244 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 42 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 94 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2009 (%): 62 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 27 (UNICEF, 2013).

Employment in agriculture (% of total employment): Data unavailable.

Classified as a Low-Income Food-Deficit Country in 2013 (FAO, 2013).

Introduction

Côte d'Ivoire is located in the coastline inter-tropical humid areas of West Africa (Figure 1), with an estimated population of around 23.2 million in 2012 (INS, 2012) and an annual growth rate of around 3% (UNSD, 2013). After four decades of relative economic prosperity, the country experienced political instability and a civil war from 2000 to 2011.

As a result of the crisis, there was a rise of poverty from 38% in 2002 to 49% in 2008 (INS, 2008) and a ranking in 2008 of 163rd out of 182 countries in the Human Development Index (UNDP, 2009). The crisis did not help the education sector either, with only 55% of school-age children attending primary school (59% for boys and 51% for girls; 67% in urban areas and 48% in rural areas) (INS [Côte d'Ivoire], 2007). The adult literacy rate was estimated at only 49% (INS [Côte d'Ivoire], 2007). However, Côte d'Ivoire's education sector has more structural challenges, such as funding,



Figure 1: Map of Côte d'Ivoire by region and in Africa

Source: GADM (2013).

the weak offer of primary education, the quality and equity of services, and system management (PNUD, 2010a).

Côte d'Ivoire's economy is dominated by the agricultural sector, which represents 33% of its gross domestic product, two-thirds of its active population, and 66% of its export products (DNC, PCD, and PAM, 2011). The cocoa–coffee pair accounts for 20% of the gross domestic product which makes a living for approximately 6 million people (DNC, PCD, and PAM, 2011). Nevertheless, the agricultural sector is confronted with numerous structural challenges, such as: the aging of orchards; weak levels of mechanization and research; insufficient means of conservation and transportation; and weak financing mechanisms. Côte d'Ivoire has been involved since 2001 in the Strategic Framework for Poverty Reduction (SFPR) (DNC, 2012), though it still remains an economic driving force for West Africa, with a gross domestic product of 40% of the West African Economic and Monetary Union (Making Finance Work for Africa, 2010).

A United Nations World Food Programme (WFP) food security assessment report (INS, PAM, and FAO, 2009) showed that around 13% of rural households suffer from food insecurity. Multiple indicator cluster survey data showed that, even though globally the level of food insecurity is weak (3%), moderate food insecurity affects 10% of households (INS [Côte d'Ivoire], 2007). Moreover, the global prevalence of stunting is 27% among children who are less than five years of age (UNICEF, 2013). Nationally, 20% of children are underweight, particularly in the northern regions (31%) and the north-western regions (32%) (INS [Côte d'Ivoire], 2007). Nationally, acute malnutrition affects 7% of under-fives in Cote d'Ivoire (11% in the north-east region) and chronic malnutrition affects 39% of children aged 0–59 months in the northern region (Ministry of Health and the Fight against AIDS, INS (National Institute of Statistics), MEASURE DHS and ICF International, 2012).

School feeding in Côte d'Ivoire dates back to the early years after independence in 1960, when adopted by the Côte d'Ivoire Government as a means of achieving universal education. Early programs were supported by parents and also by organizations such as the United Nations Children's Fund (UNICEF). From 1989 to 1998, WFP started to actively support various projects through the government's initiative, the Integrated Programme for the Sustainability of School Canteens '*Programme Intégré de Pérennisation des Cantines Scolaires (PIP/CS)*'. PIP/CS seeks gradual ownership of school

feeding by communities, who are supported and encouraged to own the program over a five-year timeframe by producing and fully supplying their school canteens in light of the progressive withdrawal of WFP.

The *Direction Nationale des Cantines Scolaires* (DNC) is the national school feeding directorate at the Ministry of Education and is responsible for school feeding in Côte d'Ivoire. It oversees implementation and supports the extension of the PIP/CS. The decentralized education departments, the *Direction Régionale de l'Education Nationale et de l'Enseignement Technique* (DRENET) and the *Inspection de l'Enseignement Précolaire et Primaire* (IEP), are locally active, and are mostly involved with community organizations as well as monitoring and evaluation. The close partnership with agricultural farmers, the majority of whom are women, makes the program particularly interesting.

In 2009, 265,000 school children in 2,027 primary schools benefited from the program. The program also allowed 974 agricultural production groups (*Groupements*) (having more than 30,000 members of whom 87% were women), to supply 23% of the needs to canteens during the 2009–2010 academic year. The challenge remains, however, in scaling-up the program nationwide.

Methodology

This chapter is largely drawn from the Côte d'Ivoire case study '*Alimentation Scolaire à base de Produits Locaux: Etudes de Cas*' (DNC, PCD, and PAM, 2011) and provides a global first view of Home Grown School Feeding in the country. Limited primary data was taken from 2008 and 2009 as current data were unavailable due to the civil war. All data (primary and secondary) were collected on a qualitative basis for a non-representative sample. Information was also taken from The Partnership for Child Development (PCD) — Mali, WFP — Mali and Mali Government's joint school feeding mission to Côte d'Ivoire in 2012. Further sources of information were taken from Côte d'Ivoire's National School Feeding Strategy '*Stratégie Nationale d'Alimentation Scolaire en Côte d'Ivoire 2012–2017*' (DNC, 2012) and the WFP food security assessment report (INS, PAM, and FAO, 2009).

Country School Feeding Program Factsheet

Start Date	1989
Design and Implementation	<p><i>Rational/Impact</i></p> <ul style="list-style-type: none"> • To support and strengthen education's access, attendance, retention, gender parity, completion, and success. • To reduce school repetition, drop out and absenteeism. • To support communities, through training and building capacity to boost local production. <p><i>Implementation Levels</i></p> <ul style="list-style-type: none"> • In 2009, 265,000 school children in 2,027 primary schools benefited from the school feeding program. • Agricultural production groups (<i>Groupements</i>) supply the school canteens. <p><i>Supply, Storage and Logistics</i></p> <ul style="list-style-type: none"> • Centralized food procurement, with DNC managing from central level, and with processing and delivery outsourced to local-level actors. <p><i>Modality, Food Basket Details</i></p> <ul style="list-style-type: none"> • One cooked meal served at lunch, composed of cereals, flours, and legumes. <p><i>Food Preparation</i></p> <p>Food preparation is community-based.</p>
Policy and Legal Frameworks Documents	<ul style="list-style-type: none"> • Law No. 95–676 of 7th September 1995 (DNC, PCD, and, PAM, 2011). • 1998 Policy Declaration on Education (DNC, PCD, and PAM, 2011). • <i>Plan National de Développement du secteur Education/Formation (PNDEF) — 1998–2010</i> (MENFB, 1997). • <i>Programme Intégré de Pérennisation des Cantines Scolaires: Programme National — Document de Stratégie (Juillet 1999)</i> (DNC, 1999). • <i>Plan Cadre des Nations Unies pour l'Aide au Développement (UNDAF) 2009–2013: Côte d'Ivoire</i>. (UNOPS, 2008). • <i>Stratégie Nationale d'Alimentation Scolaire en Côte d'Ivoire 2012–2017</i> (DNC, 2012).

(Continued)

(Continued)

Start Date	1989	
Institutional Arrangements	Lead Institution Supporting Institutions	DNC within the Ministry of Education. Ministries of Agriculture, Finance and Health.
Finance	Annual Budget Cost Per Child Per Year	2008: Around 2.5 billion CFA (Communauté Financière Africaine) francs (US\$5 million).* 2008–2009: Approximately 9400 CFA francs (US\$19). School Children bring an additional contribution of 25 CFA francs (US\$0.05) or 100 CFA francs (around US\$0.21) per child per day depending on Zone.
Community Involvement	Supply, contribution (cash and in-kind), and donation to canteens.	
Innovations/Good Practices	A procurement strategy based on agricultural production groups, majority of who are women, are encouraged and supported towards the progressive ownership of the program through the production of local products and for supplying the school canteens.	
Weaknesses/Risks	<ul style="list-style-type: none"> • Nationwide scale-up and financing. • Involvement of local authorities. • Low incentives for agricultural production groups. • Rudimentary agricultural practices. • Access to structured markets needed for the surpluses generated by the agriculture production groups. 	

* Based on an estimated average US\$1 = 500 CFA.

Design and Implementation

Objectives

The “one school, one canteen, one farm group” vision that every school should have a school canteen supplied by a local women’s agricultural production group, is the operational compass developed by DNC with regards to PIP/CS, with the following objectives:

- To support and consolidate access, attendance and maintenance rates in schools, indices of gender parity, and success rates in completing primary schools.
- To reduce academic failures, notably repetition, absenteeism, and drop out.
- To support communities in sustaining school feeding activities, through training and building capacity of agricultural production groups to supply canteens (simplified accounting, functional literacy, associative spirit, and improved agricultural techniques).

Targeting and coverage

Current program targeting prioritizes four Zones:

- Zone 1: Children of elementary public schools in areas where the four indicators¹ are the lowest levels.
- Zone 2: Children of elementary public schools in areas where the four indicators are less than the severe levels.
- Zone 3: Children of elementary public schools in areas where the combination of the four indicators approach acceptable levels.
- Zone 4: Children of elementary public schools in areas where the combination of the four indicators are of normal levels.

A Ministry of Agriculture-initiated survey conducted in 2009 by the National Institute of Statistics in collaboration with WFP and the Food and Agriculture Organization of the United Nations (FAO) formed the basis for

¹Geographical targeting was based on four composite indicators of levels: food insecurity; prevalence of chronic malnutrition; rates of school enrollment; and levels of poverty.

program targeting (DNC, 2012). It was able to define food insecurity levels for the regions, prioritizing those regions with rates higher than the national average. With respect to education, data used were from the SFPR document and database of the National Department for Planning, Evaluation and Statistics (DNC, 2012). The regions were mainly ranked by enrollment, attendance, and completion indicators. The nutrition prevalence was studied from the Ministry of Health and UNICEF's nutrition research, using SMART (Standardized Monitoring and Assessment of Relief and Transitions) Methodology, looking at acute and chronic malnutrition and weight insufficiency. For all of these indicators, the regions with rates worse than the national average were prioritized (MSHP *et al.*, 2008).

In 2008–2009, 265,000 school children in 2,027 primary schools benefited from the school feeding program managed by DNC. Furthermore, 219 primary schools (25,000 school children) were on the path of sustainability under the PIP/CS. As of 2008–2009, Côte d'Ivoire had over 5,900 primary schools with a canteen supported by DNC and other partners like WFP and the Education/Training Support Project (*Projet d'Appui au Secteur Education/Formation*), which accounted for around 56% of all primary schools in the country (UNICEF, 2008).

Modalities, food basket, and nutritional norms

The menus vary according to regions and seasons. The PIP/CS canteens receive foodstuffs from the local production of the agricultural production groups. These are rice, cassava processed into the local cassava flour (*attiéké*) or into paste (*placali*), cassava leaves, maize, vegetables (fresh or dried okra [gombo], eggplant, yam, spinach leaves, etc.), palm oil, palm nut, and dough. Facing the introduction to these local products, notable actions were taken by DNC at the central level; a nutrition service was put in place to work on the design of the rations and to work on the menus according to nutritional values of the different local products and eating habits. The nutrition service, therefore, has useful pedagogical tools necessary to the promotion of food attitudes and doubled with physical activities improve the health of pupils and the community, as well as promoting local foods enriched with micronutrients.

Gingerbread men representing the average daily nutritional content of a sample of two local primary school lunch menus in Côte d'Ivoire's PIP/CS



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40% 40%–100%

- Two local primary school lunch menus were used for the nutrient content calculations and an average was obtained of the nutritional content of the two local primary school lunch menus.
- The raw version of each food item was used in the nutrition content calculations.
- The nutritional value of catfish was used to calculate the approximate nutritional content of the fish served as part of the school lunch menus.
- A banana was taken to be the fruit served in one of the school lunch menus and an orange was taken to be the fruit served in the other school lunch menu.

Source: PCD (2014).

In all canteens visited, the eating habits of children were respected and therefore, the menus were planned out in view of this, which arouses keen interest in the canteens. Tables 1 and 2 illustrate the nutritional contents of two local meals and the recommended nutritional intakes.

Table 1: Nutritional contents of two canteen meals

MEAL ONE		MEAL TWO	
Rice with Groundnut Soup Enriched with Dah Leaves		Fried Rice with Vegetables	
Composition	Grams/ child/day	Composition	Grams/ child/day
Rice	150	Rice	150
Vegetables (Tomatoes, Onions, and Pepper)	50	Vegetables (Tomatoes, Onions, and Pepper)	50
Dry Fish	50	Dry Fish	50
Oil	10	Oil	10
Iodized Salt	5	Iodized Salt	5
Fruit	75	Fruit	75
Groundnut Paste	75	Peas/Beans /Lentils	100
Dah Leaves	25		

Source: DNC, PCD, and PAM (2011).

Table 2: Recommended nutritional intakes

Age Group	Recommended Energy Intake (kilocalories/day)		Recommended Protein Intake (grams/day)	
	Boys	Girls	Boys	Girls
Pupils 4–9 years old	1750	1750	53	53
Pupils 10–12 years old	2190	1950	66	58

Source: DNC, PCD, and PAM (2011).

Food procurement, transportation, storage, and preparation

Within PIP/CS, communities are at the center of procurement, as they are encouraged and supported through the production of agricultural commodities to progressively supply their own canteens. This process extends over five years and is described as follows:

- *Year zero:* Agricultural production groups use their own means of production. Their harvest is generally not significant. The agricultural production groups must cultivate one hectare and produce a minimum of half a

ton without inputs. In the meantime, DNC ensures the supply of the canteens through suppliers,² which deliver products to regional warehouses for the School Management Committees (*Comité de Gestion de l'Ecole*) to take to their respective canteen storehouses. The food preparation is entirely managed by the community.

- *Year one:* Agricultural production groups receive support to improve the agricultural product they have chosen. The training focuses on the co-operative spirit, cohesion, and agricultural techniques. In addition to the technical training provided by private consulting firms or by the national agency for rural development (*Agence Nationale d'Appui au Développement Rural* [ANADER]), DNC's support focuses on the provision of seeds, fertilizers, small toolkits for food, etc. In general, from year zero to year one, production is from 0.5 tons/hectare to 1.5–1.8 tons/hectare. Around 25% of production (cereals) is made available to the canteen from agricultural production groups.
- *Year two:* Agricultural production groups provide 50% of canteen needs and are required to start the livestock component of the project. The group receives various production inputs and training to implement the livestock component. The training also focuses on simplified and customized accounting.
- *Year three:* Around 75% of canteen needs are covered by the agricultural production groups.
- *Year four:* Around 100% of canteen needs are covered by the agricultural production groups.

The share of the production that is not for the canteens is sold on the market or to the suppliers of DNC. DNC commits to purchase the grain at a guaranteed fixed price, thus, protecting agricultural production groups from the price fluctuations in the market. This is important to the agricultural production groups as it gives them a certainty of flow of their production to a secure market. The price is fixed by the central marketing agency (*Direction Centrale du Marché*). In 2010, for example, the set price of rice for the agricultural production groups was 415,000 CFA francs/ton (around US\$830), well above the actual market price, which was between 300,000

²DNC manages this procurement, but with no cash relationships with suppliers (see Funding and Budgeting section).

CFA francs/ton (around US\$600) and 400,000 CFA francs/ton (around US\$800) (DNC, PCD, and PAM, 2011). Revenues generated from the sale to the suppliers and to the market are reinvested by the agricultural production groups for the purchase of seeds. DNC also serves as a guarantor with banks to grant credits to agricultural production groups at lower rates payable after the agricultural season (DNC, PCD, and PAM, 2011).

Policy and Legal Frameworks

In Côte d'Ivoire, school feeding is included in the educational goals of the *Plan National de Développement du secteur Education/Formation (PNDEF) — 1998–2010* (MENFB, 1997), and the *Plan Cadre des Nations Unies pour l'Aide au Développement (UNDAF) 2009–2013: Côte d'Ivoire* (UNOPS, 2008).

To provide strong political support to the education sector and to school feeding, the Government of Côte d'Ivoire initially promulgated Law No. 95–676 on 7th September 1995, relative to teaching. Article 29 of this law stipulates that “in view of facilitating the schooling of children, school canteens can be organized in the preschool institutions and in primary schools” (DNC, PCD, and PAM, 2011).

The Government of Côte d'Ivoire later adopted a Policy Declaration on Education in March 1998, which gave a new orientation to school feeding within the education sector (DNC, PCD, and PAM, 2011). The PIP/CS Strategy in 1999 aimed at directing aid to the profit of the canteens in exchange for putting in place mechanisms for food security, support for training, and providing technical skills for ensuring sustainable income-generating activities to the communities (DNC, 1999).

Finally, the National School Feeding Strategy ‘*Stratégie Nationale d’Alimentation Scolaire en Côte d’Ivoire 2012–2017*’ (DNC, 2012) is a national policy framework document which seeks to tackle the education and nutrition challenges by pursuing the progressive national and local ownership of the management and financing of school feeding. It includes strategic orientation for agricultural production groups and community organizations to sustain the program. It also clearly details the number of school meal days (120 per year), a contribution of 25 CFA francs (around US\$0.05) to 100 CFA francs

(US\$0.21) per pupil per day (depending on Zone), a provision of food stamps to the most needy (about 5% of the beneficiaries), a regular progress follow-up in terms of school participation and retention, and support activities to communities. The Strategy is in line with both the Millennium Development Goals and the Education for All goals; and has an estimated cost of around 139.5 billion CFA francs (around US\$279 million), with plans to provide around 687.2 million meals to approximately 5.73 million school children throughout its five-year phase (DNC, 2012).

Institutional Arrangements

School feeding-related issues are discussed at the education sectoral working group, DNC collaborates with key Ministries (Agriculture and Health) on specific cases and has a quarterly review with WFP. The institutional arrangements for the program also follows the normal co-ordination mechanism of the Ministry of Education, with DNC operating as the central unit, and DRENET (regional level) and IEP (local level) respectively playing regional and local roles through their canteen advisors. These canteen advisors are essential in carrying out DNC's provision of training and orientation to the school management committees, in implementing the program, as well as reporting back to the central level. These canteen advisors also ensure proper monitoring and reporting. At the school level, the program is managed by the canteen manager and the caterer. The canteen manager is a school teacher and the caterer or cook is a female member of the community identified by the canteen manager to prepare the meals for the school children.

The monitoring system looks at the schooling indicators (rate of drop-outs, attendance, output, and primary school cycle completion) from the collection tools elaborated by DNC and data on the supply chain are also captured. Products which arrive at the canteens as part of the PIP/CS are recorded in the monitoring documents and classified according to their origins (donations from agricultural production groups, communities and village associations, as well as other donations). Lastly, financial monitoring is also carried out at all stages of the financing process. Figure 2 illustrates the institutional structure of school feeding in Côte d'Ivoire, from central to decentralized levels.

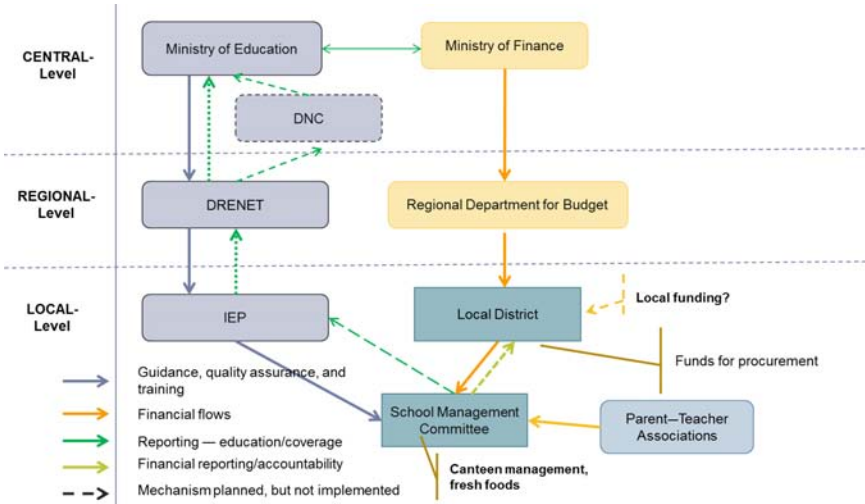


Figure 2: Institutional organization for the PIP/CS

Source: Adapted from DNC, PCD, and PAM, 2011.

Funding and Budgeting

Education is the major priority for the Government of Côte d'Ivoire. In fact, education has always been the highest public spending, reaching close to 307 billion CFA francs (US\$572 million)³ in 2009. Primary education has a greater share (26%) of that budget. Since 2003, Côte d'Ivoire has committed at least 4% of its gross domestic product to its education system. The last estimated budget for school feeding was around 2.5 billion CFA francs (around US\$5 million) in 2008 (Table 3). According to estimates this budget should more than double by 2017 (Table 3) or approximately 9400 CFA francs (US\$19) per child per year. (DNC, 2012). Despite this relatively large education budget, school feeding accounts for less than 1% of the national spending on education (Table 3) (DNC, 2012).

In order to cover the budget, there were other sources of funding additional to government funding, such as assistance from WFP, Japan, the European Union, the World Bank, and the United Nations Development Programme (UNDP). However, sustainability of the program lies with

³Based on an estimated average US\$1 = 500 CFA.

Table 3: Estimated budget for school feeding 2008 and 2017

Description	2008	2017
Total population (in millions)	21.3	28.3
Demographic growth rate (%)	3	3
Per capita gross domestic product (000 CFA francs)	484.5	615.8
Real gross domestic product growth rate (%)	3	6
Total gross domestic product (billion CFA francs)	10,425	17,456.4
Education sector budget as a % of gross domestic product	5	5
Education sector budget (billion CFA francs)	463.6	803.0
Share of national education (%)	75	—
School feeding budget (billion CFA francs)	2.5	5.6
School feeding budget as a % of national education	0.7	0.7

Source: DNC (2012).

Table 4: Source of funding for the National School Feeding Strategy (2013–2017)

Categories	Total (CFA francs)	Share (%)
Co-operatives of agricultural production groups	64,944,279,511	55.54
WFP	16,153,468,948	13.82
World Bank and other partners	14,908,147,750	12.75
Government	13,662,826,552	11.69
Local Governments	7,254,243,410	6.20
Total	116,922,966,171	100

Source: DNC (2012).

co-operatives of production groups, who over the five years are expected to be key (more than 50% of financing) in the implementation of the newly adopted National School Feeding Strategy (Table 4) (DNC, 2012).

As previously illustrated in Figure 2, the Ministry of Finance is allocating a budget to the DNC in charge of channelling funds from central to school level through the regional departments and local points. Though it manages the purchase and procurement, there is no cash relationship between DNC and the suppliers. DNC manages the bidding and provides the Ministry of

Table 5: Projected school meal costs per year (CFA francs)

Year/Zone	2013	2017	Total (2013–2017)
Zone 1	3,223,759,464	3,771,342,604	17,460,921,114
Zone 2	8,118,753,783	9,497,793,610	43,973,789,276
Zone 3	3,685,044,637	4,310,981,013	19,959,390,403
Zone 4	10,725,158,412	12,546,918,376	58,090,917,466
Total	25,752,716,296	30,127,035,603	139,485,018,259

Source: DNC (2012).

Finance with information, who then proceeds to make payments after receiving confirmation of effective deliveries to schools. As stated previously, at the school level, school children bring a contribution of 25 CFA francs (around US\$0.05) to 100 CFA francs (around US\$0.21) per pupil per day (depending on the Zone). The breakdown being: 60% for canteens and 40% for management, distribution, and monitoring fees.

As part of the new Strategy development (DNC, 2012), the annual costs of school meals per Zone were estimated from the basis of the unit cost per meal served. According to that estimate, the yearly cost of school meals is around 27 billion CFA francs (around US\$54 million), and the total cost for the five-year term of the Strategy implementation will be 139.5 billion CFA francs (around US\$279 million) (Table 5). These costs do not take into account other costs, especially community contributions which are around 10 million CFA francs (around US\$20,000), and are mostly designed for food stamps (26%), salaries for canteen managers (20%), expenses for perishables or cooking energies (40%), and other agricultural supports (14%) for procurement (Table 6).

Community Participation

Communities are at the heart of the daily functioning of the canteens, as they are entirely responsible for food preparation, the purchase of perishables, organization of cooks, storage management, and the general maintenance of kitchen and meal areas. Also, given that the real beneficiaries of the activities are the communities in villages around the schools, which according to their

Table 6: Management of financial contributions from communities (CFA francs)

Year	2013	2017	Total (2013–2017)
Food stamps (26%)	2,468,785,788	2,888,130,187	13,371,740,160
Salaries for canteen managers (20%)	1,899,065,991	2,221,638,605	10,285,953,969
Perishables/cooking energies (40%)	3,798,131,982	4,443,277,211	20,571,907,938
Agricultural supports (14%)	1,329,346,194	1,555,147,024	7,200,167,778
Total	9,495,329,955	11,108,193,027	51,429,769,845

Source: DNC (2012).

different compositions (pupils, elders, teachers, parents of pupils, and women groups), gain from the program in terms of capacity building, implementing and managing socio-economic development activities, and improvement of food security and general living conditions. Hence, in the PIP/CS approach, the community participation is essential in allowing:

- Ownership by the community for canteens by providing the supply needs thanks to their own production efforts.
- The success of the program by making it sustainable.
- A change of mentality and behavior in the community, with more and more people with greater understanding on their responsibilities and the means by which wealth can be created for a sustainable community development.

The importance of community participation to the program is demonstrated by the fact that, in the PIP/CS process, the sensitization of communities covers the entire first year of the program. The active participation and engagement of communities, through various cash and in-kind contributions, are essential in order for the program to be truly sustainable (DNC, PCD, and PAM, 2011).

Evidence of Program Impact

According to a 2008 UNDP assessment (PNUD, 2010b) conducted in southern Côte d'Ivoire (then controlled by the government during the civil

war, but the northern half of the country was controlled by rebel groups), bringing a canteen into a school within two years had several educational impacts: a change in enrollment of around 15%; a reduction of half the rates of repetition and drop out; and an increased success rate of 15%. A concrete example was from 2004–2005 to 2006–2007 in the ‘Regions of Mountains’, where the relative difference in successfully finishing the primary education cycle was 77% against 44% (PNUD, 2010b).

The 2008 UNDP assessment also revealed that in schools with a canteen, the attendance rate increased by 90% and gender disparity decreased significantly (from 0.69 to 0.77 indexes of girls/boys, representing 77 girls for every 100 boys in 2009) (PNUD, 2010b). Finally, in a WFP study in 2003, the rate of retention of girls was better in schools with a canteen than in schools without a canteen (96% against 94%) (DNC, PCD, and PAM, 2011). Table 7 allows us to compare the impact of the school feeding program in the years 2008–2009 compared to the official targets and national averages (DNC, PCD, and PAM, 2011).

Besides education, the program has had notable agricultural benefits. The use of modern inputs (i.e. fertilizer, urea, selected seeds, cuttings, and seedlings) and the application of technical themes have allowed agricultural production groups to produce food for canteens and, at the same time, to meet the domestic needs of households and to generate revenue from market sales.

Yields per hectare obtained were generally very good. For instance, agricultural production groups in N’Doumoukro had yields of 1,200–8,000

Table 7: School feeding impacts (targets and national averages) in 2008–2009

Indicator	Target	Results
Rate of attendance	Superior to 95%	97.52
Rate of success	Superior to 50%	65.63
Rate of primary school completion	Superior to 50%	73.27
Rate of drop out	Inferior to 5%	4.44
Girl/boy parity (ratio)	1	0.77

Source: DNC, PCD, and PAM (2011).

Table 8: Evolution of productivity in the village of Andé from 2005 to 2009

Products	2005–2006 (kilograms)	2006–2007 (kilograms)	2007–2008 (kilograms)	2008–2009 (kilograms)
Cassava	2,160	5,000	5,000	1,000*
Yam	303	—	—	—
Rice	550	600	500	5,000
Corn	75	150	150	
Spice	31	32	31	
Squash	240			
Eggplant	200	200	250	
Total	3,559	5,982	5,931	6,000

* Harvesting was taking place when the survey was carried out.

Source: DNC, PCD, and PAM (2011).

kilograms/hectare for rice; 1,100 kilograms/hectare for maize and 5,200 kilograms/hectare for tomato (DNC, PCD, and PAM, 2011). With the mastery of production techniques, quantities of food produced have grown from one year to another as seen in Andé for instance (Table 8).

Moreover, the program brought about several economic and social benefits. In terms of addressing poverty, school feeding in Côte d'Ivoire increased knowledge and built capacity of communities through training and monitoring activities. Smallholder farmers were supported in terms of access to market as well as credit and loan support. Women were promoted, as they were able to work in groups and co-operatives to obtain a greater value of their work, giving them a stronger role in the family and the community.

Conclusions

In addition to the educational benefits (increase in school access, retention, and success), the school feeding program also induced behavioral changes among children who have adopted new habits (hand washing, good eating habits, nutritional, and hygiene practices, etc.). Agricultural production groups were able to enhance local production (adapted to local habits) which

increased the potential for program sustainability. Also, through the agricultural and pastoral activities, agricultural production groups act as agricultural entrepreneurs as they produce, process, and supply local markets. Lastly, community participation has been strongly promoted, as members take more initiatives in relation to the development of their community.

Despite the significant positive results, the program faced several challenges. Among these were institutional gaps such as lack of a framework for the creation and functioning of the agricultural production groups and insufficient mastering of the sustainability concept by the community. Furthermore, the local authorities and the School Management Committees are not highly involved in the program and do not commit sufficiently to the success of the canteens.

Operating challenges included:

- Lack of stable incentives for some agricultural production group members, which sometimes created discouragement, since the spirit of volunteerism is not always developed in communities.
- The production techniques are still rudimentary, low quality of seeds and small sized developed lands and cultivated areas reduced the level of production and productivity of agricultural production groups.
- Despite the presence of ANADER, technical support is still insufficient. This is due to unavailability of technical agents in some areas and issues of co-ordination and work schedules between agricultural production groups and ANADER or technical agents.
- Lack of products and market information and low bargaining power of producers reduced the financial performance of agricultural production groups.

In order to sustain a school feeding program in Côte d'Ivoire, support activities should look at:

- Strengthening the institutional capacity and governance.
- Strengthening the monitoring and evaluation system.
- Strengthening the operational capacity of DNC and local actors, especially for the agricultural part of the program.

- Improving the technical skills in terms of animal production, marketing of agricultural products, and co-operative management and accounting.
- Introducing advanced agricultural technology and equipment (e.g. tractors and irrigation pumps, etc.) and supporting the functional literacy of agricultural production group members.
- Developing a mechanism for procurement, storage and processing in order for local producers to better supply school canteens.

Abbreviations and Acronyms

ANADER	Agence Nationale d'Appui au Développement Rural
CFA	Communauté Financière Africaine
DNC	Direction Nationale des Cantines Scolaires
DRENET	Direction Régionale de l'Education Nationale et de l'Enseignement Technique
FAO	Food and Agriculture Organization of the United Nations
IEP	Inspection de l'Enseignement Préscolaire et Primaire
PCD	The Partnership for Child Development
PIP/CS	Programme Intégré de Pérennisation des Cantines Scolaires
PNDEF	Plan National de Développement du secteur Education/Formation
SFPR	Strategic Framework for Poverty Reduction
SMART	Standardized Monitoring and Assessment of Relief and Transitions
UNDAF	Plan Cadre des Nations Unies pour l'Aide au Développement
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from: the Côte d'Ivoire case study '*Alimentation Scolaire à base de Produits Locaux: Etude de Cas*' developed by DNC with

support from PCD (DNC, PCD and PAM, 2011); Côte d'Ivoire's National School Feeding Strategy '*Stratégie Nationale d'Alimentation Scolaire en Côte d'Ivoire 2012–2017*' developed by DNC (DNC, 2012); and the WFP food security assessment report (INS, PAM, and FAO, 2009).

This chapter was compiled by Amadou Sekou Diallo (PCD, Mali); reviewed by Alice Woolnough and Cai Heath (PCD) external to Côte d'Ivoire and at the country level by Rachel Pierre (WFP, Côte d'Ivoire); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

This chapter was written in consultation with the DNC, Ministry of Education.

References

- DNC. (2012). *Stratégie Nationale d'Alimentation Scolaire en Côte d'Ivoire 2012–2017*. Ministère de l'Education Nationale et de l'Enseignement Technique, DNC, Abidjan.
- DNC. (1999). *Programme Intégré de Pérennisation des Cantines Scolaires: Programme National — Document de Stratégie (Juillet 1999)*. Ministère de l'Education Nationale et de l'Enseignement Technique, DNC, Abidjan.
- DNC, PCD and PAM. (2011). *Alimentation Scolaire à base de Produits Locaux: Etude de Cas*. Programme Intégré de Pérennisation des Cantines Scolaires en Côte d'Ivoire. PCD, London.
- FAO. (2013). *FAO Country Profiles. Low-Income Food-Deficit Countries (LIFDC) — List for 2013*. FAO, Rome. Available from: <http://www.fao.org/countryprofiles/lifdc/en/> (Accessed 11 December 2013).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/>
- INS (National Institute of Statistics). (2012). *Quelques Indicateurs Clés de l'Economie*. INS, Abidjan. Available from: <http://www.ins.ci/n/>
- INS (National Institute of Statistics). (2008). *Enquête sur le Niveau de vie des Ménages de Côte d'Ivoire 2008*. INS, Abidjan.
- INS (National Institute of Statistics) [Côte d'Ivoire]. (2007). *Enquête par Grappes à Indicateurs Multiples 2006*. INS, Abidjan. Available from: http://www.childinfo.org/files/MICS3_GuineaBissau_FinalReport_2006_Fr.pdf (Accessed 11 December 2013).

- INS (National Institute of Statistics), PAM and FAO. (2009). *Evaluation Approfondie de la Sécurité Alimentaire des Ménages Ruraux en Côte d'Ivoire: Rapport Final*. PAM, Rome and Bureau de Pays, Côte d'Ivoire. Available from: <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp214963.pdf> (Accessed 11 December 2013).
- Making Finance Work for Africa. (2010). *Côte d'Ivoire: Financial Sector Profile*. Available from: <https://www.mfw4a.org/cote-d-ivoire/financial-sector-profile.html> (Accessed 20 December 2013).
- MENFB (Ministry of National Education and Basic Training). (1997). *Plan National de Développement du secteur Éducation/Formation (PNDEF) — 1998–2010*. Organisation internationale du Travail (OIT), Abidjan.
- Ministry of Health and the Fight against AIDS, INS (National Institute of Statistics), MEASURE DHS and ICF International. (2012). *Demographic, Health and Multi-Indicators Survey 2011–2012 (EDSCI III)*. Ministry of Health and the Fight against AIDS, Abidjan.
- MSHP (Ministère de la Santé et de l'Hygiène Publique), PNN (Programme National de Nutrition), PAM and UNICEF. (2008). *Rapport d'enquête de nutrition SMART Nord de la Côte d'Ivoire et zone périurbaine d'Abidjan*. Juillet 2008. MSHP, PNN, PAM and UNICEF, Abidjan.
- PCD. (2014). *School Meals Planner*. [online] HGsf-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 31 March 2014).
- PNUD (Programme des Nations Unies pour le Développement). (2010a). *Les Progrès dans la Réalisation des OMD en Côte d'Ivoire*. PNUD, Bamako.
- PNUD (Programme des Nations Unies pour le Développement). (2010b). *Evaluation du Programme PIP/CS*. République de Côte d'Ivoire, Abidjan.
- UNDP. (2009). *Human Development Report 2009. Overcoming Barriers: Human Mobility and Development*. UNDP, New York. Available from: http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf (Accessed 11 December 2013).
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 21 November 2013).
- UNICEF. (2008). *Education Statistics: Cote d'Ivoire*. Division of Policy and Practice, Statistics and Monitoring Section, UNICEF, New York. Available from: http://www.childinfo.org/files/WCAR_Cote_d_Ivoire.pdf (Accessed 29 November 2013).
- UNOPS (Bureau des Nations Unies pour les Services d'Appui aux Projets). (2008). *Plan Cadre des Nations Unies pour l'Aide au Développement (UNDAF) 2009–2013: Côte d'Ivoire*. UNOPS, Copenhague. Available from: <https://extranet.who.int/nutrition/gina/fr/node/8470> (Accessed 11 December 2013).

UNSD (United Nations Statistics Division). (2013). *Country Profile: Côte d'Ivoire*. United Nations Statistics Division, New York. Available from: <http://data.un.org/CountryProfile.aspx?crName=C%C3%B4te%20d%27Ivoire> (Accessed 11 December 2013).

World Bank. (2013). *World DataBank: World Development Indicators — Côte d'Ivoire*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 11 December 2013).

Case Study 6: Ecuador — School Food Program

Country Profile

Population in 2013: 15,737,878 (World Bank, 2013).

Gross Domestic Product Per Capita in 2013 (US\$): 5,720 (World Bank, 2013).

Population ages 0–14 years in 2013 (% of total): 30 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 114 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2012 (%): 95 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011: Data unavailable.

Employment in agriculture in 2012 (% of total employment): 28 (World Bank, 2013).

Introduction

With a gross domestic product per capita of US\$5,720 in 2013,¹ Ecuador is a medium-income country (Figure 1) of over 15 million inhabitants (World Bank, 2013). These figures, however, mask important income and social inequalities.

Although Ecuador is self-sufficient in most food products, and the agriculture sector represents 11% of the domestic product in 2008, multiple inequities affect nutrition and food security (WFP and PCD, 2012). Ecuador faces one of the highest rates of chronic malnutrition in Latin America. While the national prevalence of chronic malnutrition is 22% for children under-five in 2012, these rates reach 50% in the mountain provinces of Bolivar, Chimborazo and Cotopaxi (República del Ecuador, 2012). The national prevalence of anaemia among children under-five is almost 60% (INEC, 2011). The prevalence of parasites in rural areas is 70%–80%, in part because there is no national deworming program (INEC, 2011).

Food and nutritional insecurity are a result of various factors. Around 29% of Ecuadorian households live in poverty and this number reaches to 51% in rural areas (INEC, 2011). A survey carried out by the United Nations World Food Programme (WFP) in 2010 reveals that households

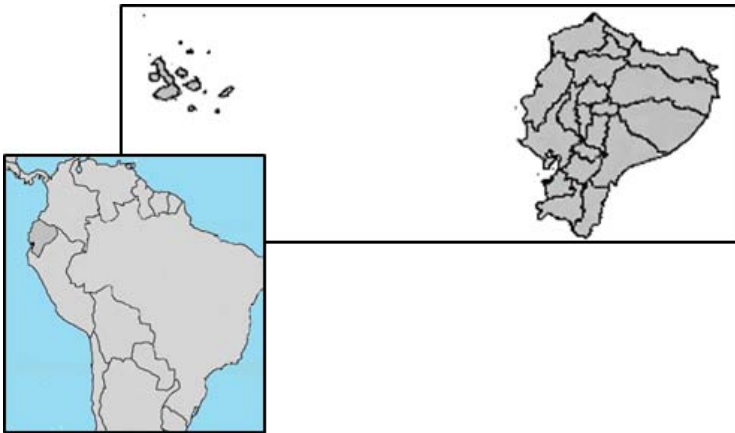


Figure 1: Map of Ecuador by region and in South America

Source: GADM (2013).

¹The Ecuadorian economy has been dollarized since 2000.

have inadequate food consumption practices and little diversity in their diet (WFP and PCD, 2012). In addition, overweight problems in the Ecuadorian population are emerging: according to a study carried out by the Ministry of Social Development on school children in grades 6–10 in the Metropolitan District of Quito, there is an overweight prevalence of 19% and an obesity prevalence of 8% (Vinueza, 2011). In the school year 2009–2010, an estimated 10% of school-age children did not attend school, and seven out of ten students do not continue to the last three years of basic general education (grades 7–10) (PREAL, 2006). The dropout rate was 4%, according to the Ministry of Education official figures.

In this context, the current Ecuadorian Government has put special emphasis on the development of an inclusive social policy and in the consolidation of food assistance programs such as school feeding. In 2011, the School Food Programme received more resources than ever before in its history (US\$70 million). The School Food Program is, moreover, protected by legal regulation and has been declared a priority project.

The program is an example of an efficient centralized program operated in a standardized manner across the entire country. In 2011, the School Food Program provided a nutritious breakfast to 1,788,414 boys and girls from pre-primary to grade 10 of basic general education enrolled in State, municipal and public-religious beneficiary schools.²

School feeding was initiated in Ecuador in the eighties with support from WFP and the United Nations Development Programme (UNDP). In 1989, a unit in the Ministry of Education was created to handle the breakfast program in a more formal and sustained way, which served school children in targeted public primary schools. In 1999, the School Food Program was formally created by means of Ministerial Agreement No. 1960 (República del Ecuador, 1999), as an autonomous program. WFP and UNDP contributed resources and technical support to the School Food Program until 2009, when the government assumed full management of the program. From 1999 to 2009, besides breakfast, the School Food Program delivered ingredients for the preparation of a school lunch. The lunch was eliminated with the

²State schools are managed by the Ministry of Education. Public-religious schools are administered by religious institutions, mainly the Catholic Church, and receive funding from the State and work under the supervision of the Ministry of Education.

intention to extend the breakfast coverage and to achieve universalization by 2013. Since 2010, the School Food Program delivers a nutritious breakfast daily to children in pre-primary and basic general education schools. In addition to the breakfast, a snack is also provided in urban-marginal public schools.

The School Food Program is managed by the Ministry of Education. It has an executing arm, the Food Provision Program, which is the institution responsible for buying the food for all food assistance programs of the Ecuadorian Government and was, until 2012, part of the Ministry of Economic and Social Inclusion.³

The School Food Program defines its budget each year based on the food purchases needed for the program (Figure 2). It is also responsible for program monitoring and follow-up. The Food Provision Program administers the purchase orders at the central level, through a process of public purchases clearly defined and regulated.

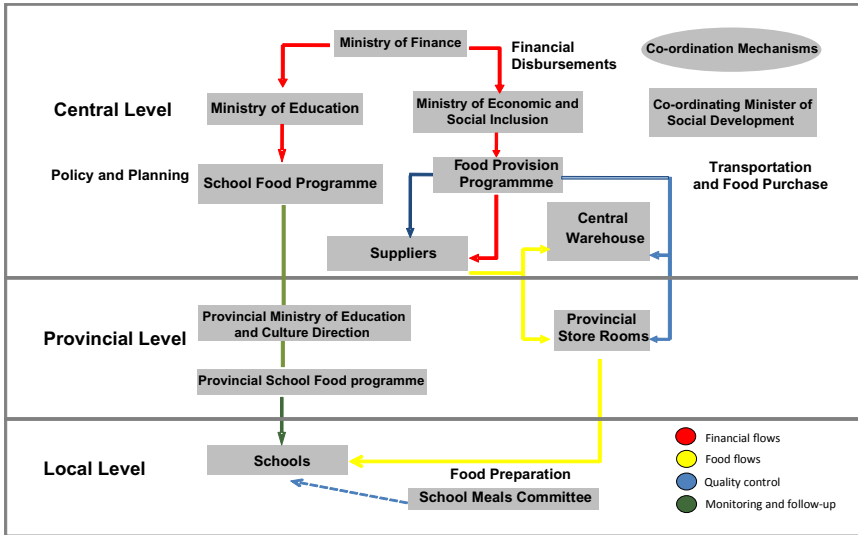


Figure 2: Ecuador's School Food Program flow

Source: WFP and PCD (2012: p. 10).

³The Food Provision Program has become the Institute for Food Provision, which is attached to the Ministry of Agriculture.

Methodology

This chapter provides an overview of the School Food Program in 2011 and is drawn from the comprehensive case study conducted in 2012 (WFP and PCD, 2012).

Data involved both primary and secondary sources. Primary sources involved: interviews with key informants and beneficiaries; and focus group discussions conducted in seven representative provinces: Azuay, Carchi, Cotopaxi, Esmeraldas, Santa Elena, Sucumbíos, and Tungurahua. Secondary sources involved: interviews with the Ministry of Education for the School Food Program and with the Ministry of Social and Economic Inclusion for the Food Provision Program; studies related to the School Food Program; documents provided by WFP; and publications on the internet. The findings from both primary and secondary sources were shared and validated by key stakeholders during a workshop held in Quito in April 2012.

Design and Implementation

The Ecuador School Food Program is an example of a well-functioning, standardized program operated at the central level that is being progressively scaled up to reach universal coverage. The main objective of the School Food Program is educational as it seeks to improve school attendance and children's learning capacity, and to reduce the rates of repetition and dropout. However, it provides quality products of high nutritional value. The supply chain for the program is administered by the Food Provision Program following clearly established processes based on the protocols set out by WFP in previous years and in current legislations on public purchases (see Policy and Legal Frameworks).

Objectives

The general objective of the School Food Program is:

“... to contribute to the improvement of the quality and efficiency of pre-primary and basic general education through the delivery of a food supplement.” (WFP and PCD, 2012).

Country School Feeding Program Factsheet

Start Date	1999	
Design and Implementation	<i>Rational/Impact</i>	General objective: Contribute to the improvement of quality and efficiency of pre-primary and basic general education through the delivery of a food supplement. Specific objectives: Improve school attendance in poverty affected areas; reduce repetition and dropout rates and improve student's learning capacity in beneficiary schools.
	<i>Implementation Levels</i>	In 2011, the School Food Program reached 1,788,414 school children from pre-primary to grade 10 of basic general education (3–14 years old) attending rural and urban-marginal public schools (89% of children registered in eligible schools).
	<i>Supply, Storage, and Logistics</i>	The Central Government, through the Food Provision Program, buys and delivers food to schools.
	<i>Modality, Food Basket Details</i>	<ul style="list-style-type: none"> • Breakfast for pre-primary and basic general education schools, providing respectively 300 and 395.8 kilocalories per day. • In addition, 200 millilitres of flavored long life milk in urban-marginal public schools.
	<i>Food Preparation</i>	Meals are prepared either by families, teachers or paid staff. <ul style="list-style-type: none"> • 2008 Constitution of Ecuador (Asamblea Constituyente, 2008). • Organic Law of Intercultural Education (Órgano del Gobierno del Ecuador, 2011). • Public Contracting National System Organic Act (Compras Públicas Instituto Nacional de Contratación Pública, 2008). • Food Sovereignty Regime Organic Act (Órgano del Gobierno del Ecuador, 2009). • National Plan of the Good Living (2009–2013) (SENPLADES, 2009). • Draft Nutrition Action Strategy (República del Ecuador, 2012). • Ministerial Agreement No. 1960 of 1999 and Ministerial Agreement No. 263 of 2005 (República del Ecuador, 1999; República del Ecuador, 2005).
Policy and Legal Framework Documents		

Institutional Arrangements	Lead Institution	Ministry of Education.
	Supporting Institutions	Ministry of Economic and Social Inclusion for the Food Provision Program (until 2012).
Finance	Annual Budget	The budget in 2011 was US\$70 million, which represents 17% of the Ministry of Education's budget. All funding resources come from the Ministry of Education.
	Cost Per Child Per Year	2011 average: US\$40.
Community Involvement		Communities participate through School Feeding Committees, organizing distribution, and preparation. In addition, many communities complement the products provided by the School Food Program.
Innovations/Good Practices		<ul style="list-style-type: none">• The School Food Program delivers a high portion of nutritional needs to almost all school children at a reasonable cost. Largely possible because of the State institution — the Food Provision Program, dedicated exclusively to food procurement and to the administration of logistical services.• The information system, which tracks food transport and storage in real-time, has allowed optimizing the efficiency of the program.
Weaknesses/Risks		The products distributed are mainly imported commodities that do not promote food sovereignty and require expensive processing.

The specific objectives of the School Food Program involve:

- Improving school attendance in areas affected by poverty.
- Reducing the rates of school repetition and desertion in beneficiary schools.
- Improving learning capacity (attention, concentration, and retention).

The complementary objectives of the School Food Program are to promote and support:

- The nutrition of both boys and girls.
- The community participation in the educational process.

Targeting and coverage

In 2011, the program reached 1,788,414 boys and girls from pre-primary to grade 10 of basic general education, covering 89% of students registered in the public educational system in rural and urban-marginal areas. In 2010–2011, the beneficiaries increased with the inclusion of grades 8–10 and pre-primary school children (3–5 years old). A summary of the coverage by modality of school diet is shown in Table 1.

Since 2012, urban public schools have also been covered. The School Food Program is expected to continue expanding its coverage until it reaches universal coverage of State, municipal and public-religious schools in 2013 (an estimated 2.7 million school children).

Modalities, food basket, and nutritional norms

Since 2010, there are three modalities of school meals: breakfast for basic general education school children (the most widespread); breakfast for

Table 1: Summary of coverage by modality in 2011

Modality	Participants
Pre-primary Education Breakfast	63,871
Basic General Education Breakfast	1,375,082
Snack	349,461
Total	1,788,414

Source: WFP and PCD (2012).

Gingerbread men representing the average daily nutritional content of a sample of five daily school breakfast menus in Ecuador's School Food Program



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40% 40%–100%

- Five daily school breakfast menus were used for the nutrient content calculations and an average was obtained of the nutritional content of the five school breakfast menus.
- A detailed case study of the school feeding program in Ecuador (WFP and PCD, 2012), containing the nutritional values of all the food items on a reference weekly school feeding menu was used in the nutrition content calculations.
- The data on the vitamin A content of the foods on the menu was available in International Units. This was converted into micrograms of retinol using the conversion factor 1 International Unit of Vitamin A = 0.3 micrograms of retinol (FAO, 1968; FAO and WHO, 1967).

Sources: PCD (2014) and WFP — Ecuador (2014).

pre-primary school children; and a snack for urban-marginal public school children. The price of each modality differs. According to the School Food Program, the average food cost budgeted per day per child is US\$0.23 in basic general education school, and US\$0.15 in pre-primary school. The total average cost per year, based on actual expenditures, was estimated at US\$40.4 per child in 2011.

The breakfast for school children in basic general education provides on average 395.8 kilocalories, which corresponds to 85% of the calories required

in that meal, according to the recommendations by the Food and Agriculture Organization of the United Nations (FAO) (FAO, 2001). In the last five years, the food basket has progressively diversified and its nutritional quality improved. It currently includes a combination of two or more of the following foods: fortified drink composed of wheat flour and soy, granola in flakes, cereal bar and four types of biscuits. The School Food Program is exploring opportunities to replace these components with ground rice and beans.

In addition to the school breakfast, 100 urban-marginal public schools receive a snack which consists of 200 millilitres of flavored ultra-heat treated (long life) milk. Since 2010, pre-primary school children receive a breakfast which provides 300 kilocalories consisting of 35 grams of fortified drink and 30 grams of a fortified filled biscuit.

The breakfast should be served as soon as children arrive at school. In some exceptional cases, the mix for the fortified drink is distributed to parents, who prepare this at home for their children to drink at school.

Food procurement, transportation, storage, and preparation

Program management is centralized and guided by established processes. The School Food Program Unit at the central level administers the information system and generates: the purchase orders (that are sent to the Food Provision Program); the food delivery/reception notes (sent to the provincial offices of the School Food Program); and the schools delivery/reception notes. These are all issued with the information provided by each provincial office.

Since 2009, food procurement is fully managed by the Food Provision Program at the central level. It originates with the purchase orders issued by the School Food Program and is performed through a process of public purchases defined and regulated by the Institute of Public Services. The Food Provision Program handles the following six food purchase modalities, through an information technology system for public purchases: inverse auction; review of electronic catalogue; processes of quotation; purchases of smaller amounts; purchases of negligible amounts; and inclusive fair. According to the national co-ordinator of the Food Provision Program, around 90% of purchases for the School Food Program are carried out through the inverse auction. This is because most of the products that the School Food Program requires are produced by large companies that use

costly machineries. In the inverse auction modality, the food commodity specifications and a reference price are published in the system. Registered suppliers that meet the conditions can apply. Once they are approved, they make a financial offer of at least one cent less than the reference price. The tender is granted to the lower proposal, with priority given to micro, small and medium-sized enterprises.

In 2011, a total of 36 suppliers were contracted. The largest companies were contracted to prepare the processed food, since these require expensive technology inaccessible for small industries. The granola, on the other hand, uses a more accessible technology and therefore, allows participation of micro and small businesses. According to the highest authority of the Food Provision Program, the types of food basket generate access barriers to new producers, causing an oligopoly where eight companies benefit from 80% of purchases. Around 20% of the supplier companies are small, and manufacture the granola.

Quality control is also sub-contracted to private companies through a tendering process, and performed at the level of suppliers producing plants.

Once the product leaves the provincial warehouses it is transported to the schools (Figure 3). The program needs around 20 suppliers of intra-provincial transportation to be able to reach the final establishments. The School Food Program provincial officials accompany all the deliveries to

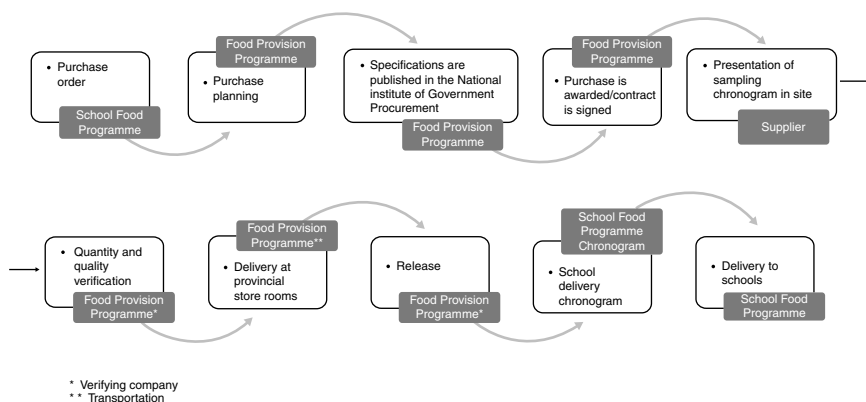


Figure 3: Plan of acquisition and delivery of food

Source: WFP and PCD (2012).

schools. All the food deliveries are tracked through the General Information of School Administration System (*Sistema de Información General de Administración Escolar* [SIGAE]) managed by the School Food Program.

The most important considerations for the School Food Program are quality assurance, cost and the nutritional value of the ration.

The School Food Program at the provincial level provides information about the beneficiaries (schools and students), accompanies the delivery of the food, verifies the conditions in which these are stored in all schools and their proper use, trains teachers and parents in the food preparation and distribution, and carries out monitoring and follow-up.

For a school to become eligible, it must form a School Feeding Committee (*Comisión de Alimentación Escolar*) comprised of parents and teachers. This School Feeding Committee is formalized through the signature of an Act, in which its members commit to the proper use of the food provided and to complement it. An agreement of co-operation is then signed with the School Food Program, where the responsibilities of the parties are defined. The teachers play a key role in the organization of the food preparation and distribution.

Links with local food production, smallholder farmers and local communities

Until 2012, the School Food Program had not favored the incorporation of commodities of national or local origin. Around 80% of the purchases are made to a few large companies and more than half of the commodities are imported. Products such as beans, rice, corn, and quinoa, are the means of living for a great percentage of the rural local economy, and could be included in the content of new products for the school breakfast.

According to the Ecuadorian Government objectives and current legal regulations, there is clear intention to link the School Food Program to local agriculture through local purchases (WFP and PCD, 2012). Though the current public purchase policy is directed to small producers' organizations in the acquisition of food, there is a need to improve the organization of production and marketing. Training and technical support are necessary to obtain products with the required quality and to include organizations that comply with the necessary legal requirements to supply the State.

The Food Provision Program has made some attempts in the past to link small producers to its purchases through mechanisms such as inclusive fairs. In practice, this process has only been carried out with primary products such as beans, rice and unrefined whole cane sugar (*panela*). For the case of milk provision, the linking of small producers has been indirect. It occurs through the delivery of the product from producers to the pasteurizing business El Ordeño.

However, the breakfast is composed of highly processed food products, and most of the commodities that are used to make them are mainly imported. The School Food Program is looking at opportunities to diversify the food basket to include local products such as rice and beans. It is also working on a new formula for a fortified drink that includes quinoa, rice, and barley that already has acquired health registration. Nevertheless, it could not be produced in 2012 due to an insufficient availability of quinoa.

The Food Provision Program also plans to carry out local purchases of perishable products through the Autonomous Decentralized Governments as a strategy to vary the diet of the school breakfast and to link the program with small- and medium-scale producers.

Although the relationship between the Food Provision Program and the Ministry of Agriculture, Aquaculture, Stockbreeding and Fishing (MAGAP) has not been formal, these two institutions have worked on specific matters. At present, the Food Provision Program is initiating contact with the Directorate of Marketing at MAGAP to calculate production costs that will allow the Food Provision Program to set support prices.

Policy and Legal Frameworks

The School Food Program has a strong legal framework in Ecuador; it is framed in the 2008 Constitution of Ecuador⁴ (Asamblea Constituyente, 2008) and in different laws, decrees and agreements that give support to its agenda.

The 2008 Constitution of Ecuador is a central element in the promotion of policies, programs and social projects through which the State guarantees the rights of all citizens, including those related to nutrition. Article 13

⁴Articles 3, 13, 44, and 66.

establishes that people and communities have a right to safe and permanent access to healthy, sufficient and nutritious food, preferably produced at the local level and in correspondence with their diverse identities and cultural traditions (Asamblea Constituyente, 2008).

A key document is the Organic Law of Intercultural Education (*Ley Orgánica de Educación Intercultural*), which defines the School Food Program as a free service to be provided by the Ministry of Education and a right of each child that attends State, municipal and public-religious schools (Órgano del Gobierno del Ecuador, 2011).

In the last six years, all the national food programs have been consolidated as part of the objectives of the National Plan of the Good Living. (2009–2013) (*Plan Nacional para el Buen Vivir 2009–2013*) (SENPLADES, 2009). All the policies, programs and public projects are held to this Plan, as well as the programing and execution of the State's budget. A Social Agenda was established for 2009–2011 by the Ministry of Social Development; it intends to consolidate the efforts already initiated in education, health, housing, protection, and social inclusion sectors. Among the main policies that it establishes are those related to food and nutrition programs, especially the universalization of free, quality educational services through the School Food Program.

The School Food Program is also part of the multisectoral Draft Nutrition Action Strategy (*Estrategia Acción Nutrición*), of which the objective is to improve the nutritional status of the population, with a focus on pregnant women and children under-five (República del Ecuador, 2012).

The Food Provision Program, in charge of food procurement for the School Food Program, is also regulated by a large number of legal instruments. In 2008, the Public Contracting National System Organic Act (*Ley Orgánica del Sistema Nacional de Contratación Pública R.O. 395*) (Compras Públicas Instituto Nacional de Contratación Pública, 2008) prohibited public sector companies from contracting through third parties, intermediaries, delegates or procurement agents. This is why WFP pulled out in 2008. The Act provides the legal justification for the creation of the Food Provision Program, as an autonomous entity attached to the Ministry of Economic and Social Inclusion in charge of food procurement for all the food and nutrition programs of the Ecuadorian State, with the mission of promoting the purchase of national products and generating efficient methods of social and economic inclusion.

The mission of the Food Provision Program is aligned to Articles 281 and 288 of the 2008 Constitution of Ecuador (Asamblea Constituyente, 2008) and the national policies defined in the National Plan of the Good Living (2009–2013) (*Plan Nacional para el Buen Vivir 2009–2013*), where policy 11.2 of this Plan indicates that the public purchases should give priority to rural and urban associative suppliers, particularly to women and groups of priority (SENPLADES, 2009). The mission of the Food Provision Program is also based on the Food Sovereignty Regime Organic Act (*Ley Orgánica del Régimen de la Soberanía Alimentaria*) and indicates that in its program of public purchases the State should give preference to micro, small and medium producers and agro-ecologic producers (Órgano del Gobierno del Ecuador, 2009).

Institutional Arrangements

Since its formal creation in August 1999, under Ministerial Agreement No. 1960 of 1999 (República del Ecuador, 1999), the School Food Program has been administered by the Ministry of Education. It is now institutionalized as part of the Ecuadorian public institutional architecture. This is evidenced by Ministerial Agreement No. 263 of 2005 (República del Ecuador, 2005) which grants the School Food Program with administrative, technical, operating and financial independence.

Important changes in the program set up took place in 2010 as the Ministry of Education was restructured and all the functions under the responsibility of the United Nations agencies were transferred to the Government of Ecuador. The School Food Program is now part of the Undersecretariat of School Administration in the Ministry of Education. One of its main strengths is the inclusion of quality personnel, who are constantly trained and have remained stable over the years. Nevertheless, it is insufficient to cover the undersecretary's new assigned responsibilities. In 2011, the Undersecretariat of School Administration had a budget of US\$706,000 (1% of the total amount allocated for food purchases) for the personnel of the two departments that handle the School Food Program and, since 2011, two other programs: Free School Uniforms and School Textbooks (64 employees in Quito and Guayaquil). This has resulted in an overload of work and it is estimated that an additional 25% increase in personnel would be required

during the first six months of the year (when the two additional programs are implemented) to improve the operation's efficiency.

In each of the 24 provincial departments of the Ministry of Education, a division of school administration includes personnel responsible for the local implementation of the School Food Program and the other programs handled by the Undersecretariat of school administration.

The School Food Program does not have its own infrastructure. The central and provincial offices belong to the Ministry of Education or have been rented. Among the difficulties found by the School Food Program co-ordinators at the provincial level are a lack of dedicated vehicles that would allow them to supervise the beneficiary schools, as many of them are difficult to access.

The Food Provision Program, located within the Ministry of Economic and Social Inclusion, carries out the purchases of all government food programs since 2009 and therefore administers purchases for the food and related services, such as transportation and storage, required by the School Food Program. Its goal is dual: secure the supply of food and related services to the national food programs; and to promote social and economic inclusion through the inclusion of smallholder producers. Although it is new, it is recognized as an efficient entity. To date, the program has been handled in a centralized way, in Quito, and there are no regional offices.

The Ecuadorian Government is currently analyzing the possibility that the Autonomous Decentralized Governments can carry out perishable food purchases that complement the school breakfast and that allow the inclusion of small producers into the public purchases' system. In turn, the Food Provision Program has amongst its plans contracting personnel at the regional level, with the purpose of decentralizing the purchases, to reduce the logistic costs and to acquire local products.

The School Food Program has to co-ordinate its purchases and logistic requirements with the Food Provision Program. It sends the Food Provision Program a food purchase order in which it establishes the quantity of required product by province and the final delivery date. This serves as a base for the Food Provision Program planning. One of the main weaknesses is the scarce technical co-ordination between the School Food Program and the Food Provision Program, and with other entities of the State. The teams of each entity meet regularly to co-ordinate the operational aspects of the program, but there is no co-ordination strategic level.

The only real area of multisectoral co-ordination on food and nutrition, evidenced particularly at the local level, is the Draft Nutrition Action Strategy (*Estrategia Acción Nutrición*), led by the Ministry of Social Development (República del Ecuador, 2012). The School Food Program has worked with the Ministry of Agriculture to establish school gardens as part of the Draft Nutrition Action Strategy activities (República del Ecuador, 2012). However, it has co-ordinated little with the Ministry of Health: the only joint action was a deworming campaign performed around six years ago. At present, no deworming program exists at the national level in Ecuadorian public schools.

The Food Provision Program has managed to work more closely with the Ministry of Agriculture, thanks to the will of the current authorities, and not because of an institutionalized mechanism. It has co-ordinated actions for the purchase of sugar. In the past, it had worked with the Agrarian Revolution Schools to validate the suppliers' specifications through technical inspections in the field, but this collaboration did not work. In some provinces regional governments or non-governmental organizations provide direct support for school infrastructure, for the provision of school lunches (through direct delivery of food), and training in nutrition and hygiene. But in the seven provinces, selected here for primary data collection, these actions are not co-ordinated through the School Food Program.

Monitoring and evaluation

To monitor the School Food Program, the Undersecretariat of School Administration has been using the information system SIGAE since 2010. The SIGAE was born from the former information system implemented by the School Food Program from 2002 through the UNDP (*Sistema Información Programa Alimentación Escolar*), which was expanded to handle information for the whole undersecretariat because of its success. As the SIGAE is online, the data can regularly be updated providing information in real-time supplied by transporters and provincial program co-ordinators which tracks food transport and storage. As a result of this, the SIGAE is considered to be a success, as it optimizes the efficiency of the School Food Program.

The Food Provision Program has an information management system for the logistical aspects (from the moment the food enters the warehouses), independent of the SIGAE. The Food Provision Program is currently

working on obtaining data from the suppliers' purchases, to track the whole process in an integrated way.

The School Food Program officials monitor the program. They carry out visits, on average 3,000 visits per year, to a pre-selected group of beneficiary schools and complete a monitoring sheet. Based on the data collected in each school, the figures are revised and are classified as red, green or yellow, according to their performance. If detected that the School Food Program is not properly implemented in the beneficiary schools, there is an intervention to help solve the problems or suspend the program, depending on the case. Monitoring data is entered into the data processing system of the School Food Program. In 2011, the School Food Program had a budget of US\$101,450 for monitoring and evaluation. The program unit is analyzing the possibility of changing this system because it is very difficult to monitor the 15,000 beneficiary schools. In fact, the program unit has already taken steps (by commissioning a study) towards changing the guidelines of the new monitoring and evaluation system.

Funding and Budgeting

The School Food Program has assured its financial sustainability; it is considered to be a long-term priority and symbolic project of the Ecuadorian Government. Its resources come from the State's General Budget, from an investment fund that depends on oil income. In 2011, it had the highest budget of its history of US\$70 million⁵ (the Ministry of Education had a budget of US\$408.9 million). This budget has constantly grown since 1999 (Figure 4); when the School Food Program began to be financed with funds by the Ecuadorian Government it included a budget of barely US\$3.4 million. It is foreseen that this allocation will continue to increase until the program reaches universal coverage. Nevertheless, the resource planning and allocation process at times complicates the smooth operation of the program.

Around 97% of the School Food Program's budget corresponds to investment expenses for food purchases, quality assurance, transportation, and storage. This money is delivered to the Food Provision Program so it can take care of food purchases and services related to its storage and transport.

⁵The Ecuadorian economy has been dollarized since 2000.

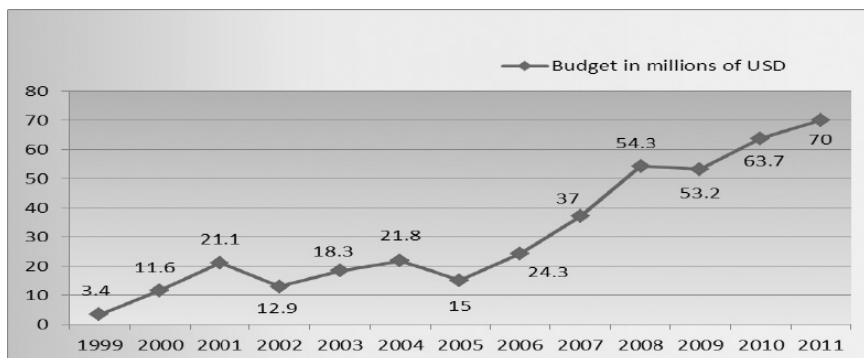


Figure 4: The School Food Program total budget 1999–2011

Source: WFP and PCD (2012), based on WFP and UNDP administrative data.

The remaining 3% is running expenses for training, consultancies and fixed charge payments such as leases and services.

The School Food Program's budgetary programming process has two different routes according to the expense type (investment or running). For investment expenses, the budgetary process is detailed in Box 1. For running expenses, each year the School Food Program requests from the Ministry of Education a specific amount for its running expenses. At the same time, the Ministry of Education includes this amount in the Central Government's global form. Once the Central Government's global form has been approved at the end of the year, the Department of Finances in January delivers the amount to the Ministry of Education who transfers the running expenses to the School Food Program.

The School Food Program and the Food Provision Program, like the rest of the programs and entities of the current government, are tied to a results-based monitoring system and need to render accounts through different management information systems.

Community Participation

The School Food Program has promoted community participation through the School Feeding Committees with the main role to organize the preparation of the food. This participation was greater when the school lunch was

Box 1: The School Food Program budget steps for investment expenses

Step 1: Long-term planning of resources:

- The School Food Program formulates an investment project for four years.
- The project is validated by the corresponding co-ordinating ministry.
- The Planning and Development National Secretary revises the project. If approved, is passed onto the Ministry of Finance.
- The Ministry of Finance approves the School Food Program funds' allocation and saves the resources into its accounts.

Step 2: Annual request of resources:

- The budget assigned to the School Food Program varies each year due to changes in program coverage.
- To define each year's budget, the School Food Program establishes an Annual Operating Plan and an Annual Investments Plan and sends these Plans to the Ministry of Education.
- The Ministry of Education revises the Plans, approves and includes it into its budget and sends the total budget of the department to the Ministry of Finance. The Ministry of Finance approves and saves the funds.

Step 3: Disbursement of resources:

- Once the School Food Program's Annual Investments Plan is approved, the Ministry of Education establishes a budgetary flow of the resources. To do so, it requests the resources transfer to the Ministry of Social Development who revises and approves the request, and seeks the approval of the National Secretary of Planning and Development.
- The National Secretary of Planning and Development issues approval and notifies the Ministry of Finance. Resources are transferred to the Food Provision Program so that it can carry out the corresponding food purchases and the transportation services, quality control and storage payments.
- This process is repeated four times a year.

Source: WFP and PCD (2012).

delivered and has decreased since its elimination. At present, the School Feeding Committees are responsible for preparing the fortified drinks, the provision of complementary food and supplies and for monitoring food stocks and ensuring that products are adequately stored.

In general, the School Feeding Committees work well and the parents are involved actively in the breakfast preparation. Part of the program's success is due to the active involvement of parents and to the creativity that they have shown in the preparation of the fortified drinks, which is complemented with additional ingredients such as fruits, spices, and unrefined whole cane sugar.

For a school to be a beneficiary of the School Food Program, it should form a School Feeding Committee that includes both parents and teachers. Formally, the School Feeding Committees should have a co-ordinator, a sub-co-ordinator, a treasurer, a secretary and up to six directors. These positions are nominated each year.

There are multiple operational models amongst the existing School Feeding Committees. Each Committee is organized in a different way according to the culture of the area in which it is located. For example, in schools in the mountains, and especially in the central mountains such as in the Provinces of **Cotopaxi** and **Tungurahua**, where the community work culture is more established through ancient practices like communal labor,⁶ the Committees function in a more active way and the parents collaborate more. This form of work was, however, more structured when the school lunch was provided, given that there were more products to prepare. Some School Feeding Committees, in the Provinces of **Carchi**, **Cotopaxi**, and **Tungurahua**, for example, have been organized to continue providing the school lunch. In the coast and the east, the situation is somewhat different. In most of the visited beneficiary schools in the Provinces of **Esmeraldas**, **Santa Elena** and **Sucumbíos** the School Feeding Committees do not function as such, but the parents association organizes the preparation of the fortified drinks and its distribution.

The community participation depends on various factors, the most important of which is the cultural teamwork factor, the knowledge level

⁶Old traditional system used in Latin America since pre-Colombian times that has different purposes of common use such as road repairs, the cultivation of a parcel or the construction of a house.

(training) on the importance of the school meals, and the infrastructure conditions in the beneficiary schools. The School Food Program has created awareness on the importance of the adequate preparation and distribution of the school breakfast, the community is involved in a more active way and therefore, with better results. Nevertheless, aspects like lack of kitchen infrastructure and school dining rooms, in some schools, limit the participation of the community and force the parents to work individually in their houses.

The community has no role in the control or supervision of the School Food Program. Civil society, is likewise, not involved in the debate regarding the school meals at the national level. However, promoting multisectoral participation can further strengthen community investment in the program.

Evidence of Program Impact

Although the main objective of the School Food Program is educational, by its nature, the program is situated in the intersection of four national public policy priorities: increase of education quality; reduction of malnutrition; inclusion of small producers into the market; and the stimulation of the local economy.

The educational impacts of the program cannot be known, since there is no available impact evaluation of the program. Although the nutritional impacts of the program are also uncertain, the majority of those interviewed indicate that the schoolchildren do eat the breakfast and that they like it. Nevertheless, there are certain complaints with respect to the variety of food and the fortified drink (which is less accepted). A statistical study is required to confirm the level of acceptance for the fortified drink and other breakfast products.

Conclusions

The School Food Program is the main food assistance program of the Government of Ecuador and it is currently in the process of reaching universal coverage as it is considered as a right of all school children. The School Food Program is legally supported which ensures its sustainability: it is framed in the 2008 Constitution of Ecuador (Asamblea Constituyente, 2008)

and in different laws, decrees and agreements that support its actions. The program is also durably embedded in the national budget given that it is considered a long-term priority and a symbolic project of the Ecuadorian Government. In 2011, it had the highest budget of its history of US\$70 million. It is foreseen that the budgetary allocations will continue to increase until the program achieves universal coverage.

The School Food Program design has enabled the Ecuadorian Government to achieve large increases in coverage in a short amount of time, with universal coverage part of the short-term agenda. With the current model, the School Food Program is capable of delivering a high portion of energy and micronutrient needs to almost all the country's school children at a reasonable price, thereby, complying with the program's basic objective: supporting the educational system. This has largely been possible because there is a State institution — the Food Provision Program, dedicated exclusively to the purchase of food and to the administration of the logistical services. The information system (SIGAE), which tracks food transport and storage and provides updated information in real-time, is considered a success, and has optimized the efficiency of the program. Though impact evaluations are lacking, the education or nutrition impacts of the program, however, are indeterminate — including unintended negative impacts, for instance on overweight.

However, like many other countries, Ecuador is facing the challenge of incorporating smallholder production into its School Food Program. The products distributed by the School Food Program are comprised mainly of imported commodities, which do not stimulate national or local suppliers, and their production requires expensive processing. The inclusion of smallholder farmers could affect cost and efficiency, as well as the nutritional quality of the food basket.

At present, some options are being explored between the Ministry of Economic and Social Inclusion and the Ministry of Education to facilitate the connection amongst the program and the local production of products and possibly of small and medium businesses. While local purchases may increase the cost of school meals, they can potentially contribute to the national objective of food sovereignty. Today, small food producers do not have the capacity to supply the School Food Program — and capacity constraints are even more important for fortified products. The agricultural

economy has engaged in a restructuring process so that in the medium- to long-term it can respond to the food needs of the schools. As of 2011, WFP began supporting local governments to diversify their school feeding activities to include locally produced nutritious foods. In early 2012, pilot activities were initiated with the focus on building local capacities and supporting local priorities. WFP and local governments are working jointly to document results and cost-effective processes of linking smallholder farmers to school feeding activities. Evaluations will provide a solid evidence base from which to make policy decisions regarding options for a nutritious food basket in future school feeding programs. Cost and quality, in particular, small producers' ability to ensure quality control as well as small businesses and producers' capacity to respond to high food demands, are challenges to incorporating these changes. Due to these trade-offs, there is currently an intense debate around the opportunities to better link the program to smallholder agricultural production in order to support the government's development agenda.

Abbreviations and Acronyms

FAO	Food and Agriculture Organization of the United Nations
SIGAE	General Information of School Administration System
MAGAP	Ministry of Agriculture, Aquaculture, Stockbreeding, and Fishing
PCD	The Partnership for Child Development
UNDP	United Nations Development Programme
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is based on the comprehensive case study conducted in 2012, funded by The Partnership for Child Development (PCD) and managed by WFP (WFP and PCD, 2012).

This chapter was compiled by Emilie Sidaner (WFP) with support from Maya Oren (WFP), and Mariana Mirabile (WFP) who conducted the cost

assessment; reviewed by Alice Woolnough and Cai Heath (PCD) external to Ecuador; and at the country level by Valeria Valencia and Sara Santacruz (Ministry of Education), and Marcelo Moreano and Katherine Shea (WFP); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions and comments were provided by Roberto Pazmiño, Sara Santacruz, Francisco Solorzano, Monica Ubidia, Juan Carlos Acosta and Salomón Tenorio (*Programa de Alimentación Escolar*, Government of Ecuador); Fernanda Sandoval and Verónica Imbacuan (Ministry of Education, Government of Ecuador); Monica Merino and Sandra Endara (UNDP); Deborah Hines, Carmen Galarza and Carmen Burbano (WFP); and Jose Castillo (WFP, Regional Bureau).

This chapter was reviewed and signed off by the Ministry of Education in June 2014.

References

- Asamblea Constituyente. (2008). *Constitución de la República del Ecuador*. Asamblea Constituyente, Quito. Available from: http://www.asambleanacional.gov.ec/documentos/constitucion_de_bolsillo.pdf (Accessed 21 March 2013).
- Compras Públicas Instituto Nacional de Contratación Pública. (2008). *Ley Orgánica del Sistema Nacional de Contratación Pública R.O. 395*. Compras Públicas Instituto Nacional de Contratación Pública, Quito. Available from: <http://www.uteq.edu.ec/compraspublicas/LOSNC%20RO395%20DIGITAL.pdf> (Accessed 21 March 2013).
- FAO. (2001). Human Energy Requirements. Report of a Joint FAO/WHO/UNU Expert Consultation, Rome, 17–24 October 2001. FAO Food and Nutrition Technical Report Series 1. FAO, Rome. Available from: <ftp://ftp.fao.org/docrep/fao/007/y5686e/y5686e00.pdf> (Accessed 21 March 2013).
- FAO. (1968). *Factors for Vitamin A Conversion*. Appendix 3. In Food Composition Table for Use in Africa. Agriculture and Consumer Protection, FAO, Rome. Available from: <http://www.fao.org/docrep/003/x6877e/X6877E22.htm> (Accessed 21 March 2013).
- FAO and WHO. (1967). Requirement of Vitamin A, Thiamine, Riboflavine and Niacin. Report of a Joint FAO/WHO Expert Group. Rome, Italy, 6–17 September 1965. WHO Technical Report Series No. 362 and FAO Nutrition

- Meetings Report Series No. 41. WHO, Geneva. Available from: http://whqlibdoc.who.int/trs/WHO_TRS_362.pdf (Accessed 11 February 2014).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- PCD. (2014). *School Meals Planner*. [online] HGsf-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 14 January 2014).
- INEC (Instituto Nacional de Estadística y Censos). (2011). *Encuesta de Condiciones de Vida*. INEC, Quito.
- Órgano del Gobierno del Ecuador. (2011). *Ley Orgánica de Educación Intercultural*. Segundo Suplemento 2, Registro Oficial No. 417, Jueves 31 de Marzo del 2011. Órgano del Gobierno del Ecuador, Quito. Available from: http://planipolis.iiep.unesco.org/upload/Ecuador/Ecuador_Ley_organica_educacion_intercultural.pdf (Accessed 21 March 2013).
- Órgano del Gobierno del Ecuador. (2009). *Ley Orgánica del Régimen de la Soberanía Alimentaria*. Segundo Suplemento 1, Registro Oficial No. 583, Martes 5 de Mayo del 2009. Órgano del Gobierno del Ecuador, Quito.
- PREAL. (2006). *Calidad con Equidad: El desafío de la educación ecuatoriana. Informe de Progreso Educativo Ecuador*. PREAL, Santiago Chile. Available from: www.oei.es/quipu/ecuador/preal_ecuador2006.pdf (Accessed 21 March 2013).
- República del Ecuador. (2012). *Estrategia Acción Nutrición*. Ecuador ama la vida. Ministerio Coordinador de Desarrollo Social, República del Ecuador, Quito. Available from: <http://www.desarrollosocial.gob.ec/programa-accion-nutricion/> (Accessed 21 March 2013).
- República del Ecuador. (2005). *Acuerdo Ministerial No. 263 de 10 de Septiembre de 2005*. Ministerio de Finanzas del Ecuador, República del Ecuador Quito.
- República del Ecuador. (1999). *Acuerdo Ministerial No. 1960 de 31 de Agosto de 1999*. Ministerio de Educación, Cultura, Deportes y Recreación del Ecuador, República del Ecuador, Quito.
- SENPLADES (Secretaría Nacional de Planificación y Desarrollo). (2009). *Plan Nacional para el Buen Vivir 2009–2013*. República del Ecuador, Plan Nacional de Desarrollo. SENPLADES, Quito. Available from: <http://www.scribd.com/doc/36953479/Plan-Nacional-para-el-Buen-Vivir-2009-2013-version-completa> (Accessed 21 March 2013).
- Vinueza, V.R. (2011). *Análisis de las Tasas Estandarizadas de Sobrepeso y Obesidad en Estudiantes de Sexto a Décimo año de Escuelas Municipales de Quito, 2010*. Universidad Central del Ecuador, Quito. Available from: <http://www.dspace.uce.edu.ec/bitstream/25000/656/3/T-UCE-0006-12.pdf> (Accessed 15 January 2014).

- WFP-Ecuador. (2014). *Ecuador Nutritional Value of Rations June 2014*. Excel Spreadsheet. WFP, Ecuador, Quito.
- WFP and PCD. (2012). *Estudio de Caso de la Alimentación Escolar en Ecuador: Análisis de la Situación Actual del Programa de Alimentación Escolar de Ecuador*. WFP and PCD, Quito.
- World Bank. (2013). *World DataBank: World Development Indicators — Ecuador*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/> (Accessed 14 January 2014).

This page intentionally left blank

Case Study 7: Ghana — The Ghana School Feeding Programme

Country Profile

Population in 2012: 25,000,000 (World Bank, 2013).

Gross Domestic Product Per Capita in 2012 (US\$): 1,605 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 39 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 110 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2012 (%): 82 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 28 (UNICEF, 2013).

Employment in agriculture in 2006 (% of total employment): 57 (World Bank, 2013).

Classified as a Low-Income Food-Deficit Country in 2013 (FAO, 2013).

Introduction

Ghana is a Low-Income Food-Deficit Country with a population of 25 million in 2012 (Figure 1), of whom 39% are under 15 years of age (FAO, 2013; World Bank, 2013; GSS, GHS, and ICF Macro, 2009). Ghana is ranked 135th in the Human Development Index Table with an average life expectancy at birth of 65 years and an adult literacy rate of 67% (UNDP, 2013).

Ghana is endowed with natural resources including gold, cocoa, and timber. The domestic economy is centered on subsistence farming which accounts for nearly 40% of the gross domestic product and employs nearly 60% of the workforce (PCD, 2011; FAO, 2010).

Around 18% of the country's population live in extreme poverty and 51% of the poor in Ghana live in rural areas, women-headed households are among the poorest 20% of the population (IFAD, 2009). Ghana was the



Figure 1: Map of Ghana by region and in West Africa

Source: GADM (2013).

only sub-Saharan African country to cut its score in the 2009 Global Hunger Index by half from 23.5 in 1990 to 11.5 in 2009 (IFPRI, 2009). Despite this achievement, hunger is still prevalent in Ghana. The government's poverty reduction strategy paper identifies low productivity and poorly functioning markets as the major causes of rural poverty (IFAD, 2009).

In Ghana, production of the main staple crops exceeds aggregate estimates of national consumption. In 2009, the agricultural sector accounted for 34% of the gross domestic product with a sectoral annual growth rate of 6%. Marginal increases were also recorded for the various subsectors (Government of Ghana, 2009). Food security in the marginal agricultural and arid areas varies with the seasons. Farming seasons between the North and the South also vary with the South experiencing peak hunger seasons between May to August and the North experiencing peak hunger seasons between July and October.

The Government of Ghana has aspired in recent times to improve access to and quality of education especially at the primary level. Education delivery in Ghana is devolved to various institutions under the Ministry of Education at the regional and district levels. The Ghana Education Service is responsible for implementing pre-tertiary education programs.

Net enrollment ratio (NER) measures the enrollment at the official age for a given level of education. The NER for primary school stands at 82%. While more children are starting school, for some children their school start is delayed and these late starters are more likely to drop out of school (Government of Ghana, 2008a).

Government interventions since the 1980s to improve access and learning outcomes, as well as improved education system management include among others: the Free Compulsory Universal Basic Education program; the capitation grant; and the school feeding program. Primary education by law is mandatory. Despite these relative successes, Ghana still faces some challenges within the education sector. A review of the sector to inform programs and policies in order to meet the demands of the 21st Century resulted in the establishment of the Ghana Education Trust Fund, among other outcomes.

In Ghana, whilst there is no national representative data on the prevalence of anaemia among school-age children, the only study that has looked

at the prevalence of anaemia among school-age children is one conducted by the Ghana Health Service in 2007. The study found that prevalence of anaemia varies widely across ecological zones with anaemia rating highest in the northern savannah zone (65%) and the coastal savannah zone (59%) and least prevalent in the forest-savannah transitional zone (16%) (GHS, 2007).

On the whole the prevalence of anaemia among children in Ghana is a major public health problem (Abdul-Rahman and Agble, 2012). In Ghana, overall prevalence of stunting among school-age children is 17%, ranging from 13% in the forest-savannah transitional zone to 21% in the northern savannah zone. Trends for underweight were similar with a range of 7% in the forest-savannah transitional zone to 14% in the northern savannah zone (GHS, 2007).

The history of school feeding programs in Ghana dates back to the 1950s when pupils of several Catholic primary and middle schools were given take-home rations of food aid. The objective, as in many cases, was to improve the nutritional status of school children and increase school enrollment and retention. Over time, the United Nations World Food Programme (WFP) and Catholic Relief Services became the two leading agencies providing programs on school feeding in the country, focusing on the North due to the high incidence of poverty and food insecurity. WFP has been involved in Ghana for over 40 years (WFP, 2007).

In response to the New Partnership for Africa's Development recommendation to Governments of Africa in adopting the Home Grown School Feeding (HGSF) concept, the Government of Ghana launched a nationally-owned HGSF programme the 'Ghana School Feeding Programme (GSFP)'. The GSFP was piloted in 10 primary schools in late 2005. School children were provided with one cooked meal served at midday. The meals are prepared in schools with one caterer and a team of cooks per 500 school children. Daily food provision is envisaged for 195 school days per year. Depending on the region, a typical ration breakdown for primary schools consists of 150 grams of cereal (rice or maize) with 40 grams of legumes (beans or peas) and 10 grams of vegetable oil per child per day. This provides slightly above the 30% recommended dietary allowance (approximately 760 kilocalories). The food basket for kindergarten/preschool children is similar, but is 70% of primary schools.

By the end of 2009, the GSFP had progressively grown to serve 1,695 public primary schools¹ with 656,624 school children in all the 170 districts in Ghana. In 2012, the GSFP covered 1,642,271 school children in 4,952 primary schools (about 38% of the total school population) within the 216 districts in Ghana. In 2013, the feeding cost per child per day was increased from 0.40 Ghana Cedis (GH¢) (approximately US\$0.18) to GH¢0.50 (approximately US\$0.23) and the feeding cost per child per year was GH¢100 (approximately US\$45).² At the end of the school year 2013–2014, the GSFP's enrollment had reached 1,739,357 pupils in 5,000 primary schools (GSFP, 2014).

The GSFP was designed as a strategy to increase domestic food production, household incomes and food security in deprived communities (Government of Ghana, 2006a). Primarily, the GSFP aims to increase school enrollment and retention. The GSFP has become a very popular program with the Ghanaian public and enjoys solid commitment from the government. The GSFP is independently implemented by the Ghana Government; however, in the three northern regions (northern, upper east, and upper west) some primary school children receive food through joint programming with WFP. Co-ordination and implementation are undertaken by the GSFP National Secretariat, with program oversight and supervision performed by the Ministry of Local Government and Rural Development. Collaborating ministries offer technical support through the Program Steering Committee, although a number of non-governmental organizations (NGOs) and bilateral agencies are also involved in providing similar support.

Methodology

This chapter is largely drawn from the *Home Grown School Feeding: Technical Assistance Plan* (PCD, 2011) in Ghana and other technical documents (Haas School of Business and GIMPA, 2011; Abdul-Rahman and Agble, 2012). Other relevant literature was also reviewed (Government of Ghana, 2006a; Government of Ghana, 2008b; Government of Ghana, 2010; Government of Ghana, 2011; Government of Ghana, 2013; Haas School of Business, 2013; Gelli and Masset, 2012).

¹All GSFP primary schools include kindergartens.

²Estimates based on US\$1 = GH¢2.23.

Country School Feeding Program Factsheet

Start Date	2005	
Design and Implementation	<i>Rational/Impact</i>	<ul style="list-style-type: none"> • Reduce short-term hunger and malnutrition; • increase school enrollment and retention; and • increase domestic food production and incomes of poor rural households.
	<i>Implementation Levels</i>	Vulnerable pupils targeted in all 216 districts in Ghana. In 2012, the GSFP reached 1,642,271 school children in approximately 4,952 primary schools (38% of the total school population). A target of 1,739,357 school children in 5,000 primary schools was reached for the school year 2013/2014. Other target groups are caterers and cooks employed to provide the school meal service.
	<i>Supply, Storage and Logistics</i>	Decentralized model with food procurement, processing and delivery outsourced to school caterers.
	<i>Modality, Food Basket Details</i>	One hot cooked meal served midday every school day.
	<i>Food Preparation</i>	On site: One caterer and a team of cooks per 500 school children.*
Policy and Legal Frameworks Documents		<ul style="list-style-type: none"> • <i>Growth and Poverty Reduction Strategy (GPRS) II</i> 2006–2009 (Government of Ghana, 2005a). • Education Act of 1961 (Act 87) (Government of Ghana, 1961). • The 1992 Constitution of Ghana (Republic of Ghana, 1992). • Education Strategic Plan 2003–2015 (Government of Ghana, 2003). • <i>Policy — Imagine Ghana Free of Malnutrition</i> (Government of Ghana, 2005b). • <i>Food and Agricultural Sector Development Policy (FASDEP) II</i> (Government of Ghana, 2007a). • <i>National Social Protection Strategy</i> (Government of Ghana, 2007b). • Completion and adoption of a national school feeding policy is expected in 2014.

Institutional Arrangements	<i>Lead Institution</i>	<ul style="list-style-type: none"> • Ministry of Local Government and Rural Development oversees responsibility of the GSFP. • The GSFP National Secretariat is involved in program implementation and co-ordination.
	<i>Supporting Institutions</i>	The Ministries of Education, Health, Food and Agriculture, Finance and Economic Planning as well as the Ministry of Gender, Children, and Social Protection serve on the Program Steering Committee to provide policy direction for the GSFP.
Finance	<i>Annual Budget</i>	In 2013, approximately GH¢195 million (US\$105 million) (excluding staff salaries and operational support costs).
	<i>Cost Per Child Per Year</i>	2013: Approximately, GH¢0.50 (US\$0.23) per child per day or GH¢100 (US\$45) per child per year.
Community Involvement		Through Parent–Teacher Associations and School Management Committees as well as traditional authorities.
Innovations/Good Practices		<ul style="list-style-type: none"> • To enhance supply chain efficiency, food procurement (rice and maize) is linked to the national buffer stock system. • The decentralization system supports the enhancement of program implementation at the district level.
Weaknesses/Risks		<ul style="list-style-type: none"> • The capacity to effectively link with local agriculture. • With the government funding the GSFP and no policy and legislative provision, funding is not mandatory. Late release of funds affects the effective implementation of the program. • Maintaining nutrition quality and quantity is a challenge.

*There are a few exceptional cases of off-site cooking.

Design and Implementation

The GSFP was launched in 2005 with the goals of contributing to poverty reduction and increasing food security in line with the Millennium Development Goals (MDGs) on hunger, poverty and malnutrition. The pilot program was introduced between 2005 and 2006. The first phase of program implementation at scale took place during 2006–2010. Today, the GSFP is implemented as a social protection strategy across the 216 Ghanaian districts. The program is implemented by the GSFP National Secretariat under the oversight supervision from the Ministry of Local Government and Rural Development and has the following key objectives:

- To improve school enrollment, attendance, and retention.
- To boost domestic food production.
- To increase the incomes of poor rural households.
- To reduce short-term hunger and malnutrition.

Targeting and coverage

Targeting takes place at the school level and all children in the beneficiary schools are entitled to a free school meal. All 216 districts in Ghana are participating, resulting in 1,642,271 school children in approximately 4,952 primary schools (38% of the total school population). The number of children targeted has steadily increased as detailed in Figure 2. Even though the GSFP target for 2013/2014 was 2,000,000 school children in 5,600 primary schools, the program was able to reach 1,739,357 pupils in 5,000 primary schools across the country at the end of the school year (GSFP, 2014). Other target groups include caterers and cooks employed to provide the school meal service (Government of Ghana, 2013).

The GSFP National Secretariat draws a budget annually for approval and allocates proportionate funds to each Metropolitan, Municipal and District Assemblies (MMDAs). In line with the decentralization system, the MMDAs are responsible for the selection of schools for scale-up.

The program was retargeted in 2012 following a study evaluating the targeting of social programs by the Ministry of Employment and Social Welfare in 2010 (World Bank, 2012), which found that only 21% of the

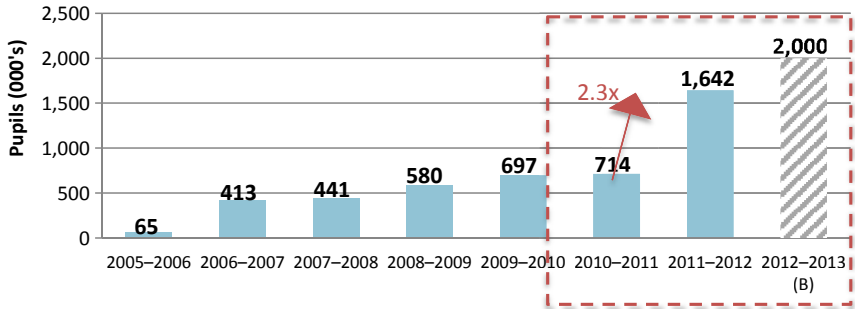


Figure 2: Growth trends of GSFP beneficiary pupils by region

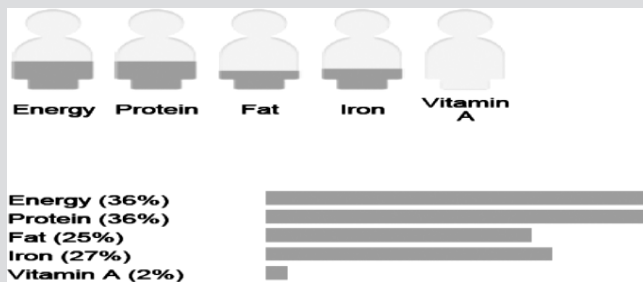
Source: Government of Ghana (2013).

investment for the GSFP went to the poor. Affluent regions of the country were receiving a larger share of the programme, whilst largest proportions of the poor were receiving less. Based on the evidence, the Ghanaian Government, with support from the World Bank, WFP and The Partnership for Child Development (PCD) retargeted the urban beneficiary schools. Information about which regions and which schools should be receiving the program and which should have the support phased out was compiled by the World Bank from national poverty statistics, a food security and vulnerability analysis and spatial data variables (Tembon, 2011). The retargeting meant that some schools in better-off areas no longer receive the school feeding, whilst those in poorer areas are now covered. A nationwide sensitization campaign to explain the reasons and the benefits of this initiative was undertaken. As a result, 70%–80% of the investment in school feeding now goes to the poorest communities.

Modalities, food basket, and nutritional norms

Ideally, the type of ration should be based on the nutritional status and dietary intakes and needs of school children. The GSFP is seeking to enhance the nutrition quality of its school feeding through the effective design of menus, using PCD's recently launched country meal planner tool (PCD, 2014). For example, the nutritional content of the school menu for the Savelugu/Nanton District (above and in Table 1) has been measured using the country meal planner tool (PCD, 2014).

Gingerbread men representing the average daily nutritional content of a sample weekly mid-day school meal menu in the GSFP for the Savelugu/Nanton District in Ghana



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40%

- A weekly mid-day school meal menu for Savelugu/Nanton District was used to calculate the nutrient content of the midday school meals. Menus for the GSFP are developed at the district level, so they vary from district to district although some meals such as those made from rice might appear in a number of districts.
- The raw version of each food item was used in the nutrient content calculations unless specified.
- The salt serving specified on the menu could not be incorporated into the nutrition content calculations, as salt is not available as a food item on the country meal planner tool (PCD, 2014).

Source: PCD (2014).

At the GSFP inception, menus were prepared for all regions, based on local food variety and nutritional values. The menus were also based on the Food and Agriculture Organization of the United Nations (FAO) minimum nutritional requirements per child per day. In the northern regions, food items such as maize, beans, rice, gari,³ soya beans, cowpeas, fish, yams, meat,

³Gari is a popular carbohydrate dish in Ghana and the western regions of Africa made from the tubers of the cassava plant.

Table 1: Nutritional content of the school menu in the Savelugu/Nanton District

Day	Menu
Monday	TZ (corn mousse) and ayoyo (shredded green leaves) soup with fish/meat or Groundnut soup with rice or rice balls with fish and beef.
Tuesday	Tubani (steamed bean/Bambara bean dough wrapped in plant leaves) Gable (steamed bean/Bambara bean dough) and stew or Bean stew with fish yam/rice or banku (fermented hard maize cake).
Wednesday	Waakye (beans and rice) with stew and a boiled egg or Bean stew with a boiled egg, Gari (cassava) and fired plantain or rice.
Thursday	Okra (ladies fingers) soup and fish, meat with leaves, banku (fermented hard maize cake)/TZ (corn mousse) or Fish/bean stew with rice.
Friday	Gari and Beans (cassava and beans) or Rice Balls with Groundnut Soup and Fish or Meat.

Source: Government of Ghana (2006b).

eggs, groundnuts, vegetables, and fruits were considered for the menu. In the southern regions, food items such as maize, beans, rice, gari, groundnuts, palm fruits, plantains, yams, fish, meat, eggs, vegetables, and fruits were considered for the menu. The menu cost was increased from GH¢0.40 (approximately US\$0.18) to GH¢0.50 (approximately US\$0.23) per child per day (GH¢100 [approximately US\$45] per child per year) and was agreed by the GSFP National Secretariat based on local economic factors. There are no guidelines on the quantities of ingredients to be used per child or the serving per child.

A menu plan is designed by the GSFP Nutrition Department with the aim to reflect the local seasonal production and nutritional needs of school children. Daily food provision is envisaged for 195 school days per year. Depending on the region, a typical ration breakdown for primary schools consists of 150 grams of cereal (rice or maize) with 40 grams of legumes

(beans or peas) and 10 grams of vegetable oil per child per day. This provides slightly above the 30% recommended dietary allowance (approximately 760 kilocalories). The food basket for kindergarten/preschool children is similar, but is 70% of primary schools. One cooked meal is served at midday. The meals are prepared in schools by one caterer and a team of cooks per 500 school children.

Food procurement, transportation, storage, and preparation

GSFP procurement, processing and delivery are highly decentralized and engage with the private sector to a large degree. The GSFP prioritizes procurement from the community surrounding the beneficiary schools, broadening the focus to district and national levels when food items are not available.

The GSFP service delivery is provided through private caterers who are awarded contracts by the MMDAs based on GSFP guidelines (Government of Ghana, 2008c) to procure, prepare and serve food to pupils in participating schools (Figure 3). Each caterer is responsible for procuring food items from the market, preparing school meals and serving food to pupils. Cash

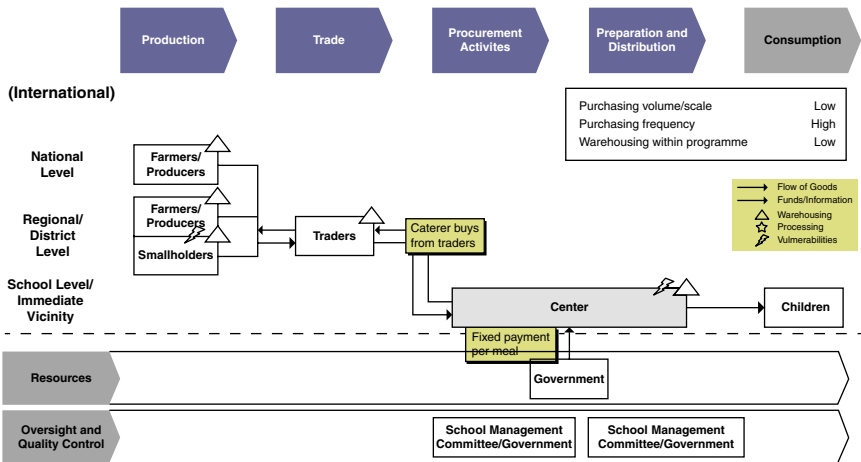


Figure 3: Stylized supply chain for the GSFP

Source: Adapted from Gelli *et al.* (2012).

transfers are made through the District Assemblies, under the supervision of the District Implementation Committees (DICs), to caterers based on GH¢0.50 (approximately US\$0.23) per child per day. Caterers are not permitted to serve more than three schools each, and profit is derived from savings made after food has been procured, prepared, and served. Daily supervision is performed by the School Implementation Committee (SIC). Storage is the responsibility of caterers and no rigid tendering process is enforced. The caterers are not restricted or guided in their procurement and are able to procure on a competitive basis without commitment to purchasing from small-scale farmers. This has affected the ability of the government to meet the 80% target of food for the GSFP to be purchased from local farmers.

The main challenge confronting caterers is the task of managing frequent price fluctuation of food items as against delays in payments from the GSFP. Caterers complained that seasonal price variations between harvest and lean periods included a price increase of up to 400% (Haas School of Business and GIMPA, 2011). The GSFP payments are received after the meals are served, resulting in caterers not having the resources to buy in bulk and guarantee a better and stable price to smallholder producers. Caterers were also reported to buy on credit from traders and as a result weakening their overall negotiation position.

Policy and Legal Frameworks

In Ghana, although the policy environment for food security is fairly developed, it is not supported by an adequate legislative framework. Specifically, in terms of school feeding there is no legislative or policy instrument; however, there is a clear realization of the need to have these instruments in place and a national school feeding policy has been drafted by a consultant for the consideration of the government.

The establishment of the GSFP as a strategy to address poverty is abundant in policy literature and clearly contributing to the policy objectives across the Ministries of: Education; Food and Agriculture; Health; and Local Government and Rural Development. The following legal and policy documents act as mechanisms to achieving the goals of the GSFP in the areas of agriculture, education and health development:

- *Growth and Poverty Reduction Strategy (GPRS) II 2006–2009* (Government of Ghana, 2005a): This governmental Strategy includes school feeding as one of several strategies to support the policy that promotes the consumption of affordable balanced meals that include micronutrients for children and women at fertility age. School feeding is used as a strategic intervention to combat malnutrition, rather than an education intervention, although in the *Annual Education Sector Operational Plan (2007–2009)* (Government of Ghana, 2007c), school feeding is identified as one strategy to help the government achieve 100% completion rate for both boys and girls at all levels of basic education by 2015.
- Education Act of 1961 (Act 87) (Government of Ghana, 1961): This Act is the principal education legislation which makes basic education free and compulsory for all children of school-age.
- The 1992 Constitution of Ghana (Republic of Ghana, 1992): Article 25(1) also provides for free compulsory universal basic education. However, the Constitution does not include a right to food or health. School feeding operates as a needs-based approach and is not seen as an entitlement.
- The Education Strategic Plan 2003–2015 (Government of Ghana, 2003): Provides the current direction to the educational sector.
- *National Social Protection Strategy* (Government of Ghana, 2007b): This Strategy aims to systematically target the “extreme poor” in Ghana. The main instrument for achieving this is the ‘Livelihood Empowerment against Poverty’ program which promotes school feeding through one of its cash transfer conditions i.e. enrolling and retaining all school-going children in the household in public basic schools.
- *Policy — Imagine Ghana Free of Malnutrition* (Government of Ghana, 2005b): This strategic document was developed by a multisectoral group of stakeholders. It outlines strategic nutrition objectives and provides costing for implementing nutritional interventions in Ghana. The strategy currently forms the basis for the development of a national nutrition policy.
- *Food and Agricultural Sector Development Policy (FASDEP) II* (Government of Ghana, 2007a): This is a revised policy of the Ministry of Food and Agriculture. The policy places emphasis on the sustainable utilization of all resources and commercialization of activities in the agriculture sector in Ghana, with market-driven growth in mind.

Some of the important operational documents developed by the GSFP National Secretariat outline the function of the GSFP in addressing poverty, including the roles of relevant ministries and stakeholders; these include:

- District Operations Manual (Government of Ghana, 2008c): A document which defines the operational modality of the implementation of the school feeding program. It spells out the roles and responsibilities of the various district actors.
- *Ghana School Feeding Programme: Annual Operating Plan 2011* (Government of Ghana, 2011): An annual plan which defines the implementation strategy of the GSFP for the year.
- *Ghana School Feeding Programme Document 2006–2010* (Government of Ghana, 2006a): The program document defines the program objectives, mission, vision, and implementation strategy of the GSFP within the stipulated timeframe. It was developed in 2006 to guide the implementation of the program pending the development of a comprehensive policy.

Institutional Arrangements

The GSFP structure is integrated into the existing government decentralization framework (Figure 4). The GSFP National Secretariat is the principal co-ordinating body of the program and it is supervised by the Ministry of Local Government and Rural Development. Technical support is sought

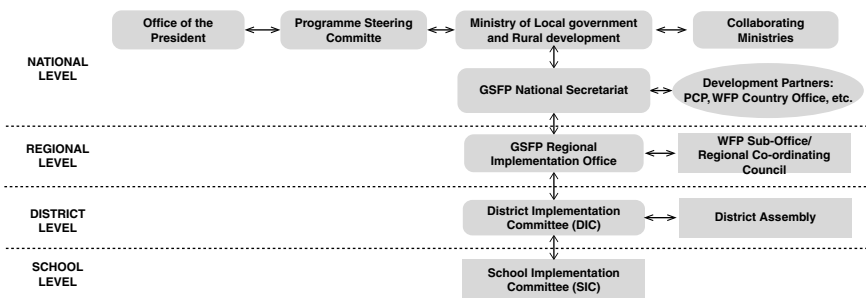


Figure 4: Relationships of GSFP partners

Source: Adapted from Government of Ghana (2013).

from collaborating ministries through the Program Steering Committee. The Committee's designated Focal Points are drawn from the Ministries of: Food and Agriculture; Education; Health; Local Government and Rural Development; Gender, Children and Social Protection as well as Finance and Economic Planning for program supervision. The Focal Points are highly influential and instrumental in the allocation of resources for the GSFP, and act as high-level advisory groups and contact points for program partners. At the district and school levels the program is managed by the DICs and the SICs. The roles and responsibilities of each agency through the governance structure are clearly detailed in the District Operations Manual (Government of Ghana, 2008c).

GSFP is well-established both institutionally and operationally with clearly defined roles and guidelines. However, cross-sectoral co-ordination could be strengthened at all levels, including clearer roles and responsibilities across line ministries. Program support functions, in particular, design, advocacy and fundraising, effective communication and monitoring and evaluation could also be strengthened. In addition, stronger involvement of partners in the GSFP, including civil society groups, NGOs and international agencies, could provide the opportunity to leverage additional resources and capacity to support the program implementation.

The GSFP National Secretariat is responsible for overseeing the program and in collaboration with District Assemblies is responsible for co-ordinating the targeting and selection of schools. The GSFP National Secretariat is further responsible for the development of program implementation guidelines and routine monitoring of the program (usually bi-annually). The GSFP National Secretariat has a number of departments including monitoring and evaluation, operations, nutrition, administration, finance and communications. The GSFP National Secretariat also co-ordinates partner relations and external projects by development partners related to the GSFP. There are also regional co-ordinators and monitoring officers across the 10 regions of Ghana to ensure effective co-ordination and monitoring.

There have been a number of independent studies undertaken to review the effectiveness of the GSFP by such bodies such as PCD, SNV (Netherlands Development Organisation) Ghana, SEND — Ghana and the University of California at Berkeley (PCD, 2011; SEND — Ghana, 2008; SNV Ghana; 2008; Haas School of Business and GIMPA, 2011).

Funding and Budgeting

The GSFP receives funds directly from the Central Government and has enjoyed financial support through bilateral aid contributed by the Dutch Government. The Dutch Government pledged to support the GSFP from 2006 to 2010 (the timeline for the first phase of the project) through match funding⁴ with the Government of Ghana for only the feeding cost of the program. However, in 2008 the match funding by the Dutch Government was suspended,⁵ but resumed in 2009. Although the official Dutch support ended in 2010 (2006–2010) due to the suspension in 2008, not all funds were released. To utilize the full amount pledged,⁶ the Dutch Government continued to release the remaining funds until 2012, as agreed with the Government of Ghana. The program cost in 2013 was approximately GH¢199.2 million (US\$89.3 million),⁷ of which 98% of the budget went into feeding costs (Table 2). Available data suggest that this compares favourably with

Table 2: Funding for the GSFP

GH¢ millions	2012	2013
Personnel Emolument	0.6	1.6
Administration	0.4	1.6
Service:		
Feeding Cost	90.3	195.0
Investment	0.0	1.0
Total	91.3	199.2

Source: Government of Ghana (2013).

⁴ Match funding involves equal amounts of funds (1:1) given by the parties involved to ensure broader reach of the school feeding program. For the GSFP, every pesewa/cedi the Government of Ghana spends on food procurement the Dutch Government would need to match these funds up to a yearly total of 10 million euros (approximately US\$11,668,611.5 or GH¢26,025,000) over the four-year period (2006–2010).

⁵ The Dutch Government suspended funding in 2008 pending the implementation of certain recommendations to improve program management and efficiency. However, feeding continued during this period through funding provided by the Government of Ghana.

⁶ The total allocation pledged from the Dutch Government for 2006–2010 was 40 million euros (approximately US\$46,674,446 or GH¢104,100,000).

⁷ Estimates based on US\$1 = GH¢2.23.

on-site feeding programs in Ghana and elsewhere. The GSFP benefits from donor partner support in some complementary areas including deworming, and water and sanitation. In addition, District Assemblies are expected to fund the construction of kitchens, cooking areas, and platforms for water tanks, as well as supporting labor at the district level.

The funding architecture of the GSFP is in line with the decentralization system of governance in Ghana. Funds are therefore released from the central government through the Ministry of Finance and Economic Planning to the districts. Figure 5 illustrates the flow of funds. At the district level, a monitoring form is used to track the number of pupils fed per day. The monitoring form is usually signed by the District Desk Officer before the release of funds.

The GSFP does not rely on community contributions for implementation. The GSFP National Secretariat prepares the budget for the program every year at the national level and budget releases are made through the Ministry of Local Government and Rural Development to each MMDA. The MMDAs disburse the payments to caterers based on the number of days

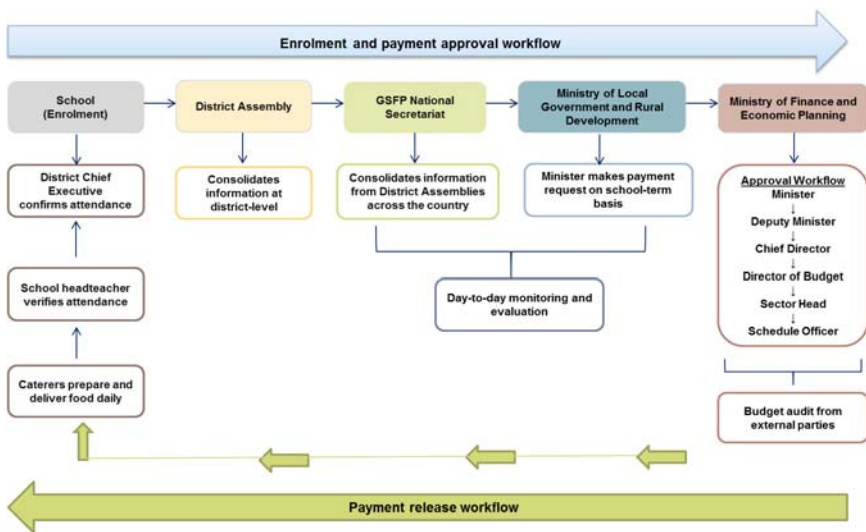


Figure 5: Process flow and release of funds to the GSFP

Source: Adapted from Haas School of Business (2013).

Table 3: Source of finance for caterers

Source of finance	% to caterers
Credit from suppliers	33.33
Bank loan	23.16
District Assembly	1.69
Internally generated funds	18.64
Loans — non-bank institutions	6.21
Personal funds	6.78
Friends/relatives	1.13
Foodstuff from own farms	0.56
Others	8.47

Source: Ernst and Young (2012).

for which payment has been received. However, payment is made after services are rendered so the caterer is managing the purchase of food with their own financial resources. Therefore, if the caterer does not obtain a loan or have personal savings to draw from, the caterer's only option is to buy the food ingredients from a party that is capable of providing them with the produce and grains on credit (e.g. traders and market queens).⁸ Table 3 breaks down the funds caterers receive from various financial sources.

Community Participation

Communities targeted by the GSFP are part of the beneficiary population as well as contributing to the effective implementation of program activities. At the school level, program implementation is the responsibility of the SIC (Box 1), and established, guided and supervised by the DIC.

Although the inclusion of the community at the school level is well-designed and incorporated into the GSFP literature, in practice their participation is minimal. Around 10% of schools surveyed by the development organization SEND-Ghana were found to be absent of any SIC

⁸ Market queens are referred to market traders who control the procurement of food produce from local farmers in rural communities for onward sale at high profits in urban markets.

Box 1: School Implementation Committees*SIC Composition:*

- The Parent–Teacher Association representative (Chairperson).
- The head teacher (Secretary).
- One member of the School Management Committee.
- One traditional Ruler from the community.
- An assembly member.
- A boy and girl school prefect.

The SIC collaborates with head teachers and caterers/matrons in providing adequate and nutritious food. The SIC roles and responsibilities include:

- Termly reports on school feeding activities.
- Liaise with the DIC to develop a locally-driven menu to provide nutritionally adequate meals.
- Provide oversight and direct supervision of appointed caterers/matrons.
- Facilitate community involvement, mobilization, and support for program implementation.
- Ensure hygienic conditions and practices.
- Arrange security for the kitchen, store, and canteen.
- Ensure proper maintenance of the physical facilities and the equipment for cooking and feeding.
- Ensure use of potable water and maintenance of good sanitation.
- Report sub-standard food to the DIC which will then be taken into consideration by the DIC during the renewal of contracts for caterers/matrons.
- Liaise with the District Desk Officer and the District Health Director to ensure children are dewormed every six months and educated on hygiene issues (personal and environmental) and prevention of diseases (e.g. malaria, etc.).

Source: Government of Ghana (2008c).

(SEND — Ghana, 2008). In such cases, program decision making was subsequently undertaken by the head teacher and matron/caterer. However, the Annual Operating Plan 2008 acknowledges the opportunities of capitalizing on partner resources to strengthen community mobilization and involvement (Government of Ghana, 2008b). Between 2008 and 2010, the government looked at ways through social accountability to enhance community participation and demand-driven accountability within the GSFP.

Evidence of Program Impact

At the impact level, the policy goals for the GSFP include the well-documented benefits to school children in terms of education, health and nutrition. Evaluation studies conducted by Ernst and Young in 2012 indicted that the GSFP since its inception has been able to contribute to the attainment of some MDGs and other sector policies. It has further been beneficial in increasing school enrollment while at the same time improving child nutrition and local agriculture production (Ernst and Young, 2012).

There is limited evidence, however, of the impact of providing a reliable market for smallholder farmers through HGSP approaches. Much of the evidence available are anecdotal than scientific. To bridge this knowledge gap, PCD in partnership with the Government of Ghana is engaged on a two-year randomized control trial aimed at evaluating the impact of school feeding programs on smallholder agriculture development, as well as on school children's education, health and nutrition in Ghana. This study will also examine income-generation and small-medium enterprise development in the area of school meal service provision (Gelli and Masset, 2012).

The Ernst and Young report further recommends a more strategic approach to linking smallholder farmers to the program, with the involvement of government agencies and development partners in better dialogue and practical planning. The significant amount of documented knowledge and experience already existing in Ghana should be applied in improving program impacts (Ernst and Young, 2012). To a large extent, the lack of baseline data at the onset of the program has equally affected the tracking of the program's impact and performance.

Social programs present the challenge of politicization. In Ghana, the unconstrained expansion of the GSFP resulted in an approach that failed to

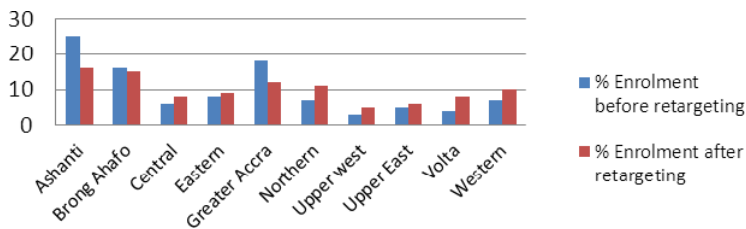


Figure 6: Percentage enrollment before and after retargeting — redressing the balance

Source: Tembon (2011).

meet the needs of its intended target population. A study to evaluate the targeting of social programs was undertaken by the World Bank in close collaboration with the Ministry of Employment and Social Welfare and the United Nations Children’s Fund in 2010 (World Bank, 2012). The results of the study showed that of 24 safety net programs, three had benefits accruing more to the non-poor than to the poor. These programs included the GSFP. It was observed that the GSFP had only 21% of the benefits accruing to the poor. With the assistance of the World Bank, PCD and WFP, the targeting trend was reversed through the development of technical targeting guidelines (Figure 6).

Conclusions

Several studies on the GSFP have highlighted the successes and challenges of the program. Globally, the design and implementation mechanisms of school feeding programs vary depending on country systems and context. The efficiency and effectiveness of program implementation therefore, depends on how well the program has been designed and implemented based on country systems and resources.

Trade-offs in decentralized outsourced model (‘caterer model’)

The GSFP has a decentralized outsourced school feeding program which relies on caterers for food procurement, preparation and distribution. The advantage of this modality is that schools focus on their educational duties rather than food preparation. It also creates jobs for the communities.

Currently, funds are transferred from the Ministry of Local Government and Rural Development to the various District Assemblies, who finally disburse payment to caterers based on the number of days for which funds have been received. However, such payments are made after services are rendered so the caterer is managing the purchase of food with their own financial resources. Therefore, if the caterer does not obtain a loan or have personal savings to draw from, the caterer's only option is to buy the food ingredients from a party that is capable of providing their produce and grains on credit, meaning traders and market queens. Even if the caterer wishes to buy from farmers, the farmer would not be willing to sell to them as the farmer is not able to extend credit. This system, if not properly managed, could affect the quality and quantity of the food ration, as well as the involvement of local farmers in the program.

Institution collaboration and co-ordination

The institutional co-ordination system of the GSFP is quite elaborate in comparison to similar programs. From national to district levels, the GSFP has well-established systems of co-ordination even though most of these structures at the district level require strengthening. To further sustain the decentralization system of governance in the country, the government has mandated the Ministry of Local Government and Rural Development to oversee the implementation of the GSFP. As an umbrella ministry, the Ministry of Local Government and Rural Development is able to mobilize other relevant sectors to co-ordinate on program implementation through the Program Steering Committee and the DICs. This is quite different from other systems where school feeding programs are typically housed within the Ministry of Education. The challenge with this system is that it requires a strong co-ordinating system both at the national and district levels. The district involvement further promotes local ownership and monitoring of the program.

Program management implementation

To ensure effective program implementation, the Government of Ghana established an implementing agency — the GSFP National Secretariat with a team of professionals to oversee the implementation of the program. Thus,

whilst policy oversight is provided by the Ministry of Local Government and Rural Development, implementation is performed by the GSFP National Secretariat. In collaboration with District Assemblies the GSFP National Secretariat is responsible for co-ordinating the targeting and selection of schools. The GSFP National Secretariat is further responsible for the development of program implementation guidelines and routine monitoring of the program (usually bi-annually). The GSFP National Secretariat has a number of departments including monitoring and evaluation, operations, nutrition, administration, finance and communications. The GSFP National Secretariat also co-ordinates partner relations and external projects by development partners related to the GSFP. There are also regional co-ordinators and monitoring officers across the 10 regions of Ghana to ensure effective co-ordination and monitoring.

Key lessons learned

- Targeting and expansion of large-scale programs need considerable tact especially when program coverage is not universal. With many governments suffering from budgetary constraints, targeting needs technical considerations to ensure the effective attainment of program objectives. The targeting and expansion of the GSFP was carried out from the onset without a defined methodology. While the program ambition is to gradually upscale to cover the entire nation over time, there was little attention as to how to strategically attain national coverage, national institutionalization, and financial sustainability. Additionally, the criteria for attaining these up-scaling milestones were inadequately defined. With support from PCD, the World Bank and WFP, this weakness was identified and corrected.
- Implementation of school feeding programs requires a lot of political support and commitment. However, this commitment should not lead to politicization of the program. Politicization can affect targeting and quality of implementation. Developing and adhering to technical guidelines on implementation enhance efficiency and effectiveness of implementation.
- Engaging communities is important in securing transparency, accountability and effective implementation. The Government of Ghana focused on social accountability to encourage communities to demand transparency and results from the duty bearers of the GSFP.

- As school feeding is quite complex to implement due to its multisectoral nature, partnership support is very important. Local and international partners are able to provide the needed support to enhance transparency and accountability as well as the provision of complementary services and infrastructure to enhance program implementation. During the initial stages of implementation of the GSFP, the School Feeding Initiative Ghana Netherlands (SIGN) actively supported the continuation of the Dutch funding and provided communication support. This included program advocacy within Ghana and the Netherlands. As part of this initiative, a civil society platform was formed in collaboration with SNV and SEND — Ghana for program advocacy and support. School feeding requires collective effort and partnership.

The GSFP has encountered a number of challenges over the last few years. Several partners including PCD, WFP, the World Bank, SNV, SIGN, SEND — Ghana, and Alliance for a Green Revolution in Africa have supported the program through the provision of technical assistance. Through a participatory process, PCD has supported the Government of Ghana in the development of the *Home Grown School Feeding: Technical Assistance Plan* (PCD, 2011) in support of the provision of technical assistance through a partial grant from the Bill and Melinda Gates Foundation. To further enhance the efficiency of the program, several partners have undertaken research studies and implemented pilot projects on the various themes of the GSFP. The results and lessons from these partner activities will form the basis for this pilot to test the efficiency of an enhanced school feeding model.

Abbreviations and Acronyms

DIC	District Implementation Committee
FAO	Food and Agriculture Organization of the United Nations
FASDEP	Food and Agricultural Sector Development Policy
GH¢	Ghana Cedi
GPRS	Growth and Poverty Reduction Strategy
GSFP	Ghana School Feeding Programme
HGSF	Home Grown School Feeding
MDG	Millennium Development Goal

MMDA	Metropolitan, Municipal and District Assembly
NER	Net enrollment ratio
NGO	Non-governmental organization
PCD	The Partnership for Child Development
SIC	School Implementation Committee
SIGN	School Feeding Initiative Ghana Netherlands
SNV	Netherlands Development Organisation
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from the *Home Grown School Feeding: Technical Assistance Plan* (PCD, 2011) for Ghana with updates from various technical documents reported in this chapter.

This chapter was compiled by Daniel Mumuni (PCD); reviewed by Alice Woolnough, Cai Heath and Salha Hamdani (PCD) external to Ghana; country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Lutuf Abdul-Rahman (PCD — Ghana) and Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by Getrude Ananse-Baiden, Lutuf Abdul-Rahman, Fred Amese and Abigail Bondzie (PCD, Ghana); and Hon. Seidu Paakuna Adamu, Charles Antwi Kyeremeh, Kwame Nuako, and Maame Pinamang Addae (GSFP — Ghana).

This chapter was reviewed and signed off by the GSFP in September 2014.

References

- Abdul-Rahman, L. and Agble, R. (2012). *Review of School Health and Nutrition Interventions and Mapping of Existing Programs in Ghana*. PCD, Dubai Cares and Government of Ghana, Accra.
- Ernst and Young. (2012). *End of Project Evaluation of the Ghana School Feeding Programme*. March, Ghana, Accra.

- FAO. (2013). *FAO Country Profiles. Low-Income Food-Deficit Countries (LIFDC) — List for 2013*. FAO, Rome. Available from: <http://www.fao.org/countryprofiles/lifdc/en/> (Accessed 23 December 2013).
- FAO. (2010). *Special Program for Food Security*. Available from: <http://www.fao.org/focus/e/specpr/SProHm-e.htm> (Accessed October 2010).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Gelli, A., Kretschmer, A., Molinas, L. and de la Mothe, M.R. (2012). A Comparison of Supply Chains for School Food: Exploring Operational Trade-Offs Across Implementation Models. *HSGF Working Paper Series*, No. 7, PCD, WFP and WHU, London. Available from: http://hgsf-global.org/en/bank/downloads/doc_download/471-hgsf-working-paper-7-comparison-of-supply-chains-for-school-food-exploring-operational-trade-offs (Accessed 23 December 2013).
- Gelli, A. and Masset, E. (2012). *Design of a Randomised Control Trial Examining the Impact of School Feeding on Agriculture and Community Development in Ghana*. PCD, London.
- GHS (Ghana Health Service). (2007). *National School-Based Deworming Programme — Baseline Survey 2007*. GHS, Accra.
- Government of Ghana. (2013). *Ghana School Feeding Programme: Annual Operating Plan 2013*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2011). *Ghana School Feeding Programme: Annual Operating Plan 2011*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2010). *Ghana School Feeding Programme: Annual Operating Plan 2010*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2009). *Annual Progress Report 2009*. Ministry of Food and Agriculture, Accra.
- Government of Ghana. (2008a). *Preliminary Educational Sector Performance Report 2008*. Ministry of Education Science and Sports, Accra.
- Government of Ghana. (2008b). *Ghana School Feeding Programme: Annual Operating Plan 2008*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2008c). *Ghana School Feeding Programme: District Operations Manual*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2007a). *Food and Agricultural Sector Development Policy (FASDEP) II*. Ministry of Food and Agriculture, Accra.
- Government of Ghana. (2007b). *National Social Protection Strategy*. Ministry of Manpower, Youth and Employment, Accra.
- Government of Ghana. (2007c). *Annual Education Sector Operational Plan (2007–2009)*. Ministry of Education, Accra.

- Government of Ghana. (2006a). *Ghana School Feeding Programme Document 2006–2010*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2006b). *Ghana School Feeding Programme. District Menu Savelugu Nanton District*. Ministry of Local Government and Rural Development, Accra.
- Government of Ghana. (2005a). *Growth and Poverty Reduction Strategy (GPRS) II 2006–2009*. National Development Planning Commission, Accra.
- Government of Ghana. (2005b). *Policy — Imagine Ghana Free of Malnutrition*. Ghana Health Service, Accra.
- Government of Ghana. (2003). *Education Strategic Plan 2003 to 2015: Volume 1 Policies, Targets and Strategies*. Ministry of Education, Accra.
- Government of Ghana. (1961). *Education Act, Act 87 of 1961*. Ministry of Education, Accra.
- GSFP. (2014). Personal communication (Monitoring and Evaluation Officer of the GSFP) to Getrude Ananse–Baiden, 27th June.
- GSS (Ghana Statistical Service), GHS (Ghana Health Service), and ICF Macro. (2009). *Ghana Demographic and Health Survey 2008: Key Findings*. GSS, GHS, and ICF Macro, Calverton, Maryland, USA.
- Haas School of Business. (2013). *Ghana School Feeding Programme: Re-Evaluating the Role of Buffer Stocks in School Feeding*. Haas School of Business. University of California, Berkeley, Accra.
- Haas School of Business and GIMPA (Ghana Institute of Management and Public Administration). (2011). *Ghana School Feeding Programme: Re-Tooling for a Sustainable Future 2011*. Available from : http://hgsf-global.org/en/bank/downloads/doc_download/137-ghana-school-feeding-program-re-tooling-for-a-sustainable-future
- IFAD. (2009) *Rural Poverty in Ghana*. IFAD, Ghana, Accra. Available from: www.ruralpovertyportal.org/web/guest/country/home/tags/ghana (Accessed October 2010).
- IFPRI. (2009). *2009 Global Hunger Index. Facts and Findings: Sub-Saharan Africa, East Africa*. IFPRI, Washington, D.C. Available from: <https://www.ifpri.org/file/56995/download.pdf> (Accessed October 2010).
- PCD. (2011). *Home Grown School Feeding: Technical Assistance Plan*. PCD, Government of Ghana, London. Available from: http://hgsf-global.org/en/bank/downloads/doc_details/291-ghana-technical-assistance-plan (Accessed 23 December 2013).
- PCD. (2014). *School Meals Planner*. [online] HGSF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 13 March 2014).

- Republic of Ghana. (1992). *The Constitution of the Republic of Ghana 1992*. Government Gazette, 15 May 1992. Accra. Available from: http://www.judicial.gov.gh/constitution/second_schedule/home.htm (Accessed 23 December 2013).
- SEND-Ghana. (2008). *Whose Decision Counts?* Policy Brief No. 1/2008. SEND-Ghana, Tamale.
- SNV Ghana. (2008). *Daily Realities of the Ghana School Feeding Programme: An Inventory of the Implementation of the Ghana School Feeding Programme*. SNV Ghana, Accra.
- Tembon, A. (2011). *Levelling the Playing Field in Ghana: The Realities of Using Social Protection Tools to Target a National School Feeding Programme. Mission Paper*, The World Bank Group, Washington, D.C.
- UNDP. (2013). *Human Development Report 2013 — the Rise of the South: Human Progress in a Diverse World*. 19 March, UNDP, New York. Available from: <http://hdr.undp.org/en/content/human-development-report-2013> (Accessed 22 December 2013).
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 14 March 2014).
- WFP. (2007). *Ghana: Home-Grown School Feeding Field Case Study 2007*. WFP, Rome. Available from: <https://www.wfp.org/content/home-grown-school-feeding-field-case-study-ghana> (Accessed 23 December 2013).
- World Bank. (2013). *World DataBank: World Development Indicators — Ghana*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 18 March 2014).
- World Bank. (2012). *Improving the Targeting of Social Programs in Ghana*. A World Bank Study. International Bank for Reconstruction and Development. The World Bank Group, Washington, D.C.

This page intentionally left blank

Case Study 8: India — Mid-Day Meal Scheme

Country Profile

Population in 2011: 1,241,000,000 (World Bank, 2013).

Gross Domestic Product Per Capita in 2011 (US\$): 1,509 (World Bank, 2013).

Population ages 0–14 years in 2011 (% of total): 30 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2008 (%): 116 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2010 (%): 98 (Government of India, 2010a).

Under-fives suffering from stunting (moderate and severe) in 2005–2006 (%): 48 (UNICEF, 2013).

Employment in agriculture in 2010 (% of total employment): 51 (World Bank, 2013).

Classified as a Low-Income Food-Deficit Country in 2013 (FAO, 2013).

Introduction

With over 1.2 billion inhabitants (World Bank, 2013), India is the second most populous country in the world and one of the fastest growing new economies (Figure 1). India is classified as a Low-Income Food-Deficit Country (FAO, 2013) where agriculture accounts for 17% of the gross domestic product and where 51% of the total workforce was employed in agriculture in 2010 (CIA, 2009; World Bank, 2013). India is the world's largest producer of various fruits and vegetables, as well as milk, major spices, select meats, and several staples such as millets and castor oil seed. It is also the second largest producer of wheat and rice, producing 85.9 million tons and 95.3 million tons respectively in 2011 (Prija and Mishra, 2011).

While studies claim India is easily able to feed its growing population, as well as producing wheat and rice for global export, food insecurity and hunger

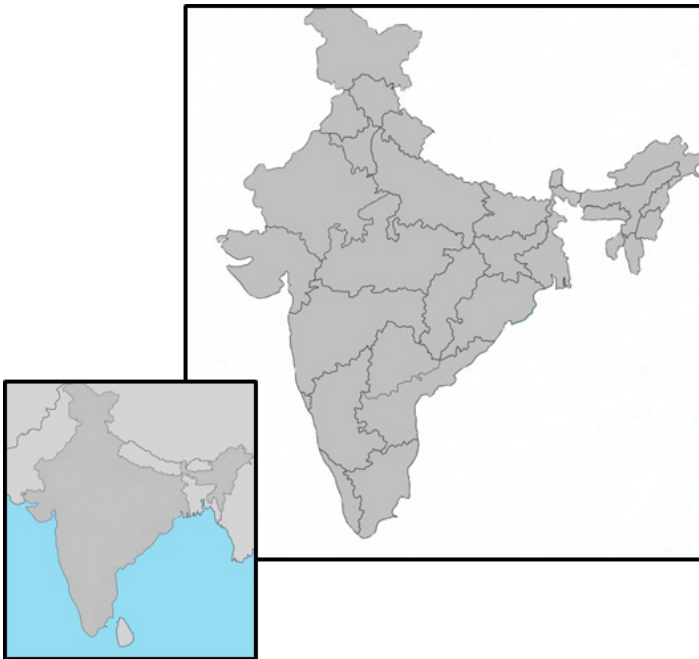


Figure 1: Map of India by region and part of South Asia

Source: GADM (2013).

is still a reality for much of the population (FAO, 2006). India demonstrates that food grain self-sufficiency at the national level does not ensure food security at the regional or household levels. It is a paradox that India is one of the leading exporters of both wheat and rice and yet is home to approximately 25% of the world's most hungry and poor (WFP, 2012).

Two of the greatest problems relating to school-age children in India are the large numbers of out-of-school children and the considerable extent of undernourishment among children. Recently, India has been making progress in addressing participation in education. Between 2002 and 2008, India's primary school net enrollment ratio increased from 78% (UNESCO — UIS, 2011) to 98%, with a grade 5 survival rate of 72% in 2008 (Government of India, 2010a). In 2006, India was home to 57 million — or more than a third — of the world's 146 million undernourished children. Around 46% of India's children under three years of age were underweight (Government of India, 2007). The corresponding figure is 30% in sub-Saharan Africa. Children aged under-five suffering from stunting (moderate to severe) in 2005–2006 was 48% (UNICEF, 2013). Anaemia is also widespread among children. The policy challenge, in this context, is to address both the educational needs and the nutritional needs of school-age children.

Successive central and State governments have taken various measures to enhance enrollment and retention of children in schools with some degree of success. One strategy has been the Mid-Day Meal Scheme (MDMS) for school children. The program was launched in 1995 with the objective to “boost universalization of primary education, by increasing enrollment, retention, and attendance and simultaneously impacting on nutrition of students in primary classes” (Government of India, 1995).

With 113.6 million school children (79.7 million in primary school and 33.9 million in upper primary school/Education Guarantee Scheme Centres) reached in 2010–2011, India's MDMS is the largest school feeding program in the world (Sarkar, 2013; Kumar, 2011). It is a unique example of a large-scale program regulated and sponsored by a central government, with important involvement of States and local authorities in the management, funding and implementation. This leads to different program configurations across the country.

The Department of School Education and Literacy (DSEL) under the Ministry of Human Resource Development has the overall responsibility for

the program. The National Steering and Monitoring Committee monitors and assesses the impact of the program and provide policy advice to central and State governments. Corresponding Steering and Monitoring Committees exist at the State, district and local (block) levels. The central government provides funding for food grains and their transportation, and subsidies for cooking costs, kitchen devices, and program monitoring.

The State governments and Union Territories are responsible for implementing the MDMS. Each State/Union Territory designates one of its departments as the nodal department to take overall responsibility for implementation of the program in the State. For States which have devolved the function of primary education to gram panchayats¹ and urban local bodies, the responsibility of day-to-day supervision of the program rests with them. At the school level, responsibility for the MDMS rests with the Village Education Committee, the School Management and Development Committee or Parent–Teacher Associations. Non-governmental organizations (NGOs) can also be associated in the MDMS.

All food for the MDMS is purchased within India, with food grains purchased centrally through the Food Corporation of India. Food grains are distributed through a network of Fair Price Shops at the State level to centralized kitchens or schools where the meals are prepared. Other food commodities, including perishables such as vegetables, fruits, and eggs, are the responsibility of each State.

Methodology

This chapter provides an overview of the MDMS as it operated in 2011 with information largely drawn from the comprehensive case study *The School Feeding Programme in India: A Case Study* conducted in 2010 by the M S Swaminathan Research Foundation (MSSRF) (MSSRF, 2011). This information was further complemented by specific examples from four States: Andhra Pradesh, Odisha, Tamil Nadu, and the Union Territory of Puducherry. Data presented

¹India's political system involves a decentralized government where villages are self-governed and responsible for their own affairs. A gram panchayat is the unit of administration at the village/local level within the local government system.

Country School Feeding Program Factsheet

Start Date	1995	
Design and Implementation	<i>Rational/Impact</i>	Encouraging poor children belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities; improving children's nutritional status; and providing nutritional support to children of primary stage in drought-affected areas during summer vacation.
	<i>Implementation Levels</i>	Universal coverage of grades 1–8 in government and government-aided schools, local body and alternate and innovative education centers under the Education Guarantee Scheme.* 113.6 million beneficiaries in 2010–2011 (79.7 million in primary school and 33.9 million in upper primary school/Education Guarantee Scheme Centers).
	<i>Supply, Storage, and Logistics</i>	A centrally-sponsored scheme with decentralized implementation.
	<i>Modality, Food Basket Details</i>	Cooked mid-day meal: Minimum 450 kilocalories and 12 grams of protein per primary school child per day (minimum 700 kilocalories and 20 grams of protein per upper-primary school child per day), 200 days per year.
	<i>Food Preparation</i>	Either a centralized kitchen or in school by cooks.
Policy and Legal Framework Documents	<ul style="list-style-type: none"> • Supreme Court Orders related to school feeding in the case of PUCL v Union of India (Supreme Court of India, 2001). • Follow-up Supreme Court Orders between 2001 and 2012 (Office of Supreme Court Commissioners, 2011). • Revised MDMS Guidelines (Government of India, 2004a). • Guidelines on the National Programme of Nutritional Support to Primary Education (Government of India, 2006a). • National MDMS Guidelines (Government of India, 2013a). 	

(Continued)

(Continued)

Start Date	1995	
Institutional Arrangements	Lead Institution	Ministry of Human Resource Development, DSEL.
	Supporting Institutions	The Food Corporation of India, other central government departments and the designated State nodal department for the MDMS.
Finance	Annual Budget	Combined central and State governments/Union Territory expenditure was around US\$3,850 million (17,000 crore rupees) in 2010–2011, of which US\$1,836 million (8,000 crore rupees) was from the central government.**
	Cost Per Child Per Year	2011 average: US\$32.40 (approximately 1,500 rupees).
Community Involvement	While community involvement is clearly prioritized within the national policies, at the school level this is not always the case.	
Innovations/Good Practices	The program provides significant learning for other national programs. The expansion of the program relied both on the legal framework (making the provision of cooked meals an obligation of all States and a right of every child) and on the increase of financial resources granted at the central level to the States for adequate implementation.	
Weaknesses/Risks	<ul style="list-style-type: none"> • The amount of funds required and the flow of funds is a key implementation challenge. Delays in disbursing funds to the State implementing agencies impacts negatively on the MDMS in many States. • In some States, poor levels of community participation and the relative non-involvement of elected local bodies are weaknesses that need to be addressed. 	

*This center is run by State governments/Union Territories, local bodies or NGOs and receive central assistance. ** Estimated based on US\$1 = 46.3 Indian rupees.

at the Global Child Nutrition Forum in 2011 by the Government of India and the MSSRF was also included (Kumar, 2011; Rukmani, 2011).

Design and Implementation

The MDMS programme is a universal school feeding program. Central guidelines have led to large-scale coverage of the program with similar norms and standards across the country. In addition, the national guidelines are flexible enough to allow program variations in scope, coverage, funding sources, and implementation.

Objectives

School feeding is one strategy of the Indian Government to enhance enrollment, retention, and attendance, while contributing to children's nutrition. It has three broad objectives:

- Encouraging poor children belonging to disadvantaged sections, to attend school more regularly and help them to concentrate on classroom activities.
- Improving children's nutritional status in grades 1–5 (grades 6–8 since 2007).
- Providing nutritional support to children of primary age in drought-affected areas during summer vacation.²

In addition, the National Guidelines developed in 2006 acknowledge the program's social value and its role on fostering equality:

“As children learn to sit together and share a common meal, one can expect some erosion of caste prejudices and class inequality. ...the mid-day meal program can also reduce the gender gap in education, since it enhances female school attendance...” (Government of India, 2006a).

²From 2004, the MDMS provided nutritional support to primary school students in drought-affected areas during the summer vacations when schools are closed (Supreme Court Orders of 20 April 2004 [Office of Supreme Court Commissioners, 2011]).

Targeting and coverage

The MDMS targets all children enrolled in government, local body and government-aided primary and upper primary schools (grades 1–8), and in the Alternate and Innovative Education Centres under the Education Guarantee Scheme.

The number of children covered rose from 103.4 million in 2001–2002 to 108.7 million in 2004–2005. There was a sharp increase to 119.4 million in 2005–2006 (Rukmani, 2011), following the expansion of the program to government-aided primary schools and the alternate and innovative education centers under the Education Guarantee Scheme increased the central budget allocation.

However, there were wide disparities in coverage across States. Some States such as **Tamil Nadu** and Kerala, with a universal or near universal MDMS in operation and a static primary school population, did not show dramatic changes in MDMS participation. In States where the 1995 NP-NSPE (National Programme of Nutritional Support to Primary Education) Guidelines had been indifferently implemented or remained largely unimplemented (Government of India, 1995), the 2004 NP-NSPE Guidelines led to a clear increase (Government of India, 2004b). This is especially evident in Rajasthan and Bihar and to a lesser extent in Uttar Pradesh and Madhya Pradesh.

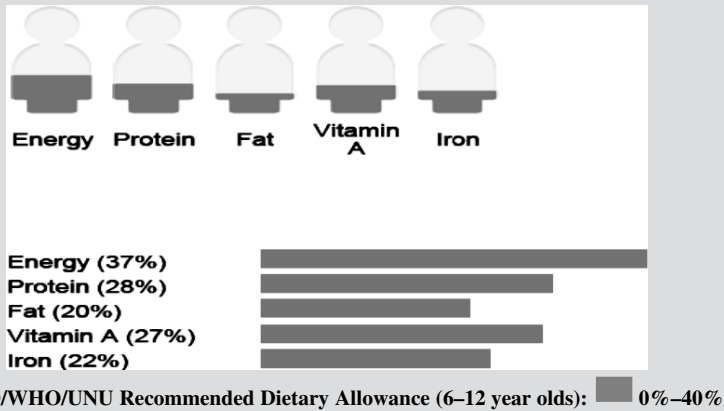
In 2007, coverage expanded to upper-primary school (grades 6–8), initially in 3,479 educationally backward blocks and then all upper primary school children in the following year. Coverage rose from around 90 million in 2007–2008 to 111.9 million in 2008–2009 and 113.6 million in 2010–2011 (Government of India, 2009a; Government of India, 2010b; Sarkar, 2013).

In addition, some States expanded the MDMS to other age groups. In **Tamil Nadu** and **Andhra Pradesh** for instance, the State governments also provide school feeding for students in grades 9 and 10 in high schools. The State procures rice from its own funds from the open market through Andhra Pradesh Civil Supplies Corporation. In the **Union Territory of Puducherry**, the program is more inclusive, reaching children from pre-primary school to grade 12.

Modalities, food basket, and nutritional norms

As detailed in Table 1, the nutritional guidelines and food basket quality have been improved over time (2001–2009). In 2001, the Supreme Court directed

Gingerbread men representing the average daily nutritional content of a sample weekly mid-day meal menu in the MDMS for Odisha State



- A sample weekly mid-day meal menu from Odisha State was used for the nutrient content calculations. Since the ration sizes were not stated in the Odisha State mid-day meal menu, the national ration size guidelines for upper-primary school in India were used to estimate the ration sizes in grams.
- The raw version of each food item was used in the nutrient content calculations.

Sources: PCD (2014).

“...the State governments and Union Territories to implement the Mid-Day Meal Scheme [sic] by providing every child in every government and government-assisted primary school with a prepared mid-day meal with a minimum content of 300 calories and 8–12 grams of protein each day of school for a minimum of 200 days.” (Supreme Court of India, 2001). In 2004, the central government then issued the first nutritional guidelines based on the Supreme Court Order for meals to include a minimum content of 300 kilocalories and 8–12 grams of protein per primary school child per day (Government of India, 2004a). The new guidelines in 2006 responded to the program challenges addressed by the National Steering and Monitoring Committee which included revising the nutritional norms by increasing the

Table 1: Central government nutritional norms under the MDMS

	*2001 Supreme Court Order	**2004 Guidelines (per child per day, primary school)	***2006 Guidelines (per child per day, primary school)	****2009 Guidelines (per child per day, upper-primary school)
Caloric Intake	300 kilocalories	300 kilocalories	450 kilocalories	700 kilocalories
Protein	8–12 grams	8–12 grams	Minimum 12 grams	Minimum 20 grams
Food-based Guidelines		100 grams cereal	100 grams cereal 10 grams cooking oil and fat	150 grams cereal 30 grams pulses 75 grams vegetables 7.5 grams cooking oil and fat

Sources: *Supreme Court of India (2001); **Government of India (2004a); ***Government of India (2006a); ****Government of India (2009b).

minimum content to 450 kilocalories and 12 grams of protein per primary school child per day and including components such as micronutrient supplementation and deworming (Government of India, 2006a). From these revisions, further modifications in the 2009 Guidelines included: expanding the MDMS to upper-primary school children to receive meals with a higher nutritional standard (a minimum content of 700 kilocalories and 20 grams of protein per upper-primary school child per day); amending food norms to include more vegetables and pulses and reducing the cooking oil; and norms on appointing cooks and helpers to be linked to enrollment with specific funding allocated for them (Government of India, 2009b).

Some States have issued guidelines compliant with the National Guidelines. Several States complement the food basket with eggs and fruits a few days a week. In **Tamil Nadu**, repeated menu upgrades ensure adequate nutrition, including the provision of micronutrients. Around 20 grams of special pulses are provided one day a week, and 20 grams of potatoes on another day. Iron and iodine fortified salt are used. The food basket was further strengthened in 2011 by including three eggs a week or bananas in lieu of eggs for children who do not consume eggs. Children

are receiving 476 calories and 15.34 grams of protein as per the guidelines (MSSRF, 2011). An outstanding example is the **Union Territory of Puducherry**, where the MDMS is complemented by a breakfast (milk and fortified biscuits) and in the evening a hot milk and entirely funded by the Union Territory Government (Government of Puducherry, 2012; MSSRF, 2011).

A detailed analysis of the MDMS menu nutrient compositions was recently undertaken (Aliyar *et al.*, 2015) which showed that similar to other school feeding programs in middle-income countries, the MDMS provides 31% of the daily energy requirements, with protein and fat provision at 62% and 37% respectively, and vitamin A and vitamin C provision being low at 9% and 17% respectively (Aliyar *et al.*, 2015).

However, while the nutritional impacts of the MDMS have not yet been evaluated, the links between health and nutrition could be strengthened by increased intersectoral co-ordination.

Food procurement, transportation, storage, and preparation

Food procurement

The MDMS is an example of mixed implementation with two separate procurement processes: food grains subsidized by the central government; and food commodities with procedures established at the State level.

Food grains subsidized by the central government: Food grains are supplied by the government-owned Food Corporation of India where the State procuring agencies procure the grains from traders (wheat and rice) and millers (rice), (Figure 2 and Box 1). The Food Corporation of India stores the grains in regional depots. Since 2009, it sells the grains to District Civil Service Supplies Corporations and transfers them to their warehouses. Next, the grains are delivered to fair price shops and then distributed by the implementing agencies to the schools or centralized kitchens where the meals are prepared.

Food commodities with procedures established at the State level: The procurement of the other food items varies in each State. In the **Union Territory of Puducherry**, various food items are procured from government-run

MDMS Food Supply - Grains

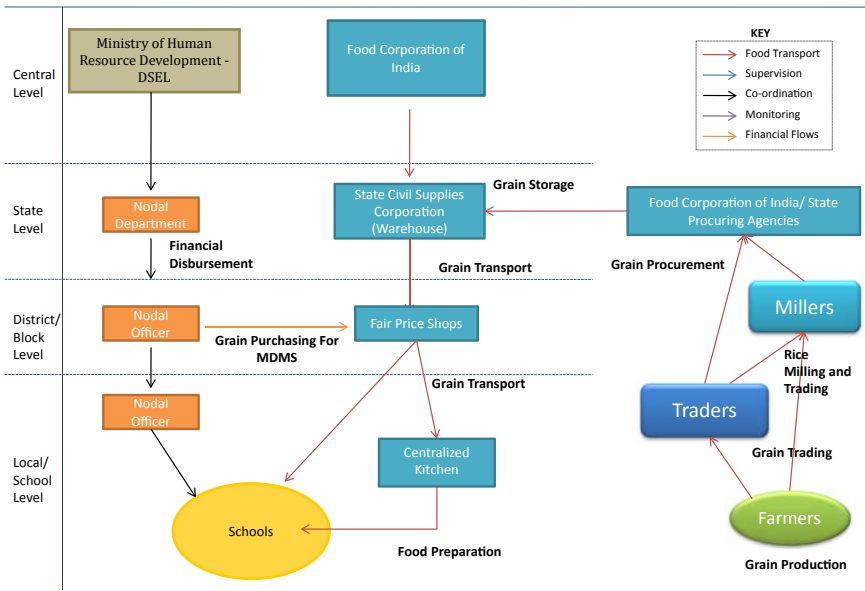


Figure 2: MDMS supply chain (subsidized grains)

Source: Sourcebook authors.

co-operatives such as Puducherry Central Co-operative Processing Supply and Marketing Society, Puducherry Agro Products Food and Civil Supplies Corporation Limited, etc. Milk is supplied to the schools directly by the Puducherry Co-operative Milk Producers Union. While self-help groups are involved in the supply of food articles, their involvement is minor. For example, in **Andhra Pradesh**, the implementing agencies are responsible for purchasing all materials (other than rice) for the school meals and do so through the program Development of Women and Children in Rural Areas (DWCRA), and through the Gruha Mitra³ of the local market, where funds are released by the State. Guidance at the State level is issued for procuring eggs at the district level through tender systems.

³A Gruha Mitra is a retail marketing network that supplies to consumers essential commodities at affordable rates through fair price shops (The Hindu, 2002).

Box 1: The Food Corporation of India

The Food Corporation of India was created in 1965 to provide price support for farmers, distribute food grains, and promote national food security through maintaining buffer stocks of food grains. The Corporation is one of the largest supply chain management bodies in Asia. Food is procured from local farmers at rates declared by the national government. The central government is responsible for procurement, storage, transportation, and bulk allocation of food grains. State governments are responsible for distribution through the established network of Fair Price Shops.

This network supplies rice to the MDMS at the Below Poverty Line rates as determined by the national government. Additional central assistance is provided through a grant to the State government for the costs of transportation of the grain from the stores to the implementing agency/schools of the MDMS. Strict instructions have been given to the issuing authorities that only good quality food grains are supplied under the MDMS.

Source: Food Corporation of India (2013).

Food preparation

In the MDMS, cooking is either carried out in a centralized kitchen or in schools by cooks hired by the implementing agencies. The MDMS guidelines state categorically that teachers should not be assigned responsibilities in the program that would interfere with their teaching and the learning process of the school children (Government of India, 2006a).

Some States are particularly supportive of centralized kitchens, as meals are prepared at large-scale in a clean environment and in an industrial setting, allowing for important economies of scale (i.e. reduced costs due to mass production) and uniform quality in service delivery — especially in urban settings.

However, there are variations in the capacity of States to deliver the MDMS. For example, in July 2013, 23 children died from eating a pesticide-contaminated school meal in Bihar State. The cooking oil used for the mid-day

meal had been contaminated by pesticide stored at the school by the head teacher's husband (The Guardian, 2013). This tragedy highlights the importance of building effective implementation mechanisms, ensuring that the supply chain includes appropriate and effective checks as an essential part of the delivery process. It also raises issues of poor management and corruption that needed to be addressed. Responding to the tragedy, the government issued new guidelines to include mandatory provision of the principal and teacher tasting the food prior to the meals being served to school children (The Times of India, 2013). A toll free number is now provided in all schools, allowing children and parents to make complaints, and raw grains for the Bihar MDMS programme are being kept for three months at Godowns where the grains are stored (BiharPrabha, 2013).

Links with local food production, smallholder farmers, and local communities

Finding markets for farmers' produce is not a priority of school feeding in India. The huge public distribution system based on procuring vast quantities of grain from farmers at minimum support prices decreases the MDMS importance as a source of demand for grains. On average, through the Food Corporation of India, the government procures anywhere between 25% and 30% of the domestic production of rice and wheat for its various food grain/food distribution programs (Kumar, 2011) and of this, the MDMS accounts for a very small proportion.

However, there is scope for local procurement of vegetables and condiments as well as additional items (such as eggs, bananas, milk in the **Union Territory of Puducherry**, and additional cereals in several States). These need to be explored.

The benefits to local communities are related to employment opportunities. In 2010–2011, the MDMS provided employment to more than 2.6 million cooks/helpers engaged by the State/Union Territories for preparation and serving of school meals.

Policy and Legal Frameworks

The program is regulated by a series of Supreme Court Orders (Supreme Court of India, 2001; Office of Supreme Court Commissioners, 2011) and

National Guidelines (Government of India, 2004a; Government of India, 2006a; Government of India, 2013a) resulting in broadly similar norms across the country.

The MDMS highlights how civil society can use the court system to ensure the sustainability of school feeding in the country, building on India's international obligations and commitment to the Right to Food of all Indians (Supreme Court of India, 2001).

The MDMS was developed to benefit the rights of children, regardless of social status, to universal primary education. Over time additional benefits, including food access and social implications were identified as significant outcomes of the MDMS. However, as many States were unable to meet the costs not covered by the central government (cooking and infrastructure), universalizing the MDMS proved difficult.

In 2001, a public interest petition was filed by a civil society organization in the highest court in India, the Supreme Court, against distributing uncooked grains to school children and against States not implementing the MDMS. As part of the nation's commitment to the Right to Food (Box 2), the Supreme Court directed State governments and Union Territories to implement the MDMS making the provision of cooked meals an obligation to all States and a right to every child (Supreme Court of India, 2001).

Box 2: The Right to Food in India

In 2001, the Supreme Court of India determined that India was in violation of international obligations honouring the right to adequate food as well as the Indian Constitution, as widespread famine was present in the country while approximately 50 million tons of food stocks were held by the country. The court determined that the Indian Government must fulfil the Constitutional Right to Food of all Indians and ordered the government to improve the situation of hunger and malnutrition in India. This order converted the benefits of eight food-related programs into legal entitlements including the MDMS.

Sources: Supreme Court of India (2001); Office of Supreme Court Commissioners (2011) (see Supreme Court Order 2001); SLIC (2013).

In subsequent orders focused on the MDMS, the Supreme Court further strengthened the right of children to a mid-day meal at school. For example, in Supreme Court Order of 20 April 2004 (Office of Supreme Court Commissioners, 2011 [see Supreme Court Order 20 April 2004 MDM]), the Court observed that: funds for cooking and provision for kitchen shed construction should be made; the cooking costs should not be recovered from children or their parents; during droughts, mid-day meals should be provided during summer vacations; scheduled castes and scheduled tribes should be given preference when appointing cooks/helpers; and attempts at better infrastructure, improved facilities (safe drinking water, etc.), closer monitoring (regular inspection, etc.) and other quality safeguards should be made, as well as improving the nutrition contents of the school meals.

At the State level, there is limited power to influence the policies around the MDMS, however, as the MDMS was initially based on earlier State noon meal schemes the implementing States have had a degree of input.

Institutional Arrangements

The MDMS is an example of a large-scale program regulated and funded by a central government, with important involvement of States and local authorities in the management, funding and implementation, which leads to different program configurations across the country.

The institutional framework involves several sectors and departments. The 2004 and 2006 MDMS Guidelines provided for a detailed program management structure, from national level to the local body levels, as well as guidelines for associating NGOs in the MDMS (Government of India 2004a; Government of India 2006).

At the central level, DSEL, under the Ministry of Human Resource Development, has overall responsibility for the program (Figure 3).

A National Steering and Monitoring Committee is set up at the national level to monitor the program, assess impact, provide policy advice to central and State governments, mobilize community support, and promote public-private partnerships. Corresponding Steering and Monitoring Committees also exist at the State, district and local (block) levels.

MDMS Overview

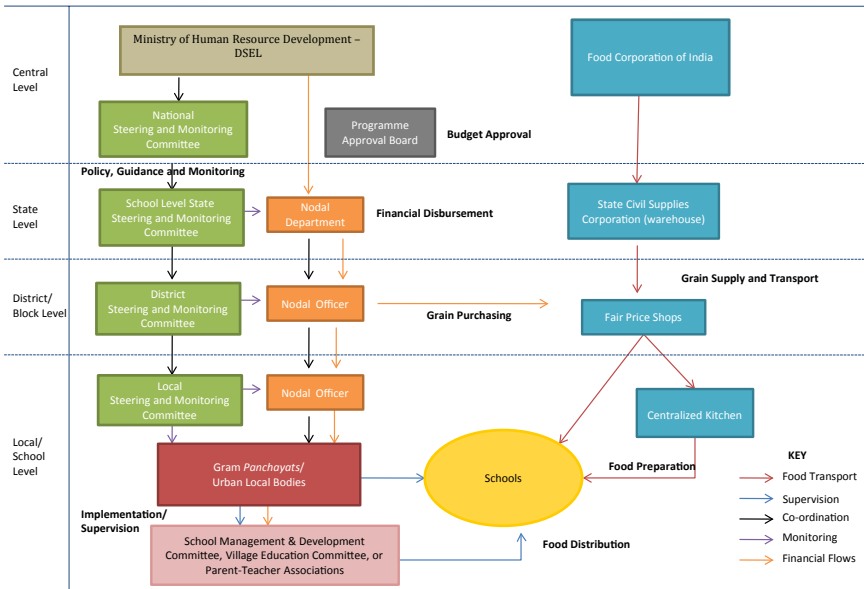


Figure 3: Institutional set up of the MDMS

Source: Sourcebook authors.

The DSEL co-ordinates with:

- the central government-owned Food Corporation of India;
- other central government departments that run infrastructure funding schemes for the construction of kitchens and storage facilities at the school level; and
- the designated nodal department for the MDMS at the State level.

State governments and Union Territories are responsible for implementing the MDMS. Each State/Union Territory designates a nodal department responsible for implementation (usually the Department of Education). This includes monitoring implementation at the school level. The State Nodal Agency conveys the district allocations to all District Nodal Agencies and ensures that the District Nodal Agencies sub-allocates the monthly district

allocation to the sub-district level which in turn further allocates it to each school. However, for States which have devolved the function of primary education to gram panchayats and urban local bodies, the responsibility of day-to-day supervision of the program rests with them.⁴

Nodal officers are appointed at district and development block levels (e.g. the District Collector, District/Intermediate gram panchayat, etc.) to oversee effective implementation of the program. District Nodal Agencies inform schools of their monthly allocations and are responsible for the development of menus and transport arrangements for the food grains.

At the school level, the School Management and Development Committee, the Village Education Committee or the Parent–Teacher Association is responsible for the program as the implementing agency, and is accountable to the elected local gram panchayat.

The National Guidelines (Government of India 2004a; Government of India, 2006a; Government of India, 2013a) provide for systematic monitoring using detailed formats and reporting systems, and there is a system of concurrent evaluation by independent agencies in every State, funded from 2% of the total MDMS budget allocated to management, monitoring, and evaluation.

Implementation arrangements can vary at State level. One unique example is **Tamil Nadu**, where the State level Nodal Department (rather than the Education Department) is the social welfare as in most cases, as school feeding is considered a social protection instrument in this State. The program is run entirely by the government with staff exclusively assigned to run the program, with little involvement from other sectors or the community. A set of paid functionaries takes care of all work related to the implementation at the school level.

Funding and Budgeting

The MDMS has been in existence for nearly a decade, and has expanded considerably, particularly since 2004 as indicated in the central government's planned budget and annual expenditure for the MDMS (Government of

⁴The gram panchayats/urban local bodies could in turn appoint Standing Committees to be responsible for overseeing the implementation of the MDMS.

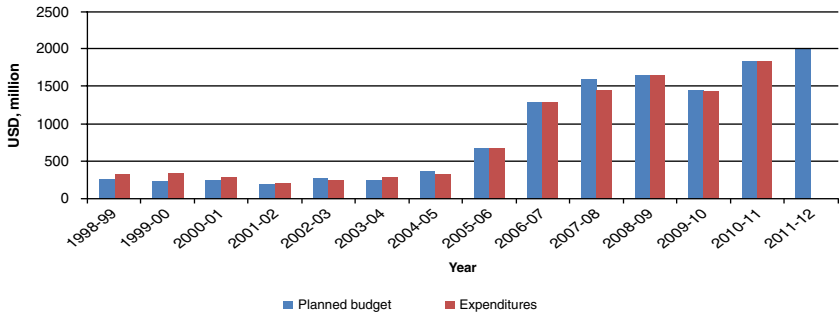


Figure 4: Evolution of central government funding

Source: Various years, accessed from Government of India (2013b).

India, 2013b). The costs to the States of the MDMS have been minimized ensuring the fiscal commitment required to run the program is manageable in every State.

Financial viability is not a critical issue for the MDMS. The MDMS expenditure accounts for a small share of the expenditure on education, which implies minimal fiscal threat at the moment. While the combined expenditure of central and State governments has risen in absolute terms, it has not increased consistently as a share of the gross domestic product. The total is a very low share of the gross domestic product, less than 4% of the education expenditure and only 0.4% of total expenditure. Even the eleventh plan allocation for the MDMS at US\$10,367 million (48,000 crore rupees)⁵ from 2007–2008 to 2011–2012 is unlikely to be fully spent (Government of India, 2006b). The country-wide demographic transition, evident in the preliminary figures of the 2011 census, suggests that the MDMS should remain financially affordable in the coming decades (Government of India, 2011).

As a consequence of the MDMS being revised and universalized in 2004, the central budget allocation steeply increased from 2005 as an increasing number of State governments and Union Territories moved towards near-universal provision of a cooked mid-day meal (Figure 4). Between 2005–2006 and 2007–2008, the expenditure practically doubled from US\$683 million (approximately 3,000 crore rupees) to US\$1,452 million (approximately 6,000 crore rupees). It then increased by 20% from 2007–2008 to 2008–2009

⁵ Estimated based on US\$1 = 46.3 Indian rupees.

to account for universal coverage of upper-primary schools (April 2008) (Government of India, 2013b).

The combined expenditure of the central and State governments/Union Territories on the MDMS was around US\$3,850 million (17,000 crore rupees) in 2010–2011 of which US\$1,836 million (8,000 crore rupees) was from the central government (MSSRF, 2011; Government of India, 2009a; Government of India, 2010b). The cost per beneficiary was around US\$32.40 (1,500 rupees) per child per year (MSSRF, 2011).

Delays in fund disbursement from the State government to the implementing agencies at the field level impacted negatively on the MDMS in many States. The Program Evaluation Organization of the Planning Commission found that the utilization of food grains averaged 76% in the 48 districts included in the sample; with the utilization significantly lower in tribal and backward districts such as Madhepura in Bihar (7%) and Adilabad in **Andhra Pradesh** (17%) (Government of India, 2010c).

Cost calculations

In 1995, the central government provided 100 grams of food grain per child per day to the States and a subsidy for transportation of 50 rupees (approximately US\$1.1) per 100 kilograms of grain. State governments were required to meet the additional costs for cooking. Initially, State governments were advised to allocate funds from the Poverty Alleviation Schemes, which are funds financed by the central government, to cover infrastructure costs. However, from April 1999, the responsibility of financing these costs was transferred to the States/Union Territories and several States faced financial difficulties and were unable to afford the construction of kitchens. As an interim measure, in some States the MDMS was implemented as take-home rations where 3 kilograms of food grains were distributed per student per month.⁶

Several budget revisions to the MDMS have been made over the years (2004–2010) to address the fiscal constraints being faced by States.

In 2004, the allocation per child per day funded by the central government was increased to 2.21 rupees (approximately US\$0.05), and of this: 1.11 rupees (US\$0.02) was for food grains; one rupee (US\$0.02) was for

⁶Such interim measure was stated in paragraph 12 of the NP-NSPE Guidelines (Rukmani, 2011).

cooking costs⁷; eight paise⁸ was for transportation, and two paise was for management and monitoring and evaluation (MSSRF, 2011; Government of India, 2004a).

Further revisions in 2006 included a 100% increase of the cooking cost allocated to two rupees (approximately US\$0.04) per child per day. In specified vulnerable States, the central government provided 1.80 rupees (approximately US\$0.04) per child per day and 1.50 rupees (approximately US\$0.03) to other States, with the remaining balance being met by the States. Central government fund allocations for the construction of kitchen sheds and for cooking/kitchen devices were made (MSSRF, 2011). There was an increase in transport cost allocations and 1.8% of total MDMS costs were allocated to monitoring and evaluation (Government of India, 2006a).

The cooking costs were revised in 2009 and again in 2010 (Government of India, 2010d). A separate cost component for payments to cooks was introduced in December 2009. One cook/helper for up to 25 students, two cooks/helpers between 25 and 100 students, and one additional cook/helper for every 100 students thereafter, has been provided in the MDMS. Payment for food grains to the Food Corporation of India was decentralized to the district level.

Community Participation

The government's multi-faceted approach has had mixed results for community involvement. The 2006 National Guidelines made a concerted effort to encourage engagement with the local community (Government of India, 2006a) providing a detailed program management structure, from national level to local body levels, as well as guidelines for associating NGOs in the MDMS. A particularly innovative aspect here is the activity mapping exercise suggested for application by the State governments with a view to enhancing the involvement of local bodies and the community in the MDMS.

The 2006 National Guidelines dictate that local bodies are the implementing agencies, with supervision from district- and State-level governments. The flexibility of modalities depicted in the 2006 National Guidelines provide for the involvement of community bodies in the MDMS implementation, including government-run feeding centers, women's self-help groups, NGOs or private sector organizations. These implementing agencies engage

⁷ Cooking costs were supposed to be covered entirely by the State government/Union Territory.

⁸ One paisa = 1/100 Indian rupee.

with the community to varying degrees based on the management structure used. NGOs may mobilize resources for conversion of food grains in to a cooked meal (Government of India, 2006a).⁹

Community support for the MDMS is mobilized by motivating parents, especially mothers, to get involved with the mid-day meal process at the school level. The program is also seen as an opportunity for women's self-help groups to take responsibility for regular procurement, cooking of meals, and the distribution process.

While community involvement is clearly prioritized within national policies, at the school level this, however, is not always the case. For example, in **Tamil Nadu**, the MDMS utilizes School Meal Centers located at schools, as the implementing agency. These School Meal Centers take care of all work related to the cooking of the mid-day meal on school premises and are run entirely by the government with staff exclusively assigned to run the program. Monitoring of the MDMS is also performed by the government through the District-, Block-, Corporation-, Municipality-, and Gram Panchayat-Level Committees. Therefore, there is limited opportunity for community involvement in the MDMS programme, outside of procurement of local produce from the market above the allocated rice rations from the Food Corporation of India.

However, in **Andhra Pradesh**, community involvement is more apparent. The MDMS programme utilizes multiple community agencies as implementing agencies. These include the programs DWCRA and the Development of Women and Children in Urban Areas, as well as self-help groups, School Education Committees, temples, NGOs, charitable trusts, and parent groups. Supervision of the Andhra Pradesh MDMS programme at the school level is carried out by the Mothers' Committees and gram panchayats. These agencies ensure among other things, that regular and wholesome meals are served to children that are cooked in hygienic conditions and served with vegetables as well as eggs and fruit twice a week. To improve the nutritional status of children, Britannia Industries, Naandi Foundation and Global Alliance for Improved Nutrition volunteered collectively to provide fortified biscuits to be included into the mid-day meals.

⁹In Annexure IX Paragraph 7 (Government of India, 2006a).

Regarding procurement, the implementing agency is responsible for purchasing all material (other than rice) for the school meals and does so through the DWCRA group and the Gruha Mitra of the local market, from funds released to them by the State. Andhra Pradesh is one of eight States where the Akshaya Patra Foundation is the implementation agency for the MDMS. The Foundation procures all food, other than rice, from the traders in the city, selected through a tender bidding process. Though the Foundation is supplying meals to schools located in the villages they are not procuring vegetables from the local farmers and have no plans to do so in the near future (Box 3).

Box 3: The Akshaya Patra Foundation

In a public–private partnership, the Akshaya Patra Foundation is the implementing agency for the MDMS in **Andhra Pradesh** and seven other States, reaching 1.3 million school children every day. The Foundation adapts to the different regions in which it operates. It uses two models: the centralized and decentralized kitchen.

- *Decentralized model:* All cooking takes place close to the school itself, in terrains where large infrastructure is not practical.
- *Centralized model:* Cooking activities are in a single location in one large kitchen with the capacity to cook between 50,000 and 150,000 meals per day. These cooked meals are then distributed to schools through customized delivery trucks capable of transporting up to 5,000 meals at a time. These large-scale central “intelligently engineered kitchens” have allowed the Foundation to rapidly increase the number of meals served in a short period of time while also ensuring the best possible quality of hygiene for the children.

The Foundation’s implementation is confined to government schools in rural and urban areas that have a secular policy in place. The State government’s allocation meets 60% of the total cost of the meal and distribution. To ensure a quality meal, the rest is raised by the Foundation through donations from corporate organizations and individuals.

Source: Akshaya Patra Foundation (2013).

Evidence of Program Impact

Several assessments and evaluations of the MDMS have been made since 2001 with key findings for education, hunger and social equity.

Education

Several evaluation studies on the MDMS demonstrate positive impacts on enrollment and attendance. A study in Birbhum district of West Bengal found that the MDMS resulted in a significant increase in child enrollment and attendance, especially girls and children from scheduled castes and scheduled tribes. It also found that the MDMS had averted severe undernourishment, reduced social distances and curbed teacher absenteeism (Pratichi [India] Trust, 2005).

A survey in 70 ‘most backward’ villages of Madhya Pradesh reported that 63% of parents and 74% of teachers felt that the mid-day meal had helped improve the children’s learning abilities. There was a 15% increase in overall enrollment and this increase was observed to be much higher in children from scheduled castes and scheduled tribes (43%) and girls (38%). Around 96% of parents wanted the MDMS to continue (Jain and Shah, 2005).

Positive results on enrollment, retention and attention have also been reported from several studies in Rajasthan, especially for girls (Drèze and Goyal, 2003; Blue, 2005; CUTS CART, 2006). Studies found that more than two-thirds of parents found the quality of the mid-day meals to be satisfactory and wanted the MDMS to continue (Mathur, 2005; Blue, 2005). However, they also reported that there is room for further improvement, especially regarding infrastructure facilities and access to water (CUTS CART, 2006).

Data on gross enrollment rates for socially disadvantaged scheduled castes and scheduled tribes (Table 2) confirm a significant rise between 2001–2002 and 2007–2008, especially among girls. This is especially striking at the primary school level, but is also significant at the upper-primary school level.

Hunger

Drèze and Goyal showed mid-day meals to be a protection against classroom hunger and hunger in general and they have helped to avert an intensification

Table 2: Primary and upper primary school-level gross enrollment rates for scheduled castes/tribes in India*

Category		2001–2002		2007–2008	
		Primary	Upper-primary	Primary	Upper-primary
Scheduled Castes	Boys	103.1	80.3	132.3	84.1
	Girls	82.3	57.7	116.7	67.7
Scheduled Tribes	Boys	106.9	82.1	134.4	80.2
	Girls	85.1	57.3	124	68.2

*Primary school includes grades 1–5; upper-primary school includes grades 6–8.

Source: MSSRF (2011).

of child undernutrition in many drought-affected areas. The contribution of mid-day meals to food security seems to be particularly crucial in tribal areas, where hunger is endemic (Drèze and Goyal, 2003).

Social equity

A central social problem in India is that of pervasive caste discrimination, in particular, against scheduled castes and scheduled tribes, especially in rural India. A comprehensive evaluation of the MDMS carried out for the government by the Programme Evaluation Organization of the Planning Commission in 2010 found that 23% of beneficiary children were from scheduled castes, 12% from scheduled tribes and 40% from other backward classes (Government of India, 2010c). Mid-day meals also contribute to breaking barriers of caste and help promote egalitarian values among children by getting children to eat together regardless of caste divides, and by involving scheduled castes in the operations of the program as cooks. Nevertheless, this is far from being an automatic process, as available evidence points to considerable resistance to elimination of social discrimination in the MDMS in some States (Drèze and Goyal, 2003; Lee and Thorat, 2004).

Conclusions

The MDMS is a consolidated national program, owned by the government at all levels with strong policy and legal frameworks that have made the

provision of a cooked school meal an entitlement of every school child in the country since 2001. The MDMS is more or less universal across the country, with broadly similar norms. The intervention is financially affordable and durably embedded in national and State budgets.

Evaluations have shown that the MDMS had positive impacts on enrollment, elimination of classroom hunger and promotion of gender and social equity. However, the nutritional impacts have not yet been evaluated and the links with health and nutrition could be strengthened by increased intersectoral co-ordination.

Challenges

The institutional set up of the MDMS has supported continuous delivery of this large-scale program. This is largely due to the combination of well-established responsibilities and procedures as well as flexibility regarding implementation arrangements at the local level. Intersectoral integration is generally weak, with some exceptions, such as **Tamil Nadu**, where the program is viewed along with other nutrition-related interventions such as those of the Integrated Child Development Services and the school health program, which provides deworming. However, inter-Ministerial co-ordination with the Ministry of Health and Family Welfare, the Ministry of Women and Child Development, the Ministry of Rural Development, and the Ministry of Consumer Affairs, Food and Public Distribution at different levels is an area for improvement.

A key implementation challenge is both the amount of funds required and the flow of funds. Even the 2006 revised norms do not solve the resource problem completely (Government of India, 2006a). Costs for cooking and cost estimates for food grain and other meal ingredients have been increasing. Delays in disbursing funds to the State implementing agencies impact negatively on the MDMS in many States. Even in well-performing States such as **Tamil Nadu**, there is great variation in the time it takes for cooking costs to reach schools, even when the central government has released its share well in time.

Trade-offs: Combined approach — central/State food purchasing

The size of India means that the combined approach with food grain procured from the Food Corporation of India and State procurement of other

food commodities has worked well. Finding markets for farmers' produce is not a motivation of school feeding in India. The logistics of the MDMS and quality control requirements and reasonably standardized implementation make it difficult to decentralize grain procurement to school or local-community levels. The huge public distribution system based on procurement of vast quantities of grain from farmers at minimum support prices also makes the MDMS much less important as a source of demand for grains. On average, the Government of India procures anywhere between 25% and 30% of the domestic production of rice and wheat for its various food grain/food distribution programs (Kumar, 2011) and of this the MDMS accounts for a very small proportion.

However, there is scope for local procurement of vegetables and condiments as well as additional items (such as eggs and bananas, milk in the **Union Territory of Puducherry**, and additional cereals in several States). These need to be explored.

Community involvement

The government's multi-faceted approach has shown mixed results when considering community involvement. In some States, poor levels of community participation and the relative non-involvement of elected local bodies are weaknesses that need to be addressed. However, in many States where it has been employed, the public-private partnership has proved instrumental in improving the quality and reach of the program. The involvement of a number of bodies such as the Akshaya Patra Foundation in the implementation of the MDMS has resulted in better performance and promotion of community participation through fundraising and volunteering. The reliance on NGOs for the implementation has also resulted in program disruptions and distinct lack of accountability in some States, such as in **Odisha**.

Lessons learned and good practices

Given the scale and the government will to implement the MDMS, the program provides significant learning for other national programs. The expansion of the program relied both on the legal framework (making the provision of cooked meals an obligation of all States and a right of every child) and on

the increase of financial resources granted at the central level to the States for adequate implementation.

The India example of a school feeding program has shown:

- The role civil society can play in ensuring the right to food in a pluralist democracy where the poor are underrepresented in most public spaces and forums. Judicial intervention and social movements have ensured the sustainability of school feeding in the country, building on India's international obligations and commitment to the Right to Food of all Indians (Supreme Court of India, 2001).
- The evolution process the program went through in becoming embedded in the policy framework. The program today looks much different to the national program initiated in 1995, and this is largely due to the policy changes made over this time.
- The importance of implementation guidelines with clear standards and appropriate budgets to support legal and policy frameworks. The 2004 and 2006 National Guidelines were critical in supporting the extension of the program (Government of India, 2004a; Government of India, 2006).
- The importance of building effective implementation mechanisms with appropriate checks in the supply chain delivery process and addressing any poor management and corruption in the school feeding programs — tragically highlighted by the pesticide-contaminated school meals in Bihar State (The Times of India, 2013).

Abbreviations and Acronyms

DSEL	Department of School Education and Literacy
DWCRA	Development of Women and Children in Rural Areas
FAO	Food and Agriculture Organization of the United Nations
MDMS	Mid-Day Meal Scheme
MSSRF	M S Swaminathan Research Foundation
NGO	Non-governmental organization
NP-NSPE	National Programme of Nutritional Support to Primary Education
PCD	The Partnership for Child Development
UNU	United Nations University
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from the comprehensive case study *The School Feeding Programme in India: A Case Study* by MSSRF (MSSRF, 2011).

This chapter was compiled by Emilie Sidaner (United Nations World Food Programme) and Brie McMahon (The Partnership for Child Development [PCD]) with support from Alice Woolnough (PCD); reviewed by Cai Heath (PCD) external to India; and at the country level by Arvind Kumar (Ministry of Finance); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

This chapter was reviewed and signed off by the Ministry of Finance in June 2014.

References

- Akshaya Patra Foundation. (2013). *India's Mid-day Meal Scheme*. Akshaya Patra Foundation, Bangalore. Available from: <http://www.akshayapatra.org/indias-mid-day-meal-scheme> (Accessed 31 January 2013).
- Aliyar, R., Gelli, A. and Hamdani, S. (2015). A Review of Nutritional Guidelines and Menu Compositions for School Feeding Programmes in 12 Countries. *Frontiers in Public Health* 3, 148. Doi: 10.3389/fpubh.2015.00148.
- BiharPrabha. (2013). *Bihar Government to Introduce Toll Free Number for Mid-Day Meal*. 2 September 2013. Available from: <http://news.biharprabha.com/2013/09/bihar-government-to-introduce-toll-free-number-for-mid-day-meal/> (Accessed 26 November 2013).
- Blue, J. (2005). *An Assessment of Program Implementation and Impact in Udaipur District*. Right to Food India, New Delhi. Available from: <http://www.righttofoodcampaign.in/> (Accessed 31 January 2013).
- CIA (Central Intelligence Agency). (2009). *The World Factbook: South Asia, India*. CIA, Washington, D.C. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html> (Accessed 31 January 2013).
- CUTS (Consumer Unity & Trust Society International) CART (Centre for Consumer Action, Research and Training). (2006). *Measuring Effectiveness of Mid-Day Meal Scheme in Rajasthan: Participatory Expenditure Tracking Survey*. Final Report. CUTS CART, Jaipur. Available from: <http://www.cuts-international.org/pdf/PETS.pdf> (Accessed 31 January 2013).

- Drèze, J. and Goyal A. (2003). Future of Mid-Day Meals. *Econ. Polit. Weekly*, **38**(44), 4673–4683.
- FAO (Food and Agriculture Organization of the United Nations). (2013). *FAO Country Profiles. Low-Income Food-Deficit Countries (LIFDC) — List for 2013*. FAO, Rome. Available from: <http://www.fao.org/countryprofiles/lifdc/en/> (Accessed 31 January 2013).
- FAO (Food and Agriculture Organization of the United Nations). (2006). Rapid Growth of Selected Asian Economies: Lessons and Implications for Agriculture and Food Security. Synthesis Report. Regional Office for Asia and the Pacific. FAO, Bangkok. Available from: <ftp://ftp.fao.org/docrep/fao/009/ag087e/ag087e00.pdf> (Accessed 31 January 2013).
- Food Corporation of India. (2013). *Headquarters*. Food Corporation of India, New Delhi. Available from: <http://fciweb.nic.in/> (Accessed 19 June 2013).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Government of India. (2013a). *Mid-Day Meal Scheme: Mid-Day Meal Guidelines*. Ministry of Human Resource Development/Department of School Education and Literacy, New Delhi. Available from: <http://mdm.nic.in/> (Accessed 20 June 2013).
- Government of India. (2013b). *Union Budget*. Ministry of Finance, New Delhi. Available from: indiabudget.nic.in (Accessed 19 June 2013).
- Government of India. (2011). *Census of India 2011: Provisional Population Totals Paper 2 of 2011. India Volume 1. Chapter 3: Size, Growth Rate and Distribution of Population*. Ministry of Home Affairs/Office of the Registrar General & Census Commissioner, New Delhi. Available from: www.censusindia.gov.in/2011-prov-results/data_files/india/Final_PPT_2011_chapter3.pdf (Accessed 27 June 2013).
- Government of India. (2010a). Millennium Development Goals — India: Country Report 2009. Mid-Term Statistical Appraisal. Central Statistical Organization, Ministry of Statistics and Program Implementation, New Delhi. Available from: http://mospi.nic.in/rept%20_%20pubn/ftest.asp?rept_id=ssd04_2009&type=NSSO (Accessed 27 June 2013).
- Government of India. (2010b). *Presentations at the 4th Meeting of National Steering-Cum-Monitoring Committee (NSMC)*. Held on 03.12.10 in Shastri Bhavan. Ministry of Human Resource Development, Department of School Education and Literacy, Mid-Day Meal Division, New Delhi.
- Government of India. (2010c). Performance Evaluation of Cooked Mid-Day Meal (CMDM). PEO Report No. 202. Program Evaluation Organization, Planning Commission, New Delhi. Available from: http://planningcommission.nic.in/reports/peoreport/peoevalu/peo_cmdm.pdf (Accessed 27 June 2013).

- Government of India. (2010d). *Guidelines for Decentralization of Payment of Cost of Food Grains to FCI at District Level under Mid-Day Meal Scheme*. Government of India Letter No. F 1-15/2009-Desk (MDM), Dated 10th February 2010. Government of India, New Delhi.
- Government of India. (2009a). *Presentations at the 2nd Meeting of National Steering-Cum-Monitoring Committee (NSMC)*. Held on 20.10.09 in Shastri Bhavan. Ministry of Human Resource Development, Department of School Education and Literacy, Mid-Day Meal Division, New Delhi.
- Government of India. (2009b). *Revision of food norm, cooking cost & honorarium to cook cum helper under National Programme for Mid-Day Meal in schools — regarding*. Letter to Principal Secretary/Secretary of Nodal Department for National Programme of Mid-Day Meal in Schools (NP-MDMS) of all the States/UTs, 24 November 2009. Ministry of Human Resource Development, Department of School Education and Literacy, MDM Division, New Delhi. Available from: http://mdm.nic.in/Files/Guidelines/6.Rifision%20of%20norms%20MDM1_.pdf (Accessed 20 June 2013).
- Government of India. (2007). *National Family Health Survey (NFHS-3)*, India Volume II, 2005–06. Ministry of Health and Family Welfare, Mumbai. Available from: <http://www.measuredhs.com/pubs/pdf/FRIND3/FRIND3-VOL2.pdf> (Accessed 27 June 2013).
- Government of India. (2006a). *National Programme of Nutritional Support to Primary Education, 2006*. Ministry of Human Resource Development, Mid-Day Meal Scheme, New Delhi. Available from: <http://www.schooleducation.kar.nic.in/pdf/files/mdmguidelines2006.pdf> (Accessed 27 June 2013).
- Government of India. (2006b). Report of the Eleventh Plan Working Group of Integrated Smart Card System. Planning Commission, New Delhi.
- Government of India. (2004a). *Revised Mid-Day Meal Scheme Guidelines — 2004*. Ministry of Human Resource Development, New Delhi.
- Government of India. (2004b). *Guidelines of Revised National Programme of Nutritional Support to Primary Education*. Ministry of Human Resource Development, Mid-Day Meal Scheme, New Delhi. Available from: <http://education.nic.in/> (Accessed 27 June 2013).
- Government of India. (1995). *Guidelines of National Programme of Nutritional Support to Primary Education*. Ministry of Human Resource Development, Mid-Day Meal Scheme, New Delhi. Available from: <http://education.nic.in/> (Accessed 27 June 2013).
- Government of Puducherry. (2012). *National Programme of Mid-Day Meals in schools (MDMS) Annual Work Plan and Budget 2012–2013*. Government of India, Union Territory of Puducherry.

- Jain, J. and Shah, M. (2005). Antyodaya Anna Yojana and Mid-Day Meals in Madhya Pradesh. *Econ. Polit. Weekly*, **40**(48), 5076–5088. Available from: <http://www.epw.in/special-articles/antyodaya-anna-yojana-and-mid-day-meals-mp.html> (Accessed 31 January 2013).
- Kumar, A. (2011). *India: A Case Study of the Mid-Day Meal Scheme*. PowerPoint Presentation presented at the Global Child Nutrition Forum: Scaling up Sustainability: Linking School Feeding with Agriculture Development to Maximize Food Security. Held on 3–7 May, 2011, Nairobi, Kenya. Government of India, New Delhi.
- Lee, J. and Thorat, S. (2004). *Dalits and the Right to Food: Discrimination and Exclusion in Food Related Government Programs*. Right to Food Campaign, Russia. Available from: <http://www.righttofood.org> (Accessed 31 January 2013).
- Mathur, B. (2005). *Situation Analysis of Mid-Day Meal Programme in Rajasthan*. University of Rajasthan and UNICEF, India, Rajasthan.
- MSSRF (M S Swaminathan Research Foundation). (2011). *The School Feeding Programme in India: A Case Study*. MSSRF, Chennai. Available from: http://hgfsf-global.org/en/bank/downloads/doc_details/139-school-feeding-programmes-in-india-a-case-study (Accessed 31 January 2013).
- Office of Supreme Court Commissioners. (2011). *Court Orders*. Office of Supreme Court Commissioners, New Delhi. Available from: <http://www.scccommissioners.org/CourtOrders/datewisecourtorders.html> (Accessed 19 June 2013).
- PCD. (2014). *School Meals Planner*. [online] HGFSF-global.org. Available at: <http://www.hgfsf-global.org/en/bank/menu-planner> (Accessed 07 January 2014).
- Pratichi, India Trust. (2005). *Cooked Mid-Day Meal Programme in West Bengal — A Study in Birbhum District*. Pratichi Research Team, New Delhi. Available from: http://pratichi.org/sites/default/files/MDM_Birbhum.pdf (Accessed 31 January 2013).
- Prija, P. and Mishra, P. (2011). *India Allows Wheat Exports for the First Time in Four Years*. Bloomberg, New York. Available from: <http://www.bloomberg.com/news/2011-09-08/india-allows-wheat-exports-for-the-first-time-in-four-years-1-.html> (Accessed 12 December 2012).
- Rukmani, R. (2011). *School Feeding Programme in India*. PowerPoint Presentation presented at the Global Child Nutrition Forum: Scaling up Sustainability: Linking School Feeding with Agriculture Development to Maximize Food Security. Held on 3–7 May, 2011, Nairobi, Kenya. MSSRF, Chennai.
- Sarkar, C.C. (2013). Right of Children to Free and Compulsory Education Act, 2009 and its implementation. In: *IDFC Foundation, (ed.) India Infrastructure Report 2012: Private Sector in Education*. Routledge, New Delhi. Available from: <http://www.idfc.com/pdf/report/IIR-2012.pdf> (Accessed 20 June 2013).

- SLIC (Socio-Legal Information Centre). (2013). *PUCL Versus Union of India & Others*. Human Rights Law Network/SLIC, New Delhi. Available from: <http://www.hrln.org/hrln/right-to-food/pils-a-cases/255-pucl-vs-union-of-india-a-others-.html> (Accessed 19 June 2013).
- Supreme Court of India. (2001). *People's Union for Civil Liberties Petitioner Versus Union of India and Others Respondents*. Supreme Court of India, Civil Original Jurisdiction, Writ Petition (C) No. 196 of 2001. Supreme Court Order of November 28, 2001. Supreme Court of India, New Delhi. Available from: <http://www.right-to-foodindia.org/orders/nov28.html> (Accessed 04 August 2014).
- The Guardian. (2013). *India School Meal Deaths: Head teacher and Husband Charged with Murder*. 22 October 2013. Associated Press/Guardian News and Media Limited, Patna. Available from: <http://www.theguardian.com/world/2013/oct/22/india-school-meal-deaths-headteacher-charged-murder> (Accessed 26 November 2013).
- The Hindu. (2002). *CM launches 'Gruha Mitra'*. 16 March 2002. Kasturi and Sons Limited, Chennai. Available from: <http://www.thehindu.com/2002/03/16/stories/2002031602840400.htm> (Accessed 05 November 2014).
- The Times of India. (2013). *Bihar Midday Meal Tragedy: Accused School Principal Surrenders*. 24 July 2013. Bennett, Coleman and Company Limited, Mumbai. Available from: http://articles.timesofindia.indiatimes.com/2013-07-24/india/40770775_1_midday-meal-tragedy-mid-day-meal-programme-principal (Accessed 26 November 2013).
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 22 November 2013).
- UNESCO-UIS (UNESCO Institute of Statistics). (2011). *UIS Statistics in Brief Education (All Levels) Profile — India South and West Asia*. UNESCO, Geneva. Available from: http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=3560 (Accessed 20 June 2013).
- WFP. (2012). *India Country Profile*. WFP, Rome.
- World Bank. (2013). *World DataBank: World Development Indicators — India*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 19 June 2013).

This page intentionally left blank

Case Study 9: Kenya — Home Grown School Meals Programme

Country Profile

Population in 2012: 43,178,141 (World Bank, 2013).

Gross Domestic Product Per Capita in 2012 (US\$): 943 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 42 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2009 (%): 112 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2011 (%): 96 (KNBS, 2012).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 35 (UNICEF, 2013).

Employment in agriculture in 2005 (% of total employment): 61 (World Bank, 2013).

Classified as a Low-Income Food-Deficit Country in 2013 (FAO, 2013).

Introduction

As one of the leading economies in Eastern Africa, Kenya (Figure 1) ranks 143rd on the Human Development Index Table, with an average life expectancy at birth of 57 years and an adult literacy rate of 87% (UNDP, 2009). As a measure of poverty, 40% of the population lives on less than 173 Kenya Shilling (KSh) (US\$2.00)¹ per day, and 20% of the population lives on less than KSh108 (US\$1.25) per day (World Bank, 2013). Over 40% of the Kenyan population are less than 15 years of age (KNBS, 2009; World Bank, 2013). Kenya is also a Low-Income Food-Deficit Country (FAO, 2013).

In Kenya, the population lives predominantly in rural zones, with only 20% living in urban settings. More than 80% of the rural poor live in higher



Figure 1: Map of Kenya by region and in Africa

Source: GADM (2013).

¹ Estimates based on US\$1 = KSh86.449.

potential agricultural areas around Lake Victoria and the Mount Kenya Region.

Around 35% of Kenyan children under the age of five years are stunted, limiting the realization of their full physical and mental potential (UNICEF, 2013). Micronutrient deficiencies are high, particularly iron and Vitamin A, with 76% and 74% of pre-school children deficient in Vitamin A and iron, respectively. This affects cognitive development, lowers school performance, limits adult productivity, reduces immunity, and eventually contributes to high burdens of infant and child morbidity and mortality.

In Kenya, the education priority in the Strategy on Economic Recovery (Republic of Kenya, 2003) was for the introduction of Free Primary Education. Following the launch of this Strategy and the introduction of Free Primary Education, an additional 1 million children enrolled in primary school in 2003. To ensure sustainability of this large enrollment, the education and training sector developed *Sessional Paper No. 1 of 2005: A Policy Framework for Education, Training and Research* (Republic of Kenya, 2005a) and its first operationalizing plan, the *National Education Sector Support Programme (NESSP) 2014–2017* (Republic of Kenya, 2005b). The NESSP outlines the school health and meals programme as one of the 13 investment programs. Enrollment at all levels has continued to increase with the highest being at primary level. Primary school enrollment increased from 5.9 million school children in 2002 to 7.5 million school children in 2006, with net enrollment rates increasing from 77% in 2002 to 86% in 2006 (UNICEF, 2009). Statistics show a primary net enrollment rate of 96% in 2011 (KNBS, 2012). This has been supported by the relatively large resources allocated to education and the training sectors. Currently, education consumes about 6% of the country's gross domestic product.

In Kenya, maize is the basic staple food. Other staples are cassava and sweet potatoes with rice being the main staple in urban areas. Milk and dairy products are also an important part of the diet.

Kenya has over 30 years of school feeding history. Its school milk programme started in 1979, but in the early 1980s, due to high costs and the introduction of the Structural Adjustment Programme, the school milk programme was discontinued. A school feeding partnership between the Government of Kenya and the United Nations World Food Programme (WFP) started in 1980. Its main objectives were to increase pupil school

enrollment, retention and completion rates, and to improve their ability to concentrate and learn. The program initially targeted 220,000 primary school children including early child development pupils based at targeted primary schools. The introduction of Free Primary Education in January 2003 boosted school enrollment and by 2007 the school meal programme reached more than 1.2 million school children across 3,847 primary schools. By 2008–2009, the beneficiaries had increased gradually to reach 1.5 million school children. Today, the school meals programme includes a WFP-led programme the Regular School Meals Programme (RSMP); and the Government of Kenya-led Home Grown School Meals Programme (HGSM) which falls under two models namely: Home Grown School Meals (HGSM) and Njaa Marufuku Kenya (NMK, “Eradicate Hunger in Kenya”), aimed at supporting the Millennium Development Goals (MDGs) in Kenya.

The HGSM has received broad-based support from both government and development partners.

HGSM programme: The HGSM programme was started by the Ministry of Education, Science and Technology in 2009 as part of a broader strategy to transition school feeding to government ownership and implementation. After 30 years of the RSMP, WFP reduced the caseload from 1.2 million beneficiaries to 770,500 beneficiaries in 2009 due to increased commodity and transport costs. In light of the reduced coverage by WFP and prevailing food insecurity, the Government of Kenya responded by launching in 2009, the HGSM programme which had a beneficiary level of 538,000 school children in 1,777 primary schools in 55 semi-arid sub-counties. This launch demonstrated the government’s commitment to school feeding. One midday meal of 700 kilocalories was provided per child per day. By 2013, the HGSM programme reached a beneficiary level of 762,715 school children in 2,118 primary schools in 55 semi-arid sub-counties (Republic of Kenya, 2012a).

NMK programme: The NMK programme was started by the Ministry of Agriculture in 2005 and is geared towards agricultural development and capitalizes on the agricultural expertise present within the Ministry of Agriculture. The NMK programme provides support to school meals over a three-year period within the target schools where funding is provided for: 100% of the children to be fed in the first year; 75% of the children to be fed in the second year; and 50% of the children to be fed in the third year.

Parents contribute the remaining percentage as a sense of ownership. The funds given to the school are also used to initiate agricultural production activities on school gardens which act as demonstration plots for appropriate technologies for the parents and local farmers. The food produced in the school gardens supplements the school meals. One midday meal of 700 kilocalories was provided per child per day. By 2013, the NMK programme reached a beneficiary level of 63,000 school children in 96 primary schools across 25 counties.

In Kenya, as in most countries, the following three goals of the HGSMMP captures the breadth of the New Partnership for Africa's Development vision. Broadly, the HGSMMP aims to:

- Improve education, health, and nutrition of school-age children;
- Improve smallholder farmer income through structuring market demand from the HGSMMP; and
- Improve nutrition, quality, and quantity amongst smallholder farmers.

In 2013, the HGSMMP reached approximately 825,715 (762,715 HGSM, 63,000 NMK) school children in 2,214 (2,118 HGSM, 96 NMK) primary schools.

Methodology

This chapter is largely drawn from *The Njaa Marufuku Kenya Case Study Report* conducted by the Ministry of Agriculture in collaboration with The Partnership for Child Development (PCD), the Kenya Institute for Public Policy Research and Analysis and the Kenya Medical Research Institute (KEMRI) (Republic of Kenya, 2012b); Kenya's Technical Development Plan (PCD, 2012) developed by the Ministry of Education, Science and Technology School Health, Nutrition and Meals (SHNM) Unit and the Ministry of Agriculture, in collaboration with key ministries including the Ministry of Northern Kenya and Other Arid Lands, Ministry of Health, and Ministry of Water and Irrigation, development partners and other key stakeholders; and a literature review on the HGSMMP. Additional information was provided through key informant interviews and discussions with key stakeholders (i.e. from the SHNM Unit).

Country School Feeding Program Factsheet

Start Date	1980 (HGSM started in 2009 and NMK started in 2005)	
Design and Implementation	<i>Rational/Impact</i>	<p>HGSM objectives: Contributing to equitable access to quality education and improved retention, completion, and transition rates; and providing a market for farmers.</p> <p>NMK objectives: Contributing to reduction of poverty, hunger and food insecurity for poor/vulnerable communities in Kenya by 2015.</p>
	<i>Implementation Levels</i>	<ul style="list-style-type: none"> • HGSM: Targets primary schools in semi-arid areas with high drop out, and low enrollment and completion rates. • NMK: Targets schools in areas of high-to-medium agricultural potential with high poverty and malnutrition levels, and low academic performance, school attendance, and retention. • In 2013, approximately 825,715 (762,715 HGSM, 63,000 NMK) school children in 2,214 (2,118 HGSM, 96 NMK) primary schools were reached.
	<i>Supply, Storage and Logistics</i>	The HGSM and NMK are decentralized supply chain models.
	<i>Modality, Food Basket Details</i>	<p>HGSM: One mid-day meal (700 kilocalories/child/day) of 150 grams of cereal, 40 grams of pulses, five grams of vegetable oil and five grams of salt.</p> <p>NMK: One mid-day meal (700 kilocalories/child/day) of 150 grams of cereal, 40 grams of pulses, five grams of vegetable oil, and fruits/vegetables, and salt.</p>
	<i>Food Preparation</i>	<p>School cooks, recruited and paid by the community, prepare meals. Food commodities procured with funds by the Ministries of Education, Science and Technology (HGSM) and Agriculture (NMK).</p> <ul style="list-style-type: none"> • <i>Kenya Vision 2030</i> (Republic of Kenya, 2007). • <i>National Education Sector Support Programme (NESSP) (2014–2017)</i> (Republic of Kenya, 2005b).
Policy and Legal Framework Documents		

Institutional Arrangements	Lead Institution	<ul style="list-style-type: none"> • <i>National Food Security and Nutrition Policy 2012</i> (Republic of Kenya, 2012c). • <i>National School Health Policy</i> (Republic of Kenya, 2009a). • <i>National School Health Guidelines</i> (Republic of Kenya, 2009b). • <i>National School Health, Nutrition and Meals Programme Strategy</i> (Republic of Kenya, Draft). <p>HGSM: Ministry of Education, Science and Technology. NMK: Ministry of Agriculture.</p>
	Supporting Institutions	<p>HGSM: Ministries of Agriculture; National Treasury; Devolution and Planning; Health; and Northern Kenya and Other Arid Lands.</p> <p>NMK: Ministries of Livestock and Fisheries; Industrialization; Labor Social Security and Services; and Transport and Infrastructure.</p>
Finance	Annual Budget*	<p>HGSM : KSh400 million (US\$4.63 million) annually.</p> <p>NMK: KSh116.7 million (US\$1.35 million) for first five years of implementation.</p>
	Cost Per Child Per Year	<p>HGSM 2012: KSh2,421 (US\$28.00).</p> <p>NMK 2012: KSh2,702 (US\$31.25).</p>
Community Involvement		HGSM/NMK: Involvement via School Management Committees.
Innovations/Good Practices		<p>HGSM: School meals at scale and stable market outlet for small-scale farmers.</p> <p>NMK: Interest to agriculture extension services.</p>
Weaknesses/Restrictions		<p>HGSM: Enhanced linkages to local agriculture needed to promote purchase of ‘home grown food’ by schools. Transition from semi-arid to arid areas raises concerns on capacity of markets to supply and prevailing high food prices.</p> <p>NMK: Schools/community challenged to sustain financing of school feeding after three years.</p>

* Financial years 2009/2010 and 2010/2011.

Design and Implementation

In the government-led HGSMP, both programs (HGSM and NMK) have a decentralized supply chain model.

- *HGSM programme*: Implemented in semi-arid areas where food production is low and farm sizes relatively small. It is intended to promote food security through increased demand that is predictable and offers a stable and accessible market to small-scale farmers.
- *NMK programme*: Market access is created through public procurement of food commodities at schools, which are served as school meals and procured at a diminishing rate over three years (100%, 75%, and 50% respectively).

Objectives

The HGSMP currently operates with different sets of goals and objectives:

- *HGSM programme*: Goal of contributing to equitable access to quality education and improved retention, completion, and transition rates.
- *NMK programme*: Goal of contributing to the reduction of poverty, hunger and food insecurity among poor and vulnerable communities in Kenya by 2015.

Targeting and coverage

The HGSMP aims to tackle the issues of low enrollment and attendance, high drop out rates and low academic achievement. However, the two program models differ in their targeting approaches.

HGSM programme: The Ministry of Education, Science and Technology launched the HGSM programme in 2009, initially covering 538,000 school children in 1,777 primary schools in 55 semi-arid sub-counties that had previously been covered by WFP. The Kenyan Government and WFP agreed that the remaining children covered by WFP would be handed over to the HGSM programme between 2009 and 2013 at a caseload of 50,000 school children per year starting with the semi-arid areas and finishing with the arid areas.

In 2013, the HGSM programme reached a beneficiary level of 762,715 school children in 2,118 primary schools in 55 semi-arid sub-counties (Republic of Kenya, 2012a). The HGSM programme targets primary schools situated in semi-arid areas that experience low enrollment, high drop out and low completion rates, where pupils experience short-term hunger and difficulties concentrating in the classroom.

NMK programme: The Ministry of Agriculture's NMK programme started in 2005. Schools supported by the NMK programme must have high poverty-levels (based on poverty indices [KNBS and ICF Macro, 2010]) and have high and medium potential to grow food. The targeted areas must also have high malnutrition levels. Target schools must have low academic performance relative to primary schools of the same calibre in the given locality (based on mean grades from final examination results of the Kenya Certificate of Primary Education), low school attendance and retention. The beneficiary school should not be benefiting from another school feeding programme and must show potential and willingness to implement the NMK programme with clear mechanisms for sustaining the program once NMK withdraws. Schools with high enrollment of orphans and vulnerable children are given priority when selecting schools that will benefit from the NMK programme. Continuity of the school meals is hinged on the value of school feeding being realized by parents, who in turn freely provide food commodities for ongoing feeding. In 2013, 63,000 school children in 96 primary schools were targeted across 25 counties.

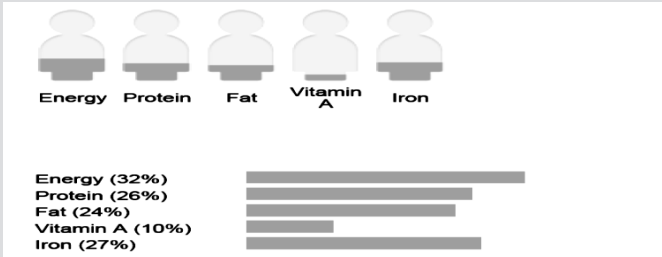
The NMK programme provides agricultural extension services to small-holder farmers and gives complementary grants for setting up model gardens within the community for technology transfer.

Modalities, food basket, and nutritional norms

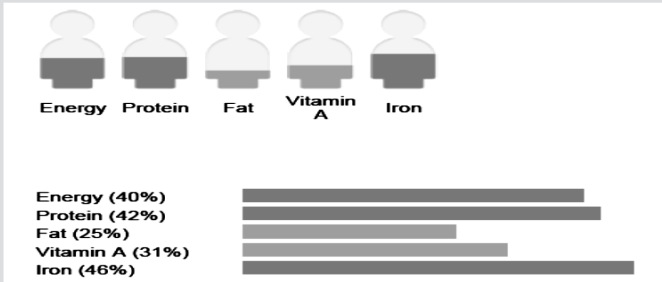
Kenya has little published data regarding nationally established nutrition guidelines. A taskforce set up by an Inter-Ministerial Co-ordinating Committee on Food and Nutrition in 2002 developed the *National Food Security and Nutrition Policy 2012* (Republic of Kenya, 2012c). However, no national guidelines have since been established for recommended dietary intake levels of specific nutrients, and internationally accepted values are often used as

Gingerbread men representing the average daily nutritional content of a sample weekly midday school menu in Kenya's HGSM P

HGSM programme



NMK programme



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40%
 40%–100%

- A typical daily mid-day school menu for the HGSM and NMK programmes were used for the nutrient content calculations.
- The raw version of each food item was used in the nutrition content calculations.
- For the HGSM menu, the beans were taken to be green beans.
- For the NMK menu, the beans were taken to be red beans.
- The salt serving specified on the menu could not be incorporated into the nutrition content calculations, as salt is not available as a food item on the country meal planner tool (PCD, 2014).
- For the NMK menu, maize was taken to be the cereal served and a banana was taken to be the fruit served on the menu.
- For the NMK menu, 40 grams of vegetables were taken to be 20 grams of spinach and 20 grams of tomatoes in the nutrition content calculations.

Sources: PCD (2014).

Table 1: HGSM menu composition

Ration contents	Daily ration (grams/child/day)	Energy (kilocalories/ child/day)*
Maize (yellow)	150	525
Vegetable Oil (fortified)	5	44
Legumes (split peas)	40	136
Salt (iodized)	3	0
Ration Total	198	705

*The kilocalories can be more, but not less than 700.

Source: Aliyar *et al.*, 2015.

guidelines. Hence, in Kenya, the meals provided to beneficiary children in selected schools vary in energy and nutritional content. However, the *National School Health, Nutrition and Meals Programme Strategy* highlights improving the quality and coverage of school-based nutrition services; infrastructure and skills-based nutrition education as part of its key activities in attaining the objective of improving the nutritional status of school-age children (Republic of Kenya, Draft).

HGSM programme: One mid-day meal (700 kilocalories per child per day) is prepared. A typical daily ration per child is detailed in Table 1. This is the same menu that WFP had been providing previously. The HGSM programme provides funds for food procurement only, as there are no additional funds provided for infrastructure, storage or fuel efficient stoves.

NMK programme: One mid-day meal (700 kilocalories per child per day) is prepared. As the community and school partnership forms the decision making body at the school level, the ration is provided from the school garden or contributed by parents. The recommended daily ration per child is detailed in Table 2.

This accounts for approximately 33% of the recommended dietary requirement. A bean and maize mix that includes vegetable oil is encouraged and largely implemented throughout schools because of the ease of storing the raw food and ease of cooking. However, with the NMK programme the committees are free to make any meal from locally available food with a dietary contribution as the aforementioned standard mix.

Table 2: NMK menu composition

Ration contents	Daily ration (grams/child/day)	Energy (kilocalories/ child/day)*
Maize	150	525
Vegetable Oil (fortified)	5	44
Legumes (split peas)	40	136
Salt (iodized)	3	0
Vegetables**	—	—
Fruits**	—	—
Ration Total	198	705

*The kilocalories can be more, but not less than 700. **No calorific compositions nor the type of fruit and vegetables are specified as supply depends on whether a school has a school garden that can produce the fruit and vegetables for school consumption in the NMK menu.

Source: Aliyar *et al.* (2015).

Food procurement, transportation, storage and preparation

HGSM programme: The procurement process is undertaken at the school level and co-ordinated by the School Meals Committee. The process used is a replication of the same process used in the procurement of school instructional materials. Cash is transferred directly to the school accounts on a biannual basis. Schools are informed of how much money has been credited into their school accounts. A competitive procurement process for food with registered/licensed local farmers or suppliers is then undertaken. Procurement procedures are guided by circulars from the Ministry of Finance. Procurement is performed on a termly basis and depends on the storage capacity at the school.

NMK programme: The procurement process is not envisioned as the driving force behind the longevity of the meal provision. Over a three-year period food commodities are procured for school feeding at a diminishing rate of 100%, 75%, and 50% respectively. The NMK programme funds are transferred to bank accounts of the target schools without a rigid procurement system like that of the HGSM programme. The School Meals Committee and parents are responsible for setting up the modalities for food procurement and purchases. Explicit procurement steps are therefore not generic across the program as each community has its own unique method of decision making and the school pays for commodities via a bank cheque.

Links with local food production, smallholder farmers, and local communities

HGSM programme: The school procurement of local foods, intends to stimulate local production through a structured and predetermined market. There is therefore the need to link with the ministry to provide for agricultural extension services to assist farmers in reacting to the new demand for commodities, and thus, have agricultural outreach functions. Strict procurement procedures, including the requirement for suppliers to have a bank account and an operating trading license, with intent to streamline the procurement process, may discourage smallholder farmers from accessing this market directly. This encourages the farmers to form groups where these procurement procedures can be adhered to.

The food basket is currently based on the previous WFP menu. Modifying the food basket to include orphan crops (crops traditionally produced in Kenya, but displaced by maize in the last 30 years) such as green grams, sorghum, millet, cowpeas, and pigeon peas could help to stimulate links with local agriculture and be cost-efficient.

NMK programme: The programme is geared to agricultural development and capitalizing on the agricultural expertise present in the Ministry of Agriculture. Farmers are linked to government and non-governmental organizations that provide agricultural inputs such as fertilizers, seeds, irrigation equipment and training. This is intended to improve agricultural practices and help continue adoption of these techniques even after program support. Food procurement at schools is for a period of three years after which the community is expected to take over the program, through provision of food commodities in the schools. In addition to the agricultural extension services to smallholder farmers, the NMK programme gives complementary grants for setting up model gardens within the community for technology transfer.

Policy and Legal Frameworks

The Constitution of Kenya (2010) provides in Article 53(1) the mandate basis for school feeding stipulating that all children have a right to basic education that is free and compulsory, and to basic nutrition, health care and shelter (National Council for Law Reporting, 2010; Singh, 2013).

The HGSMP is anchored on *Sessional Paper No. 1 of 2005: A Policy Framework for Education, Training and Research*, and the *National Education Sector Support Programme (NESSP) 2013–2017* (Republic of Kenya, 2005a; Republic of Kenya, 2005b). The objectives of the NMK programme are consistent with *Kenya Vision 2030* (Republic of Kenya, 2007), which outlines policy targets to achieve the MDGs by reducing food poverty by half; attaining Universal Primary Education and addressing the food needs of over 75% of the poor population in rural areas.

The NESSP provides an institutional framework for the implementation of school meals programmes. It also provides a framework for the four components of the *National School Health, Nutrition and Meals Programme Strategy* (Republic of Kenya, Draft). This Strategy is also linked to the *National Food Security and Nutrition Policy 2012* that incorporates a section on school meals with the aim of enhancing and expanding the school feeding programme as a means of achieving food and nutrition security for school-age children (Republic of Kenya, 2012c). The Strategy is the first known school feeding Strategy in Africa to have been published by three Ministries: Agriculture; Education, Science and Technology; and Health. This Strategy translates the provisions of the *National School Health Policy* and the associated *National School Health Guidelines* into strategic objectives and actions for implementation (Republic of Kenya, 2009a; Republic of Kenya, 2009b). Developed by the Ministry of Agriculture, the Ministry of Education, Science and Technology and the Ministry of Health, the Strategy identifies roles and responsibilities for various actors and stakeholders. Overall, the Strategy provides for inter-ministerial co-ordination, multisectoral planning, joint action, and monitoring and evaluation.

Institutional Arrangements

The multi-faceted nature of the HGSMP has a broad range of stakeholder involvement. By 2013, key institutional partners included the Ministries of Agriculture; Education, Science and Technology; and Health. There is, however, the need to develop and strengthen the co-ordination structures as clearly stipulated in the *National School Health Policy* (Republic of Kenya, 2009a).

As mentioned previously, the lead Ministry for the HGSM programme is the Ministry of Education, Science and Technology and the lead Ministry

for the NMK programme is the Ministry of Agriculture. Both ministries have similar management structures, from policymakers to program managers.

HGSM programme: The program is currently managed at the national level by the SHNM Technical Committee within the Directorate of Basic Education State Department of Education. Under the RSMP, decisions touching on SHNM are taken up by the SHNM Technical Committee, which meets on a quarterly basis. Representatives on this Committee include the Director of Basic Education, senior personnel in the SHNM Technical Committee at the national level and representatives of WFP, the Flemish Association for Development Co-operation and Technical Assistance, the Netherlands Development Organization (SNV), PCD, and the Ministries of Agriculture and Health. In the HGSM programme, monitoring is conducted regularly from national, county, sub-county and school levels. The databases are developed in collaboration with the Education Management Information System and monitoring and evaluation units of the Ministry of Education, Science and Technology and development partners closely involved in the implementation of the program (Table 3). Items monitored include: flow of funds from the ministry to the schools; adherence to procurement procedures; proper completion of forms 6, 7, and 8 and submission to relevant authorities; number of school children under the program on a daily basis against the number of school days in a term; rations served to the children; hygiene and sanitation of the kitchen, food stores and toilets; medical examinations of food handlers within the school; and contributions from the community/parents towards the HGSM for ownership purposes.

In the HGSM each of the three Ministries: Agriculture; Education, Science and Technology; and Health; as well as other relevant stakeholders, study the data generated and take action to address any identified problems.

NMK programme: Within the Ministry of Agriculture, the program is managed by the NMK Co-ordinating Unit. Policy direction is given by the National Steering Committee and the NMK Co-ordinator (from the NMK Co-ordinating Unit) reports directly to the NMK Secretariat on school feeding issues (Figure 2).

Monitoring and evaluation activities in the NMK programme are carried out by the Ministries of Agriculture; Education, Science and Technology; and Health on a regular basis at national (headquarters), county, sub-county divisional, and school levels.

Table 3: Cross-sectoral co-ordination of the HGSM programme at different levels

Level	Co-ordinating structure	Function	Membership
National	Inter-Agency Co-ordinating Committee Unit and Technical SHNM Committee	<ul style="list-style-type: none"> • Provide guidance on policy matters. • Lobbying, advocacy, and resource mobilization. 	<ul style="list-style-type: none"> • <i>Government Ministries</i> → Education, Science and Technology (chair); Agriculture; Water and Irrigation; Health; and Northern Kenya and Other Arid Lands. • <i>Development Partners</i>
County	County Co-ordinating Unit	<ul style="list-style-type: none"> • Monitoring and evaluation, guidance and backstopping district-level problems. • Regulate, co-ordinate and ensure standards in implementation of SHNM programme. • Capacity building. 	<ul style="list-style-type: none"> • <i>County Sectoral Officers</i> → Agriculture; Education; Nutrition; Provincial Water; Health; Livestock; and Co-operatives.
Sub-County	Sub-County Steering Group	<ul style="list-style-type: none"> • Include in agenda meetings, health and nutrition issues as they arise. • Co-ordinate program implementation at district level. • Advise county units. 	<ul style="list-style-type: none"> • All the government ministries, civil society, and development partners.
	Sub-County Co-ordinating Unit	<ul style="list-style-type: none"> • Program sectoral planning and implementation including monitoring and evaluation and technical assistance. • School feeding oversight portfolio. • Capacity building. 	<ul style="list-style-type: none"> • <i>Sub-county Level Sectoral Officers</i> → Water; Health; Livestock; Agriculture; Education; and Co-operatives.
Zonal	Zonal Co-ordination Team	<ul style="list-style-type: none"> • Co-ordination and supervision of program implementation at the zonal/divisional levels (where applicable). • Regular monitoring and supervision of program, providing necessary advice to schools. 	<ul style="list-style-type: none"> • Area Education Officers/ Zonal Quality Assurance and Standards Officers; line ministries; and relevant stakeholders.

(Continued)

Table 3: (Continued)

Level	Co-ordinating structure	Function	Membership
National		<ul style="list-style-type: none"> • Receiving and preparing reports from schools to Sub-county Education Offices. • Capacity building of stakeholders at the school level. 	
Local	School Management Committee and School Meals Committee	<ul style="list-style-type: none"> • School Management Committee administers and manages, at the school level, all facets of HGSM programme implementation, including procurement, food preparation, and reporting. 	<ul style="list-style-type: none"> • <i>School Management Committee</i> → Led by the head teacher. • <i>School Meals Committee</i> → Chairman (an elected member of the School Management Committee), a secretary (a teacher responsible for the school feeding programme), head teacher, deputy head teacher, chair of the School Management Committee, and an Early Child Development teacher.

Source: Republic of Kenya, Draft.

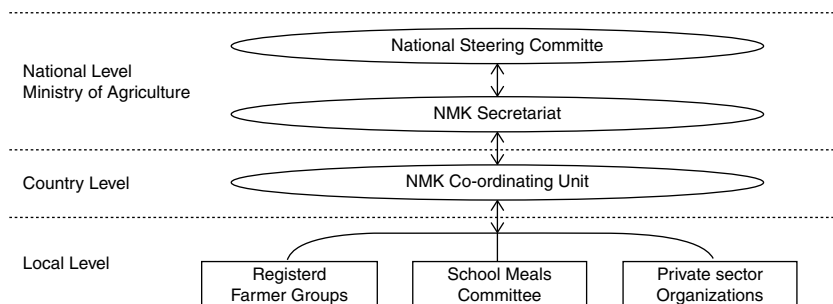


Figure 2: NMK programme co-ordination

Source: Adapted from Republic of Kenya (2012b).

Funding and Budgeting

The Government of Kenya has supported the HGSM by committing the bulk of the funds for program implementation. However, additional funding is required for implementation to help leverage government commitment and allow for expanded coverage of the HGSM. The cost of running the HGSM including community contributions has been estimated (Republic of Kenya, 2012b; Republic of Kenya, Draft; PCD, 2012) to be KSh2,421 (US\$28.00)² per child per year for the HGSM programme and using average NMK school size figures of 800 pupils, translates to approximately KSh2,702 (US\$31.25) per child per year for the NMK programme. The latter figure includes farm inputs and training of farmers. However, despite all the progress made, regional disparities in access to education and school enrollment still persist.

HGSM programme: The resources allocated by the government to sustain the HGSM programme have been steadily growing demonstrating the government's good will. In the 2009–2010 and 2010–2011 financial years, the HGSM programme received KSh400 million (US\$4.63 million), annually from the Ministry of Education, Science and Technology budget. The Japanese Government (through the Japan International Co-operation Agency) provided a one-off support of KSh150 million (US\$1.74 million) in counter-part funds in 2009. The HGSM programme will be scaling up the beneficiary level by 50,000 primary school children per year as part of the transition strategy from the WFP-supported regular school feeding programme. For the financial year 2012–2013 the approved budget was KSh800 million (US\$9.25 million), double the 2009–2010 budget. However, due to other budgetary requirements (such as the national elections and establishing County Governments), not all of this approved budget was disbursed to the Ministry of Education, Science and Technology. An initial KSh400 million (US\$4.63 million) was disbursed at the beginning of the financial year, sufficient to resource school meals during the first-term. Of the remaining KSh400 million (US\$4.63 million), only a part (sufficient to provide school meals during 21 school days during the second-term) was disbursed in June 2013. Ensuring that the entire approved budget is disbursed to the Ministry of Education, Science and Technology for the HGSM programme so that the

² Estimates based on US\$1 = KSh86.449.

school meals can continue uninterrupted is a challenge for the government with competing demands for resources.

For financial year 2013–2014, the budget was increased to KSh900 million (US\$10.41 million). However, the actual costs to fully fund the school meals basket on all 195 school days for 762,715 school children supported under the HGSM programme in 55 semi-arid districts, amounts to approximately KSh1.5 billion (US\$17.35 million). This means that while the government is trying to live up to its commitment to sustain the HGSM programme, it is not yet sufficiently funded from government resources.

NMK programme: Implementation has been through collaboration with the Ministries of Agriculture; Education, Science and Technology; and Health. The Ministry of Agriculture, as the co-ordinator, committed KSh270.2 million (US\$3.179 million) for component two implementation during the 2013–2014 financial year. The NMK component two includes school feeding support and typically costs KSh6 million (US\$69,000) per school over a three-year period. This figure includes training of relevant government staff, training community nutrition volunteers, establishment of child growth monitoring equipment, establishment of school gardens, water tanks, fuel efficient stoves, and procurement of food items, however, the cost of providing food per child per day is KSh11.24 (US\$0.13), while the Ministry of Education, Science and Technology spends on average KSh10.37 (US\$0.12) per day to feed a child.

The scale-up of the program will require additional resources and capacity building for the NMK programme administrators, and is aimed at reaching 79,300 primary school children by 2015.

Community Participation

In Kenya, schools are seen as local institutions that provide a strong entry point into the community. All schools are required to have a School Management Committee and these provide the link between the school and the community. Communities are involved in the improvement of the school infrastructure, often providing labor to support construction and maintenance of the school facilities.

HGSM programme: The School Management Committee administers and manages, at the school level, all facets of the HGSM programme implementation,

including procurement, food preparation, and reporting. Parents of children benefiting from the HGSM programme generally provide cash or in-kind contributions to support school-level expenditures including firewood, water, and salaries, etc.

NMK programme: The community is an integral part of the NMK programme with the School Management Committee and the community jointly managing implementation of the program at the both school and community levels. Complementary grants are provided to small farmer groups to improve their agricultural techniques, with the aim of improving the communities' ability to provide the food required. There is also provision of training to members of the community who come together as Community Nutrition Volunteers who then work within the communities disseminating nutrition improvement interventions and also monitoring the growth of children younger than five years of age.

Evidence of Program Impact

Effects on local agriculture: Evidence on the impact of the NMK programme on target beneficiaries as conducted as part of *The Njaa Marufuku Kenya Case Study Report*, (Republic of Kenya, 2012b). Data was collected from 286 households on main sources of income, from a baseline survey that was carried out in each target district during the NMK programme inception.

The results indicated that households primarily depended on the income generated from on-farm production and casual labor for their livelihoods. Only 27% of households was food secure at the time of the baseline survey and this proportion declined to 22% at the time of the case study survey in 2010 (Republic of Kenya, 2012b). This was due to the erratic weather that resulted in low food production. Most households reported having little marketable surpluses which could be offered for sale to NMK schools. This would explain, albeit partially, why most schools were procuring food from local traders and some from distant trading centers and not from smallholder farmers within the vicinity of schools, contrary to what the NMK approach had envisaged. This argument was brought out strongly during the case study survey (Republic of Kenya, 2012b). Although local farmers may not have benefited much from marketing to the schools largely due to low production levels, they cited a number of benefits both potential (improved household

incomes) and realized (community empowerment and dissemination of technological information) from the NMK programme. Community empowerment involved capacity building and provision of start grants, and the participation of youth in agriculture through 4-K Clubs. Dissemination of technological information involved school gardens and 4-K Club farms which served as demonstration projects providing learning opportunities to both pupils and local farmers.

Effects on schooling: The NMK programme has also improved school enrollment and attendance. Enrollment was found to be higher in the institutions with school feeding than those without. Figure 3 shows that school feeding enhances school participation where the average enrollment in institutions with NMK school feeding was 557 pupils in 2010 having increased by about 20% from 2006 compared to schools without a school meals programme, whose average enrollment was 277 pupils in 2010 having increased from 221 pupils in 2006.

In the schools visited during the case study survey it was suggested that the NMK programme had contributed towards the children's improved nutritional status, hygiene standards, and their increased awareness of a balanced diet. Benefits to local communities were also perceived (Republic of Kenya, 2012b).

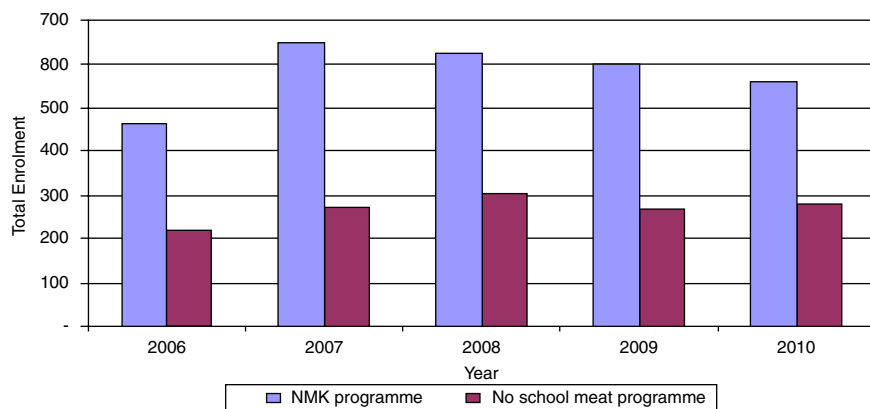


Figure 3: Total enrollment (2006–2010) in schools with the NMK programme versus no school meals programme

Source: Republic of Kenya (2012b).

Conclusions

Kenya stands out for developing innovative and complementary school feeding programmes led by two different ministries (Agriculture and Education, Science and Technology). The NMK programme is particularly interesting because it integrates community food and nutrition security with school feeding as part of agricultural extension services whilst the HGSM programme is taking school feeding with locally procured food to scale. Both program models provide appropriate services to beneficiaries.

Challenges

HGSM programme: The program would benefit from enhanced linkages to local agriculture. As the transition from WFP to the government-led HGSM expands to arid areas, there are concerns on the capacity of markets to supply food and the high food prices that prevail. As a result, the Ministry of Education, Science and Technology requested WFP support in the development of a transition strategy for a handover in the arid areas. In addition to this, other limitations of the HGSM programme is inherent to government resource allocation amongst competing priorities in the sectors.

NMK programme: The program has been challenged by the schools and community being able to sustain the financing of school feeding after three years.

Trade-offs

The HGSM programme has strict procurement procedures, including the requirement for suppliers to have a bank account and an operating trading license. This streamlines the procurement process, but the trade-off is that smallholder farmers may be discouraged from accessing this market directly. Activities and design options that encourage community engagement and participation, program accountability, and encourage transparency could be explored. The area also has an impact on which program to use, for example, the schools supported by the HGSM programme are in food insecure areas that the NMK programme would not be able to operate in.

A set of costing activities are planned to support the budgeting and planning process of the HGSM. This will include developing a budget that will

allow policymakers to assess some of the trade-offs associated with different design options.

Lessons learned and good practices

To achieve their intended impact, it is important that the design and implementation be robust. A rigorous assessment of the costs and impacts associated with the school meals programmes in Kenya is a clear priority for policymakers as the programs are being scaled-up throughout the country. Evaluations are underway that aim to measure the causal impact, or the difference in the outcomes that can be attributed to the presence of the HGSM programme. The different “home-grown” models in Kenya that have been piloted in the last few years provide an important source of evidence on the costs, benefits, and operational trade-offs of each model. Program efficiency and impact can be enhanced by improving the quality of the design and delivery of the program and the capacity building of personnel.

The draft *National School Health, Nutrition and Meals Programme Strategy* is one of the strategies in sub-Saharan Africa to be developed by three Ministries: Agriculture; Education, Science and Technology; and Health — an example of cross-ministerial collaboration (Republic of Kenya, Draft). It identifies roles and responsibilities for various actors/stakeholders. Overall, the document provides for inter-ministerial co-ordination, multisectoral planning, joint action, and monitoring and evaluation. There is need to build capacity among service providers in all sectors that enhance nutrition. It is, however, critical that the HGSM be well-integrated into the national agriculture policy framework for effective implementation and sustainability.

For the HGSM to succeed, there is the need to consider the level of initial investments in local production and marketing if the initiatives are to spur the envisaged local growth effects. Targeted interventions could be undertaken to allow households to make the necessary switch from growing low-value staple foods with low productivity under rain-fed conditions to more specialized high-value horticultural production under irrigation.

Abbreviations and Acronyms

FAO	Food and Agriculture Organization of the United Nations
HGSM	Home Grown School Meals

HGSMP	Home Grown School Meals Programme
KEMRI	Kenya Medical Research Institute
KSh	Kenya Shilling
MDG	Millennium Development Goal
NESSP	National Education Sector Support Programme
NMK	Njaa Marufuku Kenya
PCD	The Partnership for Child Development
RSMP	Regular School Meals Programme
SHNM	School Health, Nutrition and Meals
SNV	Netherlands Development Organization
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from *The Njaa Marufuku Kenya Case Study Report* conducted by the Ministry of Agriculture NMK Secretariat in collaboration with PCD, the Kenya Institute for Public Policy Research and Analysis and KEMRI (Republic of Kenya, 2012b); Kenya's Technical Development Plan (PCD, 2012) developed by the Ministry of Education, Science and Technology SHNM Unit and the Ministry of Agriculture, in collaboration with key ministries including the Ministry of Northern Kenya and Other Arid Lands, Ministry of Health and the Ministry of Water and Irrigation, development partners and other key stakeholders; as well as secondary data provided from the HGSMP.

This chapter was compiled by Angela Gituara, and Elodie Yard (PCD, Kenya) with support from Alice Woolnough (PCD) external to Kenya; reviewed by Emilie Sidaner (WFP), Iain Gardiner and Cai Heath (PCD) external to Kenya; and at the country level by Leah Njeri (SNV) and Charles Njeru (WFP); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by Warimu Muita (PCD, Kenya); Paul Mungai, Kibet Lagat and Walema Barnett (Ministry of Education, Science and Technology, Kenya); and Philomena Chege and Mildred Irungu (NMK, Ministry of Agriculture, Kenya).

This chapter was signed off by the Ministry of Education, Science and Technology (HGSM programme, SHNM Unit) and the Ministry of Agriculture (NMK programme) in July 2014.

References

- Aliyar, R., Gelli, A. and Hamdani, S. (2015). A Review of Nutritional Guidelines and Menu Compositions for School Feeding Programmes in 12 Countries. *Frontiers in Public Health* 3:148. Doi: 10.3389/fpubh.2015.00148-a-review-of-nutritional-guidelines-and-menu-compositions-for-school-feeding (Accessed 27 March 2014).
- FAO. (2013). *FAO Country Profiles. Low-Income Food-Deficit Countries (LIFDC) — List for 2013*. FAO, Rome. Available from: <http://www.fao.org/countryprofiles/lifdc/en/> (Accessed 07 March 2014).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- KNBS (Kenya National Bureau of Statistics). (2012). *Kenya Facts and Figures, 2012*. KNBS, Nairobi. Available from: http://www.knbs.or.ke/index.php?option=com_phocadownload&view=category&id=20&Itemid=1107
- KNBS (Kenya National Bureau of Statistics). (2009). *Kenya 2009 Population and Housing Census Highlights*. KNBS, Nairobi. Available from: www.scribd.com/doc/37621058/KNBS-2009-Census-Highlights (Accessed 07 March 2014).
- KNBS (Kenya National Bureau of Statistics) and ICF Macro. (2010). *Kenya Demographic and Health Survey 2008–2009*. KNBS and ICF Macro, Calverton, Maryland.
- National Council for Law Reporting. (2010). *The Constitution of Kenya, 2010*. Laws of Kenya, Kenya Law Reports. National Council for Law Reporting, Nairobi. Available from: <http://www.kenyalaw.org/klr/index.php?id=741> (Accessed 07 March 2014).
- PCD. (2012). *Home Grown School Meals Programme. Technical Development Plan*. PCD, London. Available from: http://hgsf-global.org/en/bank/downloads/doc_details/263-technical-development-plan-kenya- (Accessed 07 March 2014).
- PCD. (2014). *School Meals Planner*. [online] HGSF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 09 September 2014).
- Republic of Kenya. (2012a). *SHNM Updated Statistics*. March 2012. School Health and Nutrition Unit, Ministry of Education, Nairobi.
- Republic of Kenya. (2012b). *The Njaa Marufuku Kenya Case Study Report*. Draft Report, January 2012. Ministry of Agriculture, PCD, KEMRI and KIPPRA, Nairobi.

- Republic of Kenya. (2012c). *National Food Security and Nutrition Policy 2012*. Ministry of Agriculture, Nairobi.
- Republic of Kenya. (2009a). *National School Health Policy*. Ministry of Public Health and Sanitation and Ministry of Education, Nairobi.
- Republic of Kenya. (2009b). *National School Health Guidelines*. Ministry of Public Health and Sanitation and Ministry of Education, Nairobi.
- Republic of Kenya. (2007). *Kenya Vision 2030*. Ministry of Planning and National Development, Nairobi. Available from: http://theredddesk.org/sites/default/files/vision_2030_brochure_july_2007.pdf
- Republic of Kenya. (2005a). *Sessional Paper No. 1 of 2005: A Policy Framework for Education, Training and Research*. Parliament of the Republic of Kenya, Nairobi.
- Republic of Kenya. (2005b). *National Education Sector Support Programme (NESSP) 2014–2017*. Ministry of Education, Science and Technology, Nairobi.
- Republic of Kenya. (2003). *Kenya: Economic Recovery Strategy for Wealth and Employment Creation 2003–2007*. Ministry of Planning and National Development, Nairobi. Available from: <http://siteresources.worldbank.org/KENYAEXTN/Resources/ERS.pdf> (Accessed 26 March 2014).
- Republic of Kenya. *National School Health, Nutrition and Meals Programme Strategy*. Ministry of Education, Ministry of Public Health and Sanitation and Ministry of Agriculture, Nairobi.
- Singh, S. (2013). *School Feeding Legal and Policy Frameworks: A Review*. PCD and WFP, London.
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 07 March 2014).
- UNICEF. (2009). *The Children: Primary School Years*. UNICEF, Kenya, Nairobi. Available from: http://www.unicef.org/kenya/children_3795.html
- UNDP (United Nations Development Programme). (2009). *Human Development Report 2009. Overcoming Barriers: Human Mobility and Development*. UNDP, New York.
- World Bank. (2013). *World DataBank: World Development Indicators — Kenya*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 06 March 2014).

Case Study 10: Mali — Programme National d’Alimentation Scolaire

Country Profile

Population in 2012: 14,853,572 (World Bank, 2013).

Gross Domestic Product Per Capita in 2012 (US\$): 694 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 47 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 89 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2012 (%): 69 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 38 (UNICEF, 2013).

Employment in agriculture in 2006 (% of total employment): 66 (World Bank, 2013).

Classified as a Low-Income Food-Deficit Country in 2013 (FAO, 2013).

Introduction

Mali is a Low-Income Food-Deficit Country (FAO, 2013) located at the heart of West Africa (Figure 1), with an area of over 1,241,000 square kilometers, a population of over 14 million inhabitants (77% reside in rural areas) (World Bank, 2013), and with an annual population growth rate of 4% according to the 2009 national census (BCR, 2009). Mali has three climatic zones: the *Sahara zone* forming two-thirds of the northern country; the *Sahel zone* in the western and central parts of the country; and the *Sudanese zone* in the southern part of the country. The extreme South of the country experiences rainy conditions and is covered with forests. The population density is highly variable (as high as 90 inhabitants per square kilometer in the Sudanese zone, and as low as five inhabitants per square kilometer in the Sahara zone).

Close to 50% of Malians are under the age of 15, making education a top priority for the country. Despite some achievements in terms of access



Figure 1: Map of Mali by region and in Africa

Source: GADM (2013).

to education and school infrastructures, the primary school enrollment rates in rural areas, especially for girls, remain low. In 2011, the net enrollment rate for primary schools at the national level was 63%, below the average for sub-Saharan Africa (World Bank, 2013). This rate is generally even lower in the northern part of the country according to recent educational statistics (CPS, 2010).

Mali's economy is primarily based on the rural sector (agriculture, livestock, forestry, and fishing), which accounts for 40%–45% of its gross domestic product. However, the Malian agriculture is challenged by, the strong dependence on rainfall, which has been unstable in the past four decades; the lack of infrastructures (irrigation, storage, etc.) and advanced production technologies, poor financing, volatility of prices, and the fact that most producers are subsistence farmers rather than market oriented. Mali is a country with high mineral potentials and immigration and tourism are also very significant revenue sources. However, Mali depends on foreign aid and is very vulnerable to fluctuations in world fuel prices. Its human development remains below the threshold for sub-Saharan Africa, with more than half the Malian population living below the poverty line, a gross domestic product per capita in 2012 of US\$694¹ (347,000 CFA [Communauté Financière Africaine] francs) (World Bank, 2013), and an adult (aged 15 and above) literacy rate of only 26% in 2006 (UNDP, 2011; World Bank, 2013).

According to a recent study, nearly 40% of Mali's population is food insecure or vulnerable and about 43% of Malian children suffer from malnutrition (UNICEF, 2010). This may have been aggravated since January 2012, when Mali's northern regions were attacked and occupied by rebel and extremist groups. Though a military intervention liberated the zones and is paving the way for the return of normality and public services, the conflict caused the displacement of close to 500,000 people, disruption of schools, and destruction of health facilities.

Although its actual dynamics are recent, school feeding is not new in Mali. It was first institutionalized in 1962 by Government Decree No. 0235, two years after independence (Diallo, 2012a). There was no specific central structure dedicated to school feeding then; early programs were organized

¹Taking an average of US\$1 = 500 CFA francs.

locally under the responsibility of staff in the Education Department. Later in the 1980s, the political changes and the decrease in public spending weakened the interventions, with only few programs — mostly non-governmental organization (NGO)-supported — remaining active in the northern and western parts of the country. In the late 1990s, the United Nations World Food Programme (WFP) and Catholic Relief Services started to actively support programs as part of their education and nutrition support strategies. This also led the government into adopting a National School Feeding Policy (*Politique Nationale d'Alimentation Scolaire*) (République du Mali, 2009a) as well as launching a government-run school feeding program the *Programme National d'Alimentation Scolaire* (National School Feeding Programme) in 2009 (Diallo, 2012a), in addition to programs implemented by international development partners and NGOs.

The *Centre National des Cantines Scolaires* (CNCS) is the national school feeding directorate based at the Ministry of Education. The CNCS is a fairly new functional structure established in 2011. It is responsible for implementing the national policy, through co-ordinating activities, monitoring and evaluating, and quality control. The *Académie d'Enseignement* (AE) and the *Centre d'Animation Pédagogique* (CAP), respectively regional and local decentralized structures of the Ministry of Education, provide support to activities on the ground. Finally, the School Management Committee (*Comité de Gestion Scolaire*), composed of teachers and parents, are school-level actors. The striking part of the *Programme National d'Alimentation Scolaire* is that it has a strong political and institutional basis and is a decentralized model, compared to neighboring countries. The local governments (*Collectivités*) are primarily responsible for the schools and manage the funds for procurement and infrastructures. The School Management Committee is also able to elaborate budgets and call for bids for food purchase.

An estimated 62,863 school children from 651 targeted primary schools were benefiting from the Malian Government school feeding program, the *Programme National d'Alimentation Scolaire*, in 2009–2010. An additional 100 primary schools were included to the program in 2011 (after an initial 6-month support from WFP) and a further 58 primary schools in 2012, giving an estimated total beneficiary in March 2012 (prior to the crisis and the displacement of the population from northern regions) of approximately 109,000 school children from 809 targeted primary schools. In addition to the national program, WFP, Catholic Relief Services, and

other NGO-supported programs are feeding an estimated 200,000 plus beneficiaries in more than 900 targeted primary schools.

Methodology

The objective of this chapter is to provide a global first view of the Malian Government school feeding programme, the *Programme National d'Alimentation Scolaire*, prior to the political and security crisis that Mali faced during 2012–2013. This chapter is largely drawn from secondary sources from Mali's National School Feeding Policy (*Politique Nationale d'Alimentation Scolaire*) (République du Mali, 2009a), the Mali School Feeding Sustainability Strategy (*Stratégie de Pérennisation de l'Alimentation Scolaire au Mali*) (Diallo and Guindo, 2013) and the National Monitoring and Evaluation Strategy (*Stratégie Nationale de Suivi-Évaluation*) (Dembele, Diallo, and Sidibé, 2013).

Design and Implementation

Objectives

The *Programme National d'Alimentation Scolaire* seeks to:

- promote equal access to education for girls and boys alike;
- improve enrollment, attendance, and retention of children, especially girls, vulnerable children, and children living in food insecurity zones;
- improve the performance of school-age children;
- build capacity for beneficiary communities;
- mobilize communities around the school and promote co-operation and dialogue among stakeholders;
- improve the health and nutritional status of school-age children;
- improve market access for smallholder farmers; and
- promote local job creation and economic development.

Targeting and coverage

As of March 2012, the *Programme National d'Alimentation Scolaire* was targeting an estimated 109,000 beneficiary school children in 809 targeted primary schools (Diallo, 2012b). With the 109,000 beneficiary school children, in addition to the number of beneficiary school children from

Country School Feeding Program Factsheet

Start Date	2009	
Design and Implementation	<i>Rational/Impact</i>	<ul style="list-style-type: none"> • Promote education, especially for girls; • build capacity for beneficiary communities; • improve school health and increase pupils' performance; • improve market access for smallholder farmers; and • promote local job creation and economic development.
	<i>Implementation Levels</i>	Around 109,000 beneficiary school children in 809 targeted primary schools, mainly from the 166 most vulnerable districts (<i>Communes</i>).*
	<i>Supply, Storage, and Logistics</i>	<ul style="list-style-type: none"> • Ministry of Education determines the beneficiary primary schools, estimates the needs, and provides technical support. • Local actors manage purchase and delivery, after receiving funds from the Ministry of Finance.
	<i>Modality, Food Basket Details</i>	One cooked meal at lunch.
Policy and Legal Frameworks Documents	<ul style="list-style-type: none"> • <i>Politique Nationale de l'Alimentation Scolaire</i> (République du Mali, 2009a). • <i>Stratégie Nationale de Suivi-Évaluation, 2013–2017</i> (Dembele, Diallo, and Sidibé, 2013). • <i>Loi de Réglementation de l'Alimentation Scolaire</i> — to be adopted (République du Mali, 2013). • <i>Programme Décennal de Développement de l'Éducation</i> (République du Mali, 2000). • <i>Programme d'Investissement pour le Secteur de l'Éducation</i> (République du Mali, 2009b). 	

Institutional Arrangements

Lead Institution

Ministry of Education, CNCS.

Supporting Institutions

- Ministries of Agriculture and Health.
- Other departments represented at the school feeding steering committee.

Finance

Annual Budget

In 2012, 2.8 billion CFA francs (approximately US\$5.6 million).

Cost Per Child Per Year

2009: around 4,500 CFA francs (US\$9). This figure does not include other harder to quantify costs such as community contributions.

Community Involvement

- Management of supply and operations.
- Contribution (cash and in-kind) to the canteens.

Innovations/Good Practices

- Strong policy and institutional framework.
- Innovative national strategy on monitoring and evaluation.
- Decentralized procurement model.

Weaknesses/Risks

- Irregularity of supplies.
- Illiteracy of communities.
- Limited capacities of implementing institutions.
- Limited capacities and little participation of smallholder farmers.
- Financial constraints.
- Crisis in northern Mali.

*Prior to the political and security crisis that Mali faced during 2012–2013.

WFP, Catholic Relief Services, and other NGO-supported programs (estimated at over 200,000 beneficiaries in more than 900 targeted primary schools), the share of children being fed in primary schools is slightly less than 20% for the entire country. The *Programme National d'Alimentation Scolaire* initially targeted primary schools in the 166 most vulnerable districts (*Communes*) in Mali. At a donor's roundtable in 2008, the Government of Mali developed a program called the "166 Initiative" to accelerate the implementation of the Millennium Development Goals (MDGs) in 166 districts of western, central, and northern Mali, particularly affected by food and educational challenges (République du Mali, 2009c). In addition, three levels of targeting primary schools were identified: areas in the most vulnerable and food insecure regions; areas with gross enrollment rates lower than the national average, the regional average and the average of the most vulnerable and food insecure regions; and areas with primary schools very distanced from villages and/or having low enrollment rates, especially for girls (DNEB, 2008).

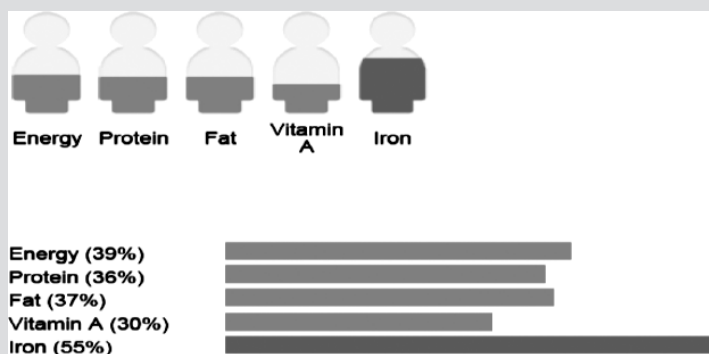
The beneficiaries of the program are predominantly school-age children, who receive a hot meal per day to encourage them to attend schools and to improve their nutritional and health status. Communities are also potential beneficiaries (targeted through income generating and training activities in the program) and include all people from the villages around the primary schools or catchment areas, such as community associations, women's groups, smallholder farmers, and other marketers.

Modalities, food basket, and nutritional norms

Food provision is in the form of a lunch provided through canteens. Depending on the Zone, the meal includes food enriched with vitamins and minerals and consists mainly of staple foods (millet, sorghum, maize, and rice) with legumes, oil, pulses (such as cowpeas), and meat and/or fish. However, as yet, there is no nationally defined fixed food basket or national quality and nutritional standards set for school meals for the *Programme National d'Alimentation Scolaire*. Baskets vary from one region to another and an operational manual is being prepared to address these needs. Nevertheless, several primary schools are following WFP-defined rations (Table 1).

With regards to nutritional norms, the *Programme National d'Alimentation Scolaire* does not appear to make a link with nutrition education.

Gingerbread men representing the average daily nutritional content of a sample weekly primary school lunch menu in Mali’s Programme National d’Alimentation Scolaire



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40%
 40%–100%

- A typical school meal ration with legumes was used for the nutrient content calculations, although it is stated that the meal can contain meat or fish instead of legumes. The ration information table included only the word “cereal”, but it is stated that staple foods include millet, sorghum, maize, and rice. Thus, the ration was differentiated into four menus: millet as the cereal; sorghum; maize; and rice.
- The raw version of each food item was used in the nutrition content calculations.
- The beans on the menu were taken to be white beans on the country meal planner tool [PCD, 2014].

Source: PCD (2014).

Table 1: Pupils’ food ration

Commodity	Number of school days per year	Ration per meal (in grams)
Cereal	180	150
Legume	180	30
Vegetable oil	180	10
Total	—	190

Source: Adapted from PAM (2008).

Food procurement, transportation, storage, and preparation

Supply/value chain

In the supply process (Figure 2), the District Mayors receive funds from the Ministry of Finance based on student enrollment numbers and food needs. They then organize bids on the basis of an advance payment to certified traders to deliver foods into the canteens (or to the agents of the town hall who take them to the canteens). However, a new Ministerial Decree No. 0367 (République du Mali, 2012) calls for the transfer of the procurement management to the School Management Committee, under the supervision of the District Mayors and with the technical guidance of CNCS — through the AE and CAP. Food procurement is performed on average on a quarterly basis. Although lack of proper storage infrastructure is a challenge, more and more primary schools have the built storage facility managed by the School Management Committee, who is also responsible for cooking.

The food suppliers buy food either from the market or from smallholder farmers. However, the *Programme National d’Alimentation Scolaire* strongly

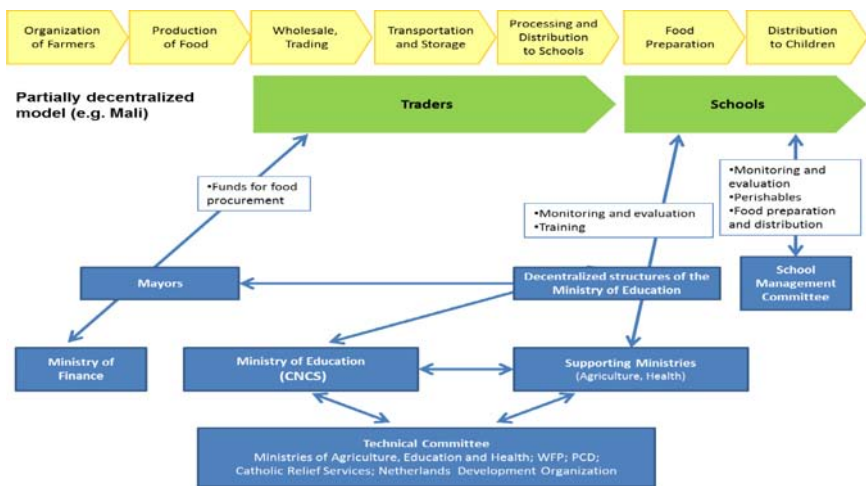


Figure 2: Supply chain of the Programme National d’Alimentation Scolaire

Source: Adapted from an internal PCD (The Partnership for Child Development) standard figure customized by Diallo and Guindo (2013).

recommends buying food from smallholder farmers, whether they are local producers from villages around the primary schools, grouped in co-operatives or farmer organizations, or producers in neighboring villages (in case the initial village has low production potentials). Several organizations, including the WFP initiative purchase for progress, the Netherlands Development Organization and PCD, are working toward strengthening farmers and farmers' organizations in supplying canteens.

According to a WFP/PCD-supported rapid survey (SAP, 2012) conducted by the Early Warning System covering 1,149 primary schools (including 303 primary schools with a school feeding program), local food purchases are very often made to supply the canteens (87% of cases in the five selected regions of the study). However, it is interesting that purchases are more important in Mopti and Koulikoro which have higher production potentials, than in Kayes (West), Timbuktu, and Gao (North) (Table 2). It is also striking that buyers put less focus on the nutrition value of foods, than compared to price and local habits (Table 3).

Policy and Legal Frameworks

The recent political dynamic behind school feeding in Mali particularly comes from the 10-Year Education Development Programme (*Programme Décennal de Développement de l'Éducation*), and the three phases of the Education Sector Investment Programme (*Programme d'Investissement pour le Secteur de l'Éducation*), which ended in 2012 (République du Mali, 2000; République du Mali, 2009b). These framework programs were mainly aimed

Table 2: Frequency (%) of local purchase for primary school canteens

Frequency	Region					Total
	Kayes	Koulikoro	Mopti	Timbuktu	Gao	
Very often	35.0	64.3	59.4	0	33.3	46.8
Often	40.0	35.7	31.3	87.5	33.3	40.3
Rarely	25.0	0	9.4	12.5	33.3	13.0

Source: Adapted from SAP (2012).

Table 3: Criteria for local purchases

Region	Criteria		
	Price (%)	Nutritional Value (%)	Local Habits (%)
Kayes	25.0	15.9	59.1
Koulikoro	22.2	40.7	37.0
Mopti	22.7	15.9	61.4
Timbuktu	0	0	100.0
Gao	60.0	0	40.0
Total Average (%) for all five regions	23.3	19.4	57.4

Source: Adapted from SAP (2012).

at increasing the basic education enrollment rates, primarily for girls and reducing the disparities between regions in terms of access to education; and supporting school feeding programs was a key strategy in achieving these goals (Diallo and Guindo, 2013).

Well aware of the role that school feeding could play in the development of education, the Government of Mali adopted a National School Feeding Policy (*Politique Nationale de l'Alimentation Scolaire*) in 2009 (République du Mali, 2009a). The Policy calls for “providing support to school feeding in a sustainable way so that hunger is no longer a barrier to the access, retention, and development of a child in school” (République du Mali, 2009a). The Policy is in line with the other national strategies and programs for education, food security, poverty reduction, and the MDGs. It is also important to note that the Policy emphasizes that school feeding is multisectoral, stressing on the relationship to be built between school feeding programs and other sectoral policies including agriculture, health and nutrition, social development, women and children, and hygiene and sanitation.

In order to further strengthen the policy and legal frameworks for school feeding in Mali, a School Feeding Regulation Law (*Loi de Réglementation de l'Alimentation Scolaire*) (République du Mali, 2013) has been recently developed and is due to be validated at a higher political level. This law lays down broader guidelines for the implementation of the National School Feeding

Policy (République du Mali, 2009a) and articulates, among others, the principles, rights and obligations of actors as well as the methods of operation and monitoring and evaluation.

Institutional Arrangements

As described previously, the design and implementation of school feeding in Mali at the central level is the responsibility of the CNCS. The CNCS also chairs a steering committee, composed of departments of the Ministry of Education and other sectoral ministries (Agriculture; Environment and Sanitation; Health; Promotion of Women, Children and Family; and Social Development), technical and financial partners and NGOs, which co-ordinates, provide support to the implementation and monitoring of the program and shares information between stakeholders.

At the decentralized level, the AE and CAP are in charge of supervision, co-ordination, and monitoring through their canteen officers. At the school level, the School Management Committee is responsible for the daily operation of the canteen and reporting to the CAP and District Mayors. Finally, there are regional steering committees for primary school canteens (more or less functional) and are composed of regional stakeholders for consultation purposes. Figure 3 illustrates the institutional structure and roles of the *Programme National d'Alimentation Scolaire*.

A National Monitoring and Evaluation Strategy (*Stratégie Nationale de Suivi-Évaluation*) was adopted for the first time in early 2013 for all school feeding programs in Mali, whether this was the government's *Programme National d'Alimentation Scolaire* or partner school feeding programs (Dembele *et al.*, 2013). The Strategy includes a five-year Action Plan on the institutional organization of monitoring and evaluation, data collection and diffusion, impact evaluation, and resource mobilization. It also defines the roles and responsibilities of actors in the process. Finally, the Strategy provides monitoring and evaluation tools for five levels (schools, School Management Committee, CAP, AE, and District Mayors) designed for collecting information on education, procurement, community contribution, training activities, menus, and stocks (Dembele *et al.*, 2013).

Funding and Budgeting

The Government of Mali has undoubtedly made considerable efforts to finance primary school canteens. Over the past three years, the State budget allocated more than nine billion CFA francs (approximately US\$18 million)² to school feeding (Table 4). However, this funding is insufficient to cover all needs, and is experiencing a negative change over the past three years. Also, although the share of investment in primary school canteens has been increasing over the three years, the share of primary school canteens in the entire State budget allocated to the Ministry of Education appears paltry.

The estimated cost per pupil, per year was 4,500 CFA francs (US\$9), when the *Programme National d'Alimentation Scolaire* was first launched in 2009. However, there is no official defined cost per pupil to date and so the funding seems flexible. As for the management of funds, there is a budget line for school feeding and the funds are used in accordance with its rules and procedures. Funds are channelled through the Regional Departments of Budget (Figure 3 under Institutional Arrangements) and the preceptors directly to the

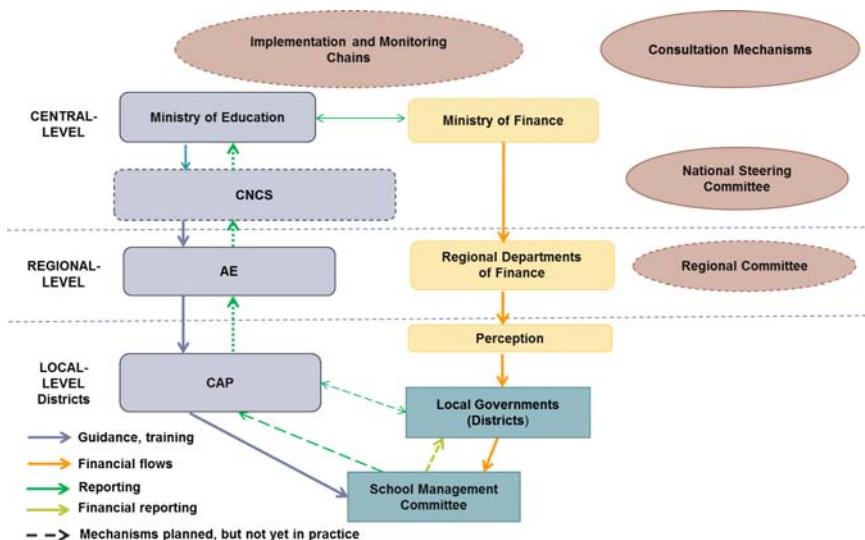


Figure 3: Institutional organization of the Programme National d'Alimentation Scolaire

Source: Adapted from Diallo and Guindo (2013).

²Taking an average of US\$1 = 500 CFA francs.

Table 4: Funding of primary school canteens by the Government of Mali (in 1000' CFA francs)

	2010	2011	2012	Total
<i>Supply of school canteens and investment spending (decentralized)</i>				
Food rations and kitchen utensils	1,883,885	1,888,870	1,983,207	5,755,962
Infrastructures construction/rehabilitation	1,500,000	1,000,000	800,000	3,300,000
Total	3,383,885	2,888,870	2,783,207	9,055,962
<i>Change in total funding from previous year</i>		-15%	-4%	
Ordinary budget of the Ministry of Education	138,052,503	165,278,246	194,577,051	497,907,800
Internal sectoral investment budget of the Ministry of Education	9,019,102	4,522,138	1,980,000	15,521,240
Total	147,071,605	169,800,384	196,557,051	513,429,040
	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>Total</i>
<i>Share of school canteens in the State budget of the Ministry of Education (decentralized)</i>				
Ordinary budget allocated to school canteens	1%	1%	1%	1%

Source: Adapted from the Finance Department of the Ministry of Education cited by Diallo and Guindo (2013).

districts owning primary school canteens. Resources are committed, validated and authorized by the District Mayors. Funds are generally transferred on time, as they include other district activities in addition to school feeding. The issue is actually with the management of funds, the amount of money disbursed, and the timeliness of procurement for primary school canteens.

Community Participation

In Mali, the communities intervene in several ways in supporting the schooling of their children and thus, make substantial contributions to various school feeding programs. The minimum expected contribution from a community is the management of cooking, covering costs of perishables,

maintenance of community gardens and fields so as to supply the canteen, and building of infrastructures such as stores and kitchens. In regions with strong emigration, community members who live abroad frequently provide financial resources that go towards the building of infrastructures and foods, as well as the salaries for cooks. In addition to their own volunteering activities, the School Management Committee also organizes and facilitates community contributions.

Evidence of Program Impact

As yet, no study on the impact of the *Programme National d'Alimentation Scolaire* has been completed. However, various studies and surveys on partner programs in Mali have all confirmed that school feeding activities contribute to the access and retention of children in schools, but there is no significant data on other social and economic impacts.

Currently, PCD in collaboration with CNCS is working on a two-year (2012–2014) impact evaluation on the *Programme National d'Alimentation Scolaire* in selected primary schools and their respective districts in two zones: Western and Central Mali. The data of the baseline survey of this impact evaluation (Assima, 2013) can already give some interesting insights with respect to how effective programs should be, and that school feeding will be more needed in making a difference in health and nutrition than enrollment, given the identified trends.

For instance, with respect to nutrition, of the 8,319 children (4,360 boys and 3,959 girls) age, sex, and anthropometric data were observed, where 7% had fallen sick during the past seven days (10% of pre-schoolers and 6% of school-age children). The nutritional status of pre-school children in the study areas appeared critical. The prevalence of underweight among children under-five is 42% and that of stunting (chronic malnutrition) is 61%. Among children of school age, approximately 31% of children aged 5–15 years are underweight and 37% of children are affected by stunting. Again, among children aged between 2 and 5 years, 20% are severely underweight and 40% have severe stunting. Finally, 13% of school-age children suffer from severe underweight and 17% suffer from severe stunting (Assima, 2013).

As for education, in a sample of 106 primary schools surveyed during 2011–2012, there were 7,905 male and 6,816 female pupils. Compared to the previous year, there have been an additional 689 male and 869 female pupils. An important evolution in the number of pupils enrolled in primary schools was noticed, the increase being higher for girls than boys (15% against 10%). Traditionally, boys outnumber girls in primary schools, but the trend is now slightly improving, the parity index being around 0.82 in 2010–2011 and 0.86 in 2011–2012 (Assima, 2013).

Conclusions

Launched three years ago, and despite its weaknesses, the *Programme National d'Alimentation Scolaire* has been contributing to the implementation of Mali's National School Feeding Policy (*Politique Nationale d'Alimentation Scolaire*) (République du Mali, 2009a) and promoting government-ownership of school feeding. Irrespective of no impact evaluation on the *Programme National d'Alimentation Scolaire*, there have been several achievements so far. In terms of educational goals, from project reports and regular monitoring by actors, the *Programme National d'Alimentation Scolaire* and partner programs allowed an increase in the rates of enrollment and retention in primary schools, especially for girls (traditionally behind in terms of education in rural areas). Moreover, it has been accompanied by the strengthening of the political and institutional framework of school feeding, which will better structure and formalize program implementation and monitoring as well as ensuring proper co-ordination between other sectors and the Ministry of Education.

But most importantly, the *Programme National d'Alimentation Scolaire* is contributing by placing schools at the heart of local development through promoting locally-owned school feeding programs and making them beneficial to the local communities via, among others, the community organizations, various training opportunities offered, and the purchase from smallholder farmers. It is important to note that the *Programme National d'Alimentation Scolaire* through giving key roles to local governments, has become one of the pillars in the decentralization process that Mali has embarked on for its overall development and good governance.

Challenges

Despite its successes, the *Programme National d'Alimentation Scolaire* faces several challenges. The first and foremost challenge was faced in the recent crisis which halted many interventions in northern Mali. School feeding, however, is still seen as an assistance activity from the government and partner organizations, rather than a program that is community owned and integrated. Thus, community involvement could be enhanced; as it is currently challenged by illiteracy, low levels of education and lack of organization. The School Management Committee, for instance, despite their institutional status and their strong commitment in general, is hampered by their training and capacity deficits. Moreover, several monitoring missions have noticed that many canteens either do not receive the supplies on time or do not receive enough supplies during the school periods.

The institutional organization and the newly created CNCS could be better equipped and technically strengthened in order for CNCS to better accomplish its mission and responsibilities. Focal points at the AE and CAP lack technical and logistical means in properly carrying out their technical support and reporting. With respect to smallholder farmers, their overall participation in school feeding procurement could be improved as currently they are not professionalized and their production is small-scaled with rudimentary methods.

Financially, in addition to the small amounts disbursed, clear expenditure tracking and reporting of information is weak. The collaboration between the Ministry of Finance and the Ministry of Education, the decentralized-level of education (the AE and CAP), and the local governments could be strengthened.

Next steps

As the *Programme National d'Alimentation Scolaire* is a new initiative, the majority of the challenges were faced as a result of executing the program for the first time where experience was lacking. Nevertheless, the program can be an asset if the interventions are more structured, activities are better designed and planned, communities are well trained and sensitized, and the financing is stabilized and sustained.

Several stakeholders have identified the need to address the program challenges. Some recommendations have been proposed by the stakeholders in an effort to move toward sustainability. These include:

- Empowering and building capacities of communities.
- Strengthening institutional actors in better fulfilling their mission.
- Developing mechanisms for better costing and reporting of funds, and promoting financing from diverse sources, especially the private sector.
- Facilitating local income-generating activities to support canteen costs.
- Placing more focus on the nutrition part of the program, by defining standards for good nutritional practice.
- Strengthening smallholder farmers in terms of production and post-production techniques as well as marketing and professional strategies.
- Enhancing multi-sector collaboration.
- Strengthening the steering committees, at both national and regional levels, for better collaboration between actors and stakeholders.

Abbreviations and Acronyms

AE	Académie d'Enseignement
CAP	Centre d'Animation Pédagogique
CFA	Communauté Financière Africaine
CNCS	Centre National des Cantines Scolaires
FAO	Food and Agriculture Organization of the United Nations
MDG	Millennium Development Goal
NGO	Non-governmental organization
PCD	The Partnership for Child Development
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from Mali's National School Feeding Policy (*Politique Nationale d'Alimentation Scolaire*) adopted by the Government in

2009 (République du Mali, 2009a), the Mali School Feeding Sustainability Strategy (*Stratégie de Pérennisation de l'Alimentation Scolaire au Mali*) (Diallo and Guindo, 2013) and the National Monitoring and Evaluation Strategy (*Stratégie Nationale de Suivi-Évaluation*) (Dembele *et al.*, 2013).

This chapter was compiled by Amadou Sekou Diallo (PCD, Mali); reviewed by Alice Woolnough, Daniel Mumuni and Cai Heath (PCD), and Emilie Sidaner (WFP) external to Mali; and at the country level by Gerard Rubanda (WFP, Mali); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

This chapter was written in consultation with the CNCS, Ministry of Education.

References

- Assima, A. (2013). *Draft rapport d'enquête de base: alimentation scolaire à base de produits locaux (HGSF) au Mali*. PCD, Mali, Bamako.
- BCR (Bureau Central du Recensement). (2009). *4ème Recensement Général de la Population et de l'Habitat: Résultats Provisoires*. Ministère de l'Economie, de l'Industrie et du Commerce/Direction Nationale de la Statistique et de l'Informatique, Bamako.
- CPS (Cellule de Planification et de Statistique). (2010). *Annuaire National des Statistiques Scolaires de l'Enseignement Fondamental 2009–2010*. Ministère de l'Éducation, de l'Aphabétisation et des Langues Nationales, Bamako.
- Dembele, K.E., Diallo, A.S. and Sidibé, P. (2013). *Stratégie Nationale de Suivi-Évaluation, 2013–2017*. CNCS/PCD/PAM/SNV, Bamako.
- Diallo, A.S. (2012a). *Evolution of School Feeding in Mali*. PCD, Mali, Bamako.
- Diallo, A.S. (2012b). Compilation of data from PCD 'Evaluation d'Impact 58 Écoles Effectifs' (2012), from DNEB 'Liste des Écoles Retenues dans le Cadre du Programme des Cantines Scolaire 2008–2009' (2011), and from PAM 'Liste des Écoles Assistées' (2011). Formulated on 2 October 2012 [Excel spreadsheet]. PCD-Mali, Bamako.
- Diallo, A.S. and Guindo, A. (2013). *Stratégie de Pérennisation de l'Alimentation Scolaire au Mali*. CNCS/PCD/PAM, Bamako.
- DNEB (Direction Nationale de l'Éducation de Base). (2008). *Programme de cantines intégrées 2008–2011: Guide de mise en oeuvre*. Ministère de l'Éducation de Base, de l'Aphabétisation et des Langues Nationales, Bamako.

- FAO. (2013). *FAO Country Profiles. Low-Income Food-Deficit Countries (LIFDC) — List for 2013*. FAO, Rome. Available from: <http://www.fao.org/countryprofiles/lifdc/en/> (Accessed 17 September 2013).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- PAM. (2008). *Programme de Pays CP 10 583.0, Activité 1 «Appui à l'Education de Base»: Guide de Mise en œuvre*. PAM, Bamako.
- PCD. (2014). *School Meals Planner*. [online] HGSGF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 01 April 2014).
- République du Mali. (2013). *Loi de Réglementation de l'Alimentation Scolaire*. Ministère de l'Education, de l'Alphabétisation et des Langues Nationales, Bamako.
- République du Mali. (2012). *Fixant les Modalités de Gestion des Cantines Scolaires. Arrête Interministériel No. 0367*. Ministère de l'Education, de l'Alphabétisation et des Langues Nationales, Ministère de l'Administration Territoriale et des Collectivités Locales, Ministère de l'Economie et des Finances, Bamako.
- République du Mali. (2009a). *Politique Nationale de l'Alimentation Scolaire*. Cabinet/Ministère de l'Education, de l'Alphabétisation et des Langues Nationales (MEALN), Bamako.
- République du Mali. (2009b). *Programme d'Investissement pour le Secteur de l'Education. Descriptif de la Troisième Phase (2010–2012)*. Ministère de l'Education, de l'Alphabétisation et des Langues Nationales/Ministère de l'Enseignement Supérieur et de la Recherche Scientifique/Ministère de l'Emploi et de la Formation Professionnelle, Bamako.
- République du Mali. (2009c). *Note sur l'Initiative 166: Accélération des OMD dans les 166 Communes les Plus Vulnérables*. République du Mali, Bamako.
- République du Mali. (2000). *Programme Décennal de Développement de l'Education. Les Grandes Orientations de la Politique Éducative*. Ministère de l'Education Nationale, Bamako
- SAP (Système d'Alerte Précoce). (2012). *Rapport d'enquête sur le niveau de préparation des écoles gouvernementales devant bénéficier de l'EMOP 200389*. PAM/PCD, Bamako.
- UNDP. (2011). *Human Development Report 2011. Mali: HDI Values and Rank Changes*. UNDP, New York.
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. New York, UNICEF. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 21 November 2013).

- UNICEF. (2010). *Mali: Multiple Indicator Cluster Survey*. Central Bureau of Statistics, UNICEF, New York.
- World Bank. (2013). *World DataBank: World Development Indicators — Mali*. The World Bank Group, Washington, D.C. <http://databank.worldbank.org/data/home.aspx> (Accessed 27 November 2013).

Case Study 11: Mexico — Desayunos Escolares

Country Profile

Population in 2010: 112,000,000 (INEGI, 2013).

Gross Domestic Product Per Capita in 2012 (US\$): 9,748 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 29 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2011 (%): 113 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2011 (%): 98 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2012 (%): 14 (Gutiérrez *et al.*, 2012).

Employment in agriculture in 2010 (% of total employment): 13 (World Bank, 2013).

Introduction

Desayunos Escolares is a school feeding program that provides breakfast to 6.1 million Mexican school children, in line with the Right to Food enshrined in the Mexican Constitution (Camara de Diputados del H. Congreso de la Union, 2012 [1917]). The school breakfast program is one of the interventions by which the double burden of overweight and undernutrition — a combination increasingly afflicting middle-income countries — is being addressed in Mexico, a Federal State with a population of 112 million (INEGI, 2013) spread over 31 States and a Federal District (Figure 1). Mexico has progressively adapted the program to better address new health challenges in a context of regional diversity. In 2007, the objectives of the nationwide school breakfast program shifted from tackling undernutrition among poor children to educating children about food and proper eating habits so as to tackle overweight.

The double burden of overweight and undernutrition is evident in Mexico where some families struggle to access sufficient food, while others consume too much unhealthy food. Mexico has the world's second highest rates for obesity and overweight among adults, and since 1980, the prevalence of overweight has tripled, with 70% of the adult population now



Figure 1: Map of Mexico by region and part of Central America

affected (Gutiérrez *et al.*, 2012). One-third of children and adolescents are overweight. At the same time, stunting affects 14% of under-fives and as many as 2.1 million children (23%) suffer chronic anaemia (Gutiérrez *et al.*, 2012). Resources are drained to treat diseases attributable to unhealthy eating. The direct cost of their treatment increased by 61% between 2000 and 2008. In 2008, a third of all Federal health spending went to cover the cost of overweight (Gobierno Federal de los Estados Unidos Mexicanos, 2010a).

With a gross domestic product per capita of US\$9,748 (119,910 Mexican pesos)¹ and an economic growth rate of 4% per year, Mexico is an upper-middle-income country (World Bank, 2013; Banco de Mexico, 2013). The recent growth pattern has helped to reduce regional disparities (Gobierno Federal de los Estados Unidos Mexicanos, Presidencia de la Republica, 2011a) and improve quality of life. Access to health and housing have improved, and there is near-universal access to education. In the school year 2010–2011, coverage of pre-primary education (3–5 year olds) was 81%, primary education was 100%, and secondary education was 96% (Gobierno Federal de los Estados Unidos Mexicanos, Presidencia de la Republica, 2011b). The literacy rate among 15–24 year olds is correspondingly high: 98% in 2010 (INEGI, n.d.). While the economy has grown, the global food, raw material, and fuel price hikes caused poverty to grow in 2008 and 2010, from 45% to 46%, or from 48.8 million to 52 million people (Consejo Nacional de Evaluacion de la Politica de Desarrollo Social, 2010). Real incomes declined, especially in urban areas. In response, the Federal Government deployed a range of programs to guarantee access to affordable food and stabilize the prices of basic products such as milk and tortilla, schemes to boost agricultural production, as well as cash transfers to poor families (Gobierno Federal de los Estados Unidos Mexicanos, n.d.).

Desayunos Escolares has deep roots. In 1929, the Mexican Government established the Association for the Protection of Childhood to provide breakfast to poor children, and a scheme that provided milk to children in poor neighborhoods in Mexico City. *Desayunos Escolares* was built from this. The rationale of combating child malnutrition was to remain unchanged until nearly 80 years later, in 2007. The institutional origins of the program

¹ Estimates based on US\$1 = 12.301 Mexican pesos.

can be traced back to 1950, when a Board of Trustees for Child Protection was established to support social assistance programs directed at children. In 1955, the National Institute of Child Protection (*Instituto Nacional de Protección a la Infancia* [INPI]) was formed to cater for children suffering from undernutrition due to the polio virus. In 1961, it was declared in charge of the food production plant that produced the school breakfasts. In 1968, the Mexican Institute of Child Welfare (*Institución Mexicana de Asistencia a la Niñez* [IMAN]) was established to cater for orphans, abandoned, disabled, and sick children. These two institutions — INPI and IMAN — were merged in 1977 to establish the National System for Integral Family Development (*Sistema Nacional para el Desarrollo Integral de la Familia* [DIF]), inheriting the responsibility for *Desayunos Escolares*, among other social assistance schemes.

Desayunos Escolares has transformed from a centrally-managed program covering only some States, to a nationwide decentralized program covering around a quarter of primary school children. Decentralization took place in 1997, and design and implementation functions were moved to the State level. This results in a diversity of approaches that nevertheless, rely on Federal funding. Quality is assured through national co-ordination and guidance that focuses especially on the nutritional content — a priority in the new health context. Decentralization has allowed the construction of an affordable, manageable program suited to local needs.

Methodology

This chapter provides a descriptive overview of Mexico's school breakfast program '*Desayunos Escolares*' based on the original, full-length case study *Estudio de Caso: Programa Desayunos Escolares en Mexico* (DIF, 2012). This involved a desk review of documents and primary data collection through a questionnaire applied to staff in the institutions operating the program at the different levels of government, as well as suppliers, school staff, parents of beneficiaries, and beneficiary children themselves. This was carried out in four selected States: Baja California (North–West Region); Nuevo León (North–East Region); Puebla (Central–South Region); and Campeche (South Region) found to have performed well in providing nutritious meals

Country School Feeding Program Factsheet

Start Date	1929	
Design and Implementation	Rational/Impact	To promote proper nutrition among school children subject to social assistance through the provision of breakfasts, nutrition education, and community development.
	Implementation Levels	State-level DIF (<i>Sistema Estatal DIF</i> [SEDIF]) defines targeting in their respective States. Vulnerable and at risk children and adolescents attending national education system schools, living in indigenous, rural or marginalized urban areas are the preferred beneficiaries. In 2011, an average of 6.1 million children were covered.
	Supply, Storage, and Logistics	SEDIF organizes food purchase, storage, and transport, procuring either through a public tender or by direct contract with a public institution.
	Modality, Food Basket Details	<ul style="list-style-type: none"> • Cold (pre-packed) or warm (cooked) breakfast. • Food baskets and menus are designed by SEDIF and approved at the national level, ensuring national nutritional standards.
	Food Preparation	For cooked breakfasts, the Parent-Teacher Association (PTA) is in charge of food storage, meal preparation, serving, and cleaning. Pre-packed breakfasts are served mainly by teachers.
Policy and Legal Frameworks/Documents	No specific school feeding law exists. National social assistance, health, and fiscal co-ordination laws guide the program, as well as norms related to food assistance and promotion of healthy eating. It is linked with national development plans and strategies as well as embedded in the health and obesity strategies (Table 3).	
Institutional Arrangements	Lead Institution	Co-ordinated by DIF and managed and implemented at the State level by SEDIF.
	Supporting Institutions	Municipal-level DIF, municipal administrations.

(Continued)

(Continued)

Start Date	1929	
Finance	<i>Annual Budget</i>	<ul style="list-style-type: none"> • US\$365.7 million (4.5 billion Mexican pesos) in 2012.* • General Budget of the Federation covers the food costs of the program. States and municipalities cover non-food costs.
	<i>Cost Per Child Per Year</i>	<p>2012: Food cost is approximately US\$69 (849 Mexican pesos). For the four States, the per-meal costs are: Puebla State: US\$0.43 (5.29 Mexican pesos); Baja California State: US\$0.81 (9.96 Mexican pesos); Nuevo León State: US\$0.86 (10.58 Mexican pesos); and Campeche State: US\$0.97 (11.93 Mexican pesos).</p>
Community Involvement		<p>Parents contribute cash and perishable food products, and volunteer in PTAs for food management and cooking.</p>
Innovations/Good Practices		<ul style="list-style-type: none"> • The focus on promoting healthy nutrition and providing balanced and healthy meals to combat the rise in overweight. • Decentralized design and implementation with central-level backstopping and norm setting empowers local institutions and communities and ensures both flexibility and quality. • Pooling of economic and human resources from different government levels. • Open communication between different levels of DIF, and between the program and external actors.
Weaknesses/Risks		<ul style="list-style-type: none"> • Decentralization relies on capacity at the State-/municipal-level DIFs, (not uniform across States and undermined by frequent staff turnover). • No intersectoral co-ordination mechanism. • Information, monitoring and evaluation systems, and targeting approaches require further development. • No specific budget for nutrition education, despite being central to programme objectives.

*Calculated based on 31 State-level work plans (30 States and the Federal District) for the year 2012 and estimated based on US\$1 = 12.301 Mexican pesos.

and nutrition education, as rated by the Performance Index² used in the program.

Design and Implementation

Objectives

In 2007, Mexico awoke to a national overweight crisis. The 2006 National Health and Nutrition Survey (Olaiz-Fernandez *et al.*, 2006) had revealed a surge in overweight and obesity. More and more Mexicans were consuming low-cost, but high calorie food, deficient in necessary vitamins and minerals. This new type of food insecurity was found to prevent people from leading a healthy life.

In this context, the school breakfasts, originally designed to provide undernourished children with high calorie food, became criticized for contributing to overweight among school children. Its objectives were refocused on providing healthy meals and developing healthy eating habits.

The key document defining the new objectives are the guidelines for the Integrated Food Assistance Strategy (*Estrategia Integral de Asistencia Social Alimentaria* [EIASA]) (DIF, 2011). These define the mission, vision, objectives and food baskets of all the DIF-led food assistance schemes. DIF together with SEDIFs and a group of academics and experts defined the new program objective as the promotion of “proper nutrition”³ among primary school children subject to social assistance, through the provision of breakfasts, designed according to nutrition standards and accompanied by nutrition education and community development.

In Mexico, nutrition education refers to the provision of evidence-based information to the beneficiaries that can help them develop food-related attitudes, abilities, and practices that would enable better diets at the individual, family, and community levels (Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud, 2006). The educational aspect helps make new food baskets better accepted among recipients. In addition, the participation of parents in meal preparation extends the reach of nutrition

²The Performance Index tracks how well the program objectives and nutrition standards are met.

³Proper nutrition refers to balanced, safe, sufficient, varied, adequate and complete nutrition.

education. Concrete education activities include clubs where children learn about food and nutrition, school gardens, and computer games with a food theme. Community development objectives could be fostered by linking school feeding with, for instance, local production or school gardens.

Targeting and coverage

The school breakfast program in 2011 covered an average of 6.1 million children each day in Mexico where 3.1 million children received a cold (pre-packed) breakfast and 3 million children received a warm (cooked) breakfast (Figure 2). This equates to around 25% of the total population of children enrolled in school.⁴ Most of the beneficiaries were in primary school or at the 6–12 year age range. Few pre-primary and secondary school students were reached.

Coverage and targeting decisions are made by States, based on their planning processes, budget and infrastructure. Targeting has been refocused from undernutrition to poverty and marginalization. Social exclusion, human development, or anthropometry (height and weight) indicators, as well as socio-economic data are used for targeting. In addition, the Ministry of Social Development's approach for identifying urban areas with high poverty (named *polygonos de pobreza*) is also applied. Some States target all schools in

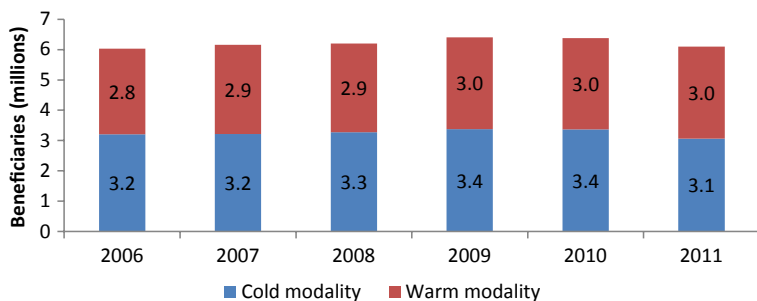


Figure 2: Desayunos Escolares beneficiaries, 2006–2011

Source: DIF (n.d.).

⁴Decrease in total number of beneficiaries in 2011 is a result of the increase in cooked breakfasts which is more expensive than pre-packed breakfasts, and the increase in high food prices over the last two years.

selected areas, other States target certain grades, or they target individuals. If targeting is not revised, but based on a historical pattern, this may result in inaccurate targeting, excluding children in need, while covering some outside the target group. DIF encourages demographic, socio-economic and epidemiological context analysis, and is currently drafting a targeting approach based on food insecurity indicators.

In the four States, national poverty and vulnerability indices along with some State-specific indices, were used to target the municipalities with the highest need. Whereas some States, such as **Campeche State**, serve meals in all public schools in the targeted municipalities, the other three States target only some schools in eligible areas. For instance, in **Puebla State**, schools are targeted based on their location and the socio-economic conditions and anthropometric measurements of students.

Modalities, food basket, and nutritional norms

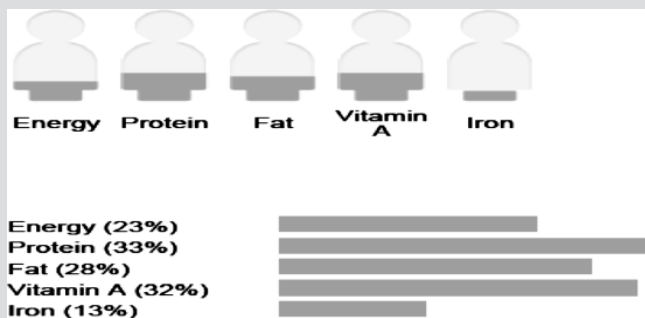
Decentralization paved the way to flexible menus that respect local cultures, while the revision of the EIASA Standards provided detailed guidance on the food basket and menus.

The breakfast is served at the start of each school day, inside school premises. There are two modalities or types of meals: pre-packed and cooked. Both modalities contain 250 millilitres of skimmed or partially skimmed milk, wholemeal cereals, and fresh or dry fruit, but the other ingredients differ. The modality choice depends on: access to food products, facilities and spaces in schools; budgetary and security considerations; and level of community participation. Many States operate both modalities, but in different schools, municipalities or grades. For example, they might provide pre-packed breakfasts in urban areas and cooked breakfasts in rural areas. The cooked breakfast is being promoted by DIF because it is more nutritious and thus, more effective in achieving program objectives and because it fosters community participation through the food preparation and distribution.

Food basket and nutritional norms

Prior to 1997, the food basket consisted of ultrapasteurized (ultra-heat treated) fortified full milk with added sugar and flavors, and other fortified

Gingerbread men representing the average daily nutritional content of a sample of five daily school cooked breakfast menus in Mexico's *Desaynos Escolares* programme



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): 0%–40%

- A sample of five daily school cooked breakfast menus were used for the nutrient content calculations and an average was obtained of the nutritional content of the five school cooked breakfast menus.
- The raw version of each food item was used in the nutrition content calculations.

Source: PCD (2014).

products, such as sweet, energy-dense biscuits and snack bars. Nowadays, more variation is guaranteed, but the meals must abide by the EIASA Guidelines (DIF, 2011), and Law NOM-043-SSA2-2005 (Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud, 2006) defines a healthy diet. Together, these define the minimum and maximum content of different types of food, portion sizes, and rule out or severely limit the use of certain unhealthy foods. They also set the balance between food groups and require food safety mechanisms to be put in place by SEDIF. SEDIF designs a series of rotating menus in line with these standards, which are validated by Central DIF before procurement can take place.

Both cooked and pre-packed breakfasts should provide at a maximum 25% of the recipients' age-specific recommended daily energy intake (Table 1).

Nutritional standards for cooked breakfasts: Cooked breakfasts provide a wider selection and variety of food. They are composed of a main dish with

Table 1: Energy content of both types of breakfasts in Desayunos Escolares

Group	National recommended daily energy intake (kilocalories/day)	Energy content of breakfasts (25% of Mexico's recommended daily energy intake)
Preschool	1300	325
Primary school	1579	395

Source: Gobierno Federal de los Estados Unidos Mexicanos (2010b).

vegetables, wholemeal cereals, and pulses or animal protein. Overall, the fat, salt and sugar content must be minimized and meals must be balanced. The use of the traditional maize tortilla⁵ is recommended, because of its high fibre and calcium content. If fat is necessary for food preparation, vegetable oils are to be used to reduce the intake of saturated fats and trans fats. Regional fruits and vegetables should also be served. Pure water is the preferred drink. If sugary drinks are served, their sugar content must be low. For traditional drinks, such as *atole*⁶ or fruit drinks, there is a maximum limit of 20 grams of sugar per litre of water, and fresh fruit should be used.

Milk is recommended as part of every meal, in portions of 240–250 millilitres. If milk is not served, the meal should contain another milk product, sardines or maize tortilla. Twenty rotating menus should be offered to ensure variety.

Nutritional standards for pre-packed breakfasts: The pre-packed breakfast also contains a portion of milk. In addition, at least 30 grams of wholemeal cereal, and a portion of fresh or dried fruit without added sugar, fats or salt must be served. Dried fruit can be combined with nuts or seeds. The pre-packed breakfast must meet the nutritional requirements per portion laid out in Table 2.

In reality, following these standards has not been straightforward, because of the limited supply of certain foods, and the climatic and geographic conditions,

⁵Tortillas made of nixtamalized maize (a traditional staple in the Mexican diet) are higher in calcium and other nutritional content. Nixtamalization involves soaking and cooking the maize in an alkaline solution. This increases its nutritional value and adds calcium to the maize.

⁶A traditional Mexican drink that typically includes corn flour, water, unrefined cane sugar, cinnamon, and vanilla with optional chocolate, fruit or another cereal.

Table 2: Nutritional requirements per portion for the pre-packed breakfast

Fibre	Minimum 1.8 grams (>10% of the recommended dietary intake)
Sugar	Maximum 25% of the total energy content of the meal
Fat	Maximum 40% of the total energy content of the meal
Saturated fats	Maximum 20% of the total energy content of the meal
Trans fats	Maximum 0.5 grams
Sodium	Maximum 200 milligrams

Source: Bourges, Casanueva, and Rosad (2009).

especially the States generally within the North–West Region. Also, in some cases, the beneficiaries rejected the new, less sweet and fatty foods. Therefore, periods of transition to the new standards were established.

Food procurement, transportation, storage, and preparation

Originally, the school breakfast program processed its own food products in the central DIF premises, but since decentralization, the food is purchased by States, generally through a public tender, or by directly awarding the contract to a public institution,⁷ in accordance with Federal- and State-level Law pertaining to Public Purchases, Leasing and Services (Camara de Diputados del H. Congreso de la Union, 2012 [2000]). In both cases, SEDIF handles procurement. Some resources can be transferred to the municipal DIF, for the purchase of perishable foods.

Once the State selects the supplier, they can define how food is to be distributed. This can be done directly to schools or to State- or municipal-level DIF warehouses, on a daily, weekly or monthly basis. At the school level, if cooked breakfasts are served, the parents of the children in each school, along with teachers working in the school that belong to the PTA, prepare the meals. SEDIF must train all PTA members, especially on hygiene, storage, preparation, and serving practices, to ensure compliance with food hygiene Law NOM-251-SSA1-2009 (Gobierno Federal de los Estados

⁷The parastatal food distribution company DICONSA is commonly hired to provide and distribute the food for the program. DICONSA is present in all States, especially in poor rural areas, and has the kind of capacity and infrastructure that are beneficial for the program.

Unidos Mexicanos, Secretaria de Salud, 2009). Pre-packed breakfasts are used mainly in schools that lack a PTA, with teachers in charge of the service.

The States have different procurement systems. In **Baja California State**, the process starts by compiling a list of food suppliers that have the capacity to deliver the food. The list is approved by SEDIF. The suppliers are then contacted and requested to submit a technical and economic proposal. The Food Department of DIF evaluates the technical proposals and decides which suppliers meet the nutrition standards. The suppliers that pass this technical round are then ranked based on cost, which defines the winning proposal. DIF staff deliver the food to the schools and the PTA serve the food based on the menus designed by SEDIF. In **Puebla State**, SEDIF purchases the food from a parastatal company, in accordance with the Law on Public Purchases (Camara de Diputados del H. Congreso de la Union, 2012 [2000]) which allows for direct purchases between two public agencies. The Nutrition Education Department is constantly on the look out for new products that meet the nutrition standards. The food is delivered to 26 regional warehouses, where it is picked up once every three months by municipalities to which the food is then transported in DIF vehicles. In **Campeche State**, SEDIF has an agreement with the Federal State-owned food company DICONSA. The SEDIF designs the portions and presents the plan to DICONSA, which then submits a proposal. If DIF is in agreement, the contract is signed. Food is delivered to schools monthly or bi-monthly, balancing the need to ensure constant food availability with the high cost of frequent food delivery. DICONSA stores and transports the food to the municipal centers, from where it is distributed to communities. In **Nuevo Leon**, the food is purchased through a national-level public tender. The selected supplier delivers the food to four regional DIF warehouses, where the municipal DIF collects their rations. Food is transported to the schools on a monthly basis, where it is cooked by PTAs.

Links with local food production, smallholder farmers, and local communities

While the food purchased is by and large of national origin, no national mechanisms or regulations are in place to ensure local products are procured. State-level legislation defines the scope for using local food. Some States

explicitly seek to support local agriculture and industries. In **Baja California State**, both national and local suppliers participate in the food tendering process. Local suppliers are given the priority, and when they do not meet the requirements, the second priority is given to national suppliers. **Puebla State** has engaged in discussions with agri-buisnesses with support from the Ministry of Agriculture to identify possible contracting modalities to link small producers to the breakfast program.

Small producer participation is impeded by State legislation requiring suppliers to be formally registered. Local industries might also face entry barriers that inhibit their participation in the supply chain. In **Nuevo León State** for instance, large national distributors supply the food, because it is challenging to find State-level suppliers with the necessary selection of goods and State-wide distribution capacity. In **Campeche State**, local production and state-wide distribution capacity have limited the possibility to procure food from small producers.

Policy and Legal Frameworks

School feeding is not backed by a specific policy or law, which means that States are not legally obliged to guarantee the provision of school feeding. Yet, the program is well embedded in the national legal and policy framework, which has guaranteed sustainability and nationwide coverage.

The program upholds the Right to Food enshrined in Article 4 of the Mexican Constitution (Camara de Diputados del H. Congreso de la Union, 2012 [1917]) as well as the Constitutional rights to health, water and protection. The Health Law (Camara de Diputados del H. Congreso de la Union, 2013 [1984]) identifies DIF as the agency in charge of the co-ordination of social programs that help realize these rights, while the Social Assistance Law (Camara de Diputados del H. Congreso de la Union, 2013 [2004]) defines the instruments at DIF's disposal, and their respective target groups. The Law on Fiscal Co-ordination (Camara de Diputados del H. Congreso de la Union, 2011 [1978]) regulates the use of Federal funds.

School feeding contributes to the central tenet of reducing extreme poverty and inequality of opportunity of the National Development Plan. As a Federal social assistance scheme, school feeding forms part of the *Vivir Mejor* Strategy (Gobierno Federal de los Estados Unidos Mexicanos, [2007]) and

Table 3: National legal and policy frameworks guiding school feeding**National Legal Framework**

General Health Law (Camara de Diputados del H. Congreso de la Union, 2013 [1984])	<ul style="list-style-type: none"> • Designates DIF as the co-ordinator of social assistance.
Social Assistance Law (Camara de Diputados del H. Congreso de la Union, 2013 [2004])	<ul style="list-style-type: none"> • Lists basic social health services, among them food assistance and education to vulnerable populations. • Describes who are the subjects of social assistance.
Law on Fiscal Co-ordination (Camara de Diputados del H. Congreso de la Union, 2011 [1978])	<ul style="list-style-type: none"> • Regulates the administration, usage and expense of Federal funds transferred to States.
NOM-169-SSA1-1998 on Social Food Assistance to Groups at Risk (Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud, [1998])	<ul style="list-style-type: none"> • Describes the common elements to all food assistance programs and the basic principles for the provision of food assistance, such as the recommended energy content and the groups that can benefit from this assistance.
NOM-043-SSA2-2005 on Basic Health and Health Promotion and Education Related to Food (Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud, [2006])	<ul style="list-style-type: none"> • Outlines the basic criteria for all nutrition and food-related education aimed at the population in general and at specific groups of people and establishes the kind of diet these programs should promote. • Establishes that nutrition education is a priority and that it must be provided to the whole population, especially vulnerable groups. • Links and gives consistency to nutrition education activities, providing practical options backed by scientific evidence.

National Policy Framework

National Development Plan 2007–2012 (Gobierno Federal de los Estados Unidos Mexicanos, Presidencia de la Republica, [2007])	<ul style="list-style-type: none"> • Establishes the main directions and objectives of the current administration at Federal Government.
---	---

(Continued)

Table 3: (Continued)**National Legal Framework**

<p><i>Vivir Mejor</i> Strategy (Gobierno Federal de los Estados Unidos Mexicanos, [2007])</p>	<ul style="list-style-type: none"> • Aims at harnessing government action to serve the goal of sustainable national development, strengthening existing programmes to achieve the goals of the National Development Plan. • Goal: Enabling persons and families to exercise full, free and equal social participation and develop their basic capacities through access to food that meets basic nutrition standards and through nutrition education for healthy diets.
<p>National Agreement on Food Security, Strategy Against Overweight and Obesity (Gobierno Federal de los Estados Unidos Mexicanos, [2010a])</p>	<ul style="list-style-type: none"> • Defines national policy as regards to the prevention of overweight and obesity. • Goal 4: Increase the consumption of fruits, vegetables, pulses, wholemeal cereals, and fibre, increasing their availability, accessibility, and promoting their consumption. • Goal 8: Reduce the consumption of saturated fats and to a minimum the industrial production of trans fats. • Goal 10: Reduce the consumption of sodium by reducing the level of sodium added to foods and increasing the availability and accessibility of products low in or without sodium.
<p>National Health Sector Programme 2007–2012 (Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud [2007])</p>	<ul style="list-style-type: none"> • Establishes the main directions and objectives, on health matters, of the current administration at Federal Government.

Source: *Sourcebook* authors.

supports its goal of enabling participation and the development of basic capabilities through access to nutritious food. The program is in line with the 2010 National Strategy against Overweight and Obesity (Gobierno Federal de los Estados Unidos Mexicanos, 2010a). An important gap in the framework relates to the absence of a national food policy and related intersectoral co-ordination mechanisms.

EIASA guidelines

The EIASA Guidelines (DIF, 2011) apply to all DIF food assistance programs. They define the food basket, detail the program types and establish their respective target groups. The responsibilities of the national DIF and SEDIF are described. The EIASA Guidelines are updated yearly. In 2007, an in-depth revision was launched in collaboration with academics and nutrition experts. This led to the change in school feeding objectives towards promoting healthy eating and ensuring meals are nutritious. To track EIASA implementation, DIF calculates a Performance Index for each State, conducts oversight visits, provides technical guidance, and organizes trainings and meetings.

Institutional Arrangements

The program is co-ordinated by DIF and designed and implemented at the State level by SEDIF to ensure the program responds to each State's characteristics and needs.

National-level DIF co-ordinates social and food assistance, including the school breakfast, programs for under-fives, pregnant and lactating mothers, disabled persons, the elderly, and victims of natural disasters. DIF forms part of the the health sector and the Social Cabinet of the President, and it is led by the Consultative Citizens' Council (*Consejo Ciudadano Consultivo*) headed by the First Lady. Food assistance is co-ordinated by the General Department of Food and Community Development (*Dirección General de Alimentación y Desarrollo Comunitario*), which has 40 staff (12 are full-time technical staff).

DIF establishes norms that guide the nutritional content and nutrition education of the program. It collects information from States and serves as a link between SEDIF and the Federal Government. It is in charge of strategic development, and disseminating State-level best practices. DIF conducts oversight visits and follows States' planning and reporting to ensure that the norms are respected. States' performance in relation to the EIASA Standards is measured through a Performance Index.

There is a SEDIF in every State, in charge of design and implementation of social and food assistance. SEDIF makes all design and implementation decisions, for example, on targeting, budgeting and the food basket.

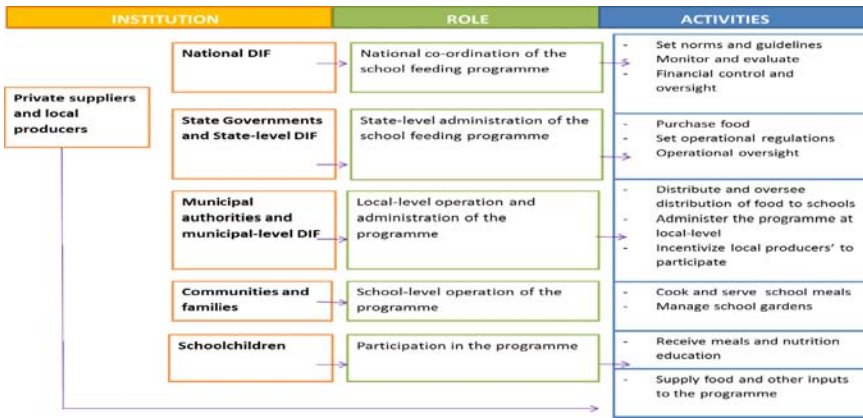


Figure 3: Program actors and their roles

Source: DIF (2012).

Municipal DIF offices may also participate in implementation, usually in the distribution of perishable goods and the compilation of program and beneficiary information.

The roles of the different actors and institutions are outlined in Figure 3.

Intersectoral co-ordination

The program has no national intersectoral co-ordination platform. Yet, the different levels of DIF work together and collaborate with health and education programs, such as *Escuelas de Tiempo Completo*, *5 pasos por tu salud* and *Amigo de mí*. Also, DIF co-ordinates with other institutions in the framework of the National Agreement on Food Security (Gobierno Federal de los Estados Unidos Mexicanos, 2010a).

Co-ordination structures differ State-to-State. In **Baja California State**, there are close ties with the State's education system. Together, DIF and the education system make the beneficiary lists, form the PTAs, and ensure the necessary school infrastructures are in place. DIF has also carried out obesity prevention projects with the health sector. Together with sports authorities, physical activity events have been held. Also in **Puebla State**, there is close co-ordination with the education sector. The principals help oversee implementation. The health sector takes the students' anthropometric

measurements (height and weight) for targeting. The Ministry of Rural Development develops school gardens. In **Campeche State**, co-ordination with the education system is close, and the health sector has helped promote hygienic practices. Fruit trees have been planted and school garden training has been organized with the help of the Ministry of Rural Development. In **Nuevo Leon State**, co-ordination mechanisms are established with the Ministries of Rural Development and Education, and the National Council for the Promotion of Education (*Consejo Nacional de Fomento Educativo*).

Internal control

The Department of Food Attention of DIF at the central level has established quality assurance mechanisms. It revises and gives feedback on SEDIF work plans and reports, and elaborates the Performance Index. The national DIF is responsible for oversight, accountability, transparency, and the proper use of Federal resources. The Internal Control Unit of DIF audits the program and elicits corrective and preventive recommendations. Anti-corruption measures must be established by each State.

The use of Federal resources is overseen by the Ministry of Finance, and States submit trimestral financial reports. As part of the Federal Results-Based Budgeting program, the Ministry of Finance closely follows the cost-effectiveness of Federally-funded, decentralized programs.

Information management, monitoring and evaluation

National monitoring involves reporting by States, monitoring visits by DIF, and the Performance Index.

The plans, reports, beneficiary registers and other information that States submit, are collected, managed and analyzed manually by the General Department of Food and Community Development as there is no specific software for this purpose. A social audit (a participatory approach to ensure the proper use of public resources, and accountability of public authorities towards its citizens) can be used by the PTA.

Monitoring and evaluation varies State-to-State. In **Puebla State**, regional Food Co-ordinators monitor and inspect the physical infrastructure, while providing guidance on hygiene, storage, and food selection. In **Nuevo**

León State, monitoring and evaluation visits in the poorest areas help estimate the need for breakfasts and evaluate the nutritional status of children. In **Campeche State**, a logical framework with indicators and objectives is in place. Indicators include children's height and weight. In **Baja California State**, the quantitative objectives of the Annual Operational Plan in terms of rations distributed are monitored monthly. In addition, food rations' compliance with DIF nutritional standards is monitored through controls along the entire supply chain.

Funding and Budgeting

The program pools resources from different sources to guarantee sustainability. In 2012, the national school feeding expenditure amounted to US\$ 365.7 million (4.5 billion Mexican pesos).⁸ The Federal budget covers the majority of the total spending as it covers food costs. The State Governments and municipalities finance all the non-food costs, such as infrastructure, cooking facilities, utensils and school gardens, and operational costs, such as staff salaries. The State Governments covered around 9% of the total program expenses in 2012.

Federal resources cover the food costs. These derive from the social assistance fund (*Fondo de Aportaciones Multipleres — Asistencia Social*), under *Ramo 33* budget line of the Federal budget (Camara de Diputados del H. Congreso de la Union, 2011 [1978]) used for transferring Federal resources to States and municipalities for social assistance programs. The allocation to this fund is set by Congress. During regular budgetary planning, the Ministry of Finance proposes an allocation to Congress, who inserts the fund into the following year's Federal budget. Specific ministries do not make any additional allocations towards the program.

Once the national allocation is approved, a share is assigned to each State, based on a formula agreed by the national DIF and SEDIF in 2002. Around 99% of the State allocation is based on the vulnerability level in the State, and on a "historical budget" based on the 2002 allocation. The

⁸ Calculated based on 31 State-level work plans (30 States and the Federal District) for the year 2012 and estimated based on US\$1 = 12.301 Mexican pesos.

remaining 1% is defined through the Performance Index that tracks how well the program objectives and the nutrition standards are met. As a general rule, the budget allocation to any individual State should never be inferior to the previous year's budget allocation to that same State. The allocations are published in the National Gazette and upon receiving this information, the State DIF can embark on their planning process.

The allocation is transferred by the Ministry of Finance to State Governments, who send the resources to SEDIF who decide how funds are shared between different social and food assistance programs. In 2011, the States allocated over 62% of the resources to *Desayunos Escolares*.

The yearly food cost per beneficiary is approximately US\$69 (849 Mexican pesos), based on 20 meals per month. The exact cost cannot be calculated as precise information about the State level non-food expenditure is unavailable. The cost varies as the design and circumstances at the State level (wages, food prices, distances across which food must be transported, and modalities, etc.) differ. For the four States, the per meal cost varies from US\$0.43 (5.29 Mexican pesos) to US\$0.97 (11.93 Mexican pesos):

- **Puebla State:** US\$0.43 (5.29 Mexican pesos).
- **Baja California State:** US\$0.81 (9.96 Mexican pesos).
- **Nuevo León State:** US\$0.86 (10.58 Mexican pesos).
- **Campeche State:** US\$0.97 (11.93 Mexican pesos).

Community Participation

As in all DIF food-based programs, most families pay a small amount towards the school breakfasts as a signal of co-responsibility and commitment, unless the State grants the family an exemption. The fee is set at a symbolic level designed not to impact the family economy. Households can also contribute perishable food products or participate in the PTA.

The PTAs, comprising of teachers and volunteer parents, are essential both for implementation and for nutrition education. They receive the food, prepare and serve the cooked breakfasts, clean and participate in nutrition training. In some States, events are organized to encourage parents to purchase healthy food and to design balanced meals, so as to promote healthier habits.

Teachers support implementation, because they see the impact on pupils' concentration and learning. The traditions of teacher involvement are long-standing, dating back to the 1920s. Pre-packed breakfasts are usually served by teachers, who also maintain the beneficiary registers.

As an example, in **Baja California State**, parents pay fees, and the PTAs receive, store, cook and serve food and maintain the beneficiary register with the school. In **Nuevo León State**, there are local control and oversight committees that: collect the fees from parents and transfer them to the municipal DIF; buy perishable ingredients locally; oversee the quantity and quality of food; and give the breakfasts to the teachers every morning, who then serve them to the children. In **Puebla State**, the parents of beneficiaries are responsible for collecting the food stuffs at regional warehouses, and they also pay a cash contribution. In **Campeche State**, almost 8,000 women participate in preparing the breakfasts. Although in marginalized urban areas, parental participation is limited as parents work and the teachers have to prepare and serve the food.

Evidence of Program Impact

There is no formal monitoring and evaluation system for the program and to date, no impact evaluation has been carried out. DIF discerns how well the program is on track to reach its objectives based on how well States comply with the nutrition standards. The cooked breakfasts are more effective and in 2011, compliance with nutrition standards across States was 95%. In the case of pre-packed breakfasts, compliance remained at 54%. Another indication of efficiency is the fact that meals are provided every school day throughout the school year. Some SEDIFs even give parents a take-home ration to make sure children receive a breakfast on their days off and during vacations. In some States, community kitchens operate in these periods. Another way to visualize the results of the program is through the perceptions of the beneficiaries and their families. In **Puebla State**, the children enjoy the meals, and the parents happily pay a fee towards the program because they see the positive impact and benefits on their children.

Impact indicators would be a necessary next step, and an in-depth impact evaluation would be needed. To fill some of these gaps, DIF promotes dialogue with academics to hear their views on the program.

Conclusions

The 80-year old Mexican school breakfast programme ‘*Desayunos Escolares*’ stands out for its longevity and ability to survive social and administrative changes despite not being backed by a specific law. The program has been re-thought to tackle new health challenges. Now, it represents a nationwide platform for health and development interventions and promotes healthy eating.

Recognizing that in a country like Mexico, State-level realities and needs are diverse, the program has been decentralized to allow flexibility. Yet, care has been taken to standardize processes and develop national technical support and guidelines. Public debate and dialogue have been welcomed, and local participation and co-operation between local authorities and citizens fostered, to continue enhancing the program.

Despite the absence of a specific budget line, funding has been constant. By pooling resources from different sources, the program has maintained a stable budget over time, with a major contribution still from central-level budget.

Steps are being taken to develop the national legal and normative framework and to harmonize the conceptual framework and targeting approach for social assistance. Technically solid targeting guidelines would be an important asset for the program: in many States, targeting is based on a historical pattern, or they are inaccurate for other reasons and as a result, some children who are in need are not reached while those children who are not in need are. Work is underway to draft a targeting method based on food insecurity indicators. Challenges also remain in the area of human resources, information management and oversight systems to ensure quality and facilitate monitoring and evaluation. High staff turnover slows down progress within municipal administrations, employees change every three years, and new staff must be trained every time. Additional resources would also be needed to support nutrition education, especially for training parents.

Abbreviations and Acronyms

DIF	National System for Integral Family Development
EIASA	Integrated Food Assistance Strategy
FAO	Food and Agriculture Organization of the United Nations
IMAN	Mexican Institute of Child Welfare

INPI	National Institute of Child Protection
PCD	The Partnership for Child Development
PTA	Parent–Teacher Association
SEDIF	State-level DIF
UNU	United Nations University
WHO	World Health Organization

Acknowledgments

This chapter is a summary based on the original, full-length case study *Estudio de Caso: Programa Desayunos Escolares en Mexico* (DIF, 2012) drafted in Spanish by Joanna Cristo Aguirre, Marcelino Fernández Gómez, Iralda Hernández López, María Isabel Ferré Eguiluz, Andrea Mairee Gámez González, Martha Patricia Montoya Díaz, Marco Antonio Gamboa Vega, Mónica Arellano Gómez, and Cristina Saldaña Becerra; and finalized under the guidance of Carlos Prado Butron and Daniela Prieto Armendariz (national DIF office). The co-operation of María Cecilia Landerreche Gómez Morín (national DIF system) and Daniel Ramírez Castillo (Food and Community Development) were instrumental.

The team of authors would also like to thank DIF staff in the four States, for their co-operation: Rosa Carmina Capuchino de Ozuna, Hugo Francisco Castillo González and Mario Martín Amezcua Guerrero (SEDIF Baja California State); Adriana Hernández de Ortega, Alma Leticia Carrillo Vargas and Ermilo Manuel Estrella Rodríguez (SEDIF Campeche State); Gretta Salinas de Medina, José Ramón Carrales Batres and Ana Laura Martínez Rodríguez (SEDIF Nuevo León State); and Martha Erika Alonso De Moreno Valle, Carlos Alberto Julián y Ruiz and José Antonio San Martín Rodríguez (SEDIF Puebla State).

This chapter was compiled by Tiina Honkanen under the guidance of Emilie Sidaner (United Nations World Food Programme); reviewed by Alice Woolnough and Cai Heath (The Partnership for Child Development [PCD]) external to Mexico; and at the country level by Daniela Prieto Armendariz and Marcelino Fernández Gómez (national DIF office); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details

were provided by Roshan Daryanani with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

This chapter was reviewed and signed off by the national DIF office in April 2014.

References

- Banco de México. (2013). *Datos Económicos y Financieros de México*. Banco de México, México D.F. Available from: <http://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadroAnalitico&idCuadro=CA126§or=12&locale=es> (Accessed 25 June 2013).
- Bourges, H., Casanueva, E. and Rosado, J. (2009). *Recomendaciones de Ingestión de Nutrimientos para la Población Mexicana*. Editorial Médica Panamericana, México D.F.
- Camara de Diputados del H. Congreso de la Union. (2013 [2004]). *Ley de Asistencia Social*. Version DOF 23-04-2013. Camara de Diputados del H. Congreso de la Union, México D.F. Available from: http://www.diputados.gob.mx/LeyesBiblio/actual/2013_1.htm (Accessed 13 January 2014).
- Camara de Diputados del H. Congreso de la Union. (2013 [1984]). *Ley General de Salud*. Version DOF 24-04-2013. Camara de Diputados del H. Congreso de la Union, México D.F. Available from: http://www.diputados.gob.mx/LeyesBiblio/actual/2013_1.htm (Accessed 02 July 2013).
- Camara de Diputados del H. Congreso de la Union. (2012 [1917]). *Constitucion Política de los Estados Unidos Mexicanos*. Version DOF 11-06-2013, Article 4. Camara de Diputados del H. Congreso de la Union, México D.F. Available from: http://www.diputados.gob.mx/LeyesBiblio/actual/2013_1.htm (Accessed 02 July 2013).
- Camara de Diputados del H. Congreso de la Union. (2012 [2000]). *Ley de Adquisiciones, Arrendamientos y Servicios del Sector Público*. Version DOF 16-01-2012. Camara de Diputados del H. Congreso de la Union, México D.F. Available from: http://www.diputados.gob.mx/LeyesBiblio/actual/2012_1.htm (Accessed 13 January 2014).
- Camara de Diputados del H. Congreso de la Union. (2011 [1978]). *Ley de Coordinacion Fiscal*. Version DOF 12-12-2011. Camara de Diputados del H. Congreso de la Union, México D.F. Available from: http://www.diputados.gob.mx/LeyesBiblio/actual/2011_2.htm (Accessed 13 January 2014).
- Consejo Nacional de Evaluacion de la Política de Desarrollo Social. (2010). *Poverty 2010: Percentage of Population under Poverty Conditions by Federal Entity, 2010 Mexico*. Poverty Measurement [online]. CONEVAL, México D.F. Available

- from: <http://www.coneval.gob.mx/Medicion/Paginas/Medici%C3%B3n/Pobreza-2010-en.aspx> (Accessed 13 January 2014).
- DIF (Sistema Nacional para el Desarrollo Integral de la Familia). (2012). *Estudio de Caso: Programa Desayunos Escolares en Mexico*. DIF, Unidad de Atención a Población Vulnerable, México D.F.
- DIF (Sistema Nacional para el Desarrollo Integral de la Familia). (2011). *Lineamientos de la Estrategia Integral de Asistencia Social Alimentaria 2012*. DIF Nacional, México D.F. Available from: http://www.programassociales.org.mx/sustentos/Nayarit576/archivos/Lineamientos_EIASA_2012.pdf (Accessed 13 January 2014).
- DIF (Sistema Nacional para el Desarrollo Integral de la Familia). (n.d.). *Reports on the distribution and coverage of food assistance programmes by State-level DIFs*. [Internal Administrative Records]. DIF, Unidad de Atención a Población Vulnerable, México D.F (Accessed 08 January 2014).
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Gobierno Federal de los Estados Unidos Mexicanos. (2010a). *Acuerdo Nacional para la Salud Alimentaria: Estrategia contra el sobrepeso y la obesidad*. Secretaría de Salud, México D.F. Available from: <http://www.av.s.org.mx/docs/AcuerdoNacionalSaludAlimentaria.pdf> (Accessed 13 January 2014).
- Gobierno Federal de los Estados Unidos Mexicanos. (2010b). *Lineamientos generales para el expendio o distribución de alimentos y bebidas en los establecimientos de consumo escolar de los planteles de educación básica y Anexo Único*. Secretaría de Salud, México, D.F. Available from: http://salud.edomexico.gob.mx/html/doctos/ANSA_escolar_lineamientos260510.pdf (Accessed 13 January 2014).
- Gobierno Federal de los Estados Unidos Mexicanos. (2007). *Vivir Mejor: Política Social del Gobierno Federal*. Gobierno Federal de los Estados Unidos Mexicanos, México D.F. Available from: http://www.oic.sep.gob.mx/portal3/doc/vivir_mejor.pdf (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos. (n.d.). *Segundo Informe de Gobierno: Economía Competitiva y Generadora de Empleos*. Presidencia de la República, México D.F. Available from: <http://segundo.informe.gob.mx/resumen/?contenido=8> (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos, Presidencia de la Republica. (2011a). *Quinto Informe, Resumen Ejecutivo: Igualdad de Oportunidades*. Presidencia de la República, México D.F. Available from: <http://www.cedrssa.gob.mx/includes/asp/download.asp?iddocumento=2205&idurl=3634> (Accessed 02 July 2014).

- Gobierno Federal de los Estados Unidos Mexicanos, Presidencia de la República. (2011b). *Quinto Informe: Transformación Educativa*. Presidencia de la República, México D.F (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos, Presidencia de la República. (2007). *Plan Nacional de Desarrollo 2007–2012*. Presidencia de la República, México D.F. Available from: http://pnd.calderon.presidencia.gob.mx/pdf/PND_2007-2012.pdf (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud. (2009). *Norma Oficial Mexicana NOM-251-SSA1-2009, Prácticas de higiene para el proceso de alimentos, bebidas o suplementos alimenticios*. Diario Oficial, 1 Marché, 2010. Secretaria de Salud, México D.F. Available from: <http://dof.vlex.com.mx/vid/alimentos-suplementos-alimenticios-77339991> (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud. (2007). *Programa Nacional de Salud 2007–2012*. Secretaria de Salud, México D.F. Available from: <http://www.gob.mx/salud> (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud. (2006). *Norma Oficial Mexicana NOM-043-SSA2-2005, Servicios básicos de salud. Promoción y educación para la salud en materia alimentaria. Criterios para brindar orientación*. Diario Oficial, 23 January 2006. Secretaria de Salud, México D.F. Available from: http://www.promocion.salud.gob.mx/dgps/descargas1/programas/2_norma_oficial_mexicana_nom_043_SSA2_2005.pdf (Accessed 02 July 2013).
- Gobierno Federal de los Estados Unidos Mexicanos, Secretaria de Salud. (1998). *Norma oficial Mexicana NOM-169-SSA1-1998, para la asistencia social alimentaria a grupos de riesgo*. Secretaria de Salud, México D.F. Available from: <http://www.salud.gob.mx/unidades/cdi/nom/169ssa18.html> (Accessed 02 July 2013).
- Gutiérrez J.P., Rivera-Dommarco J., Shamah-Levy T., Villalpando-Hernández S., Franco A., Cuevas-Nasu L., Romero-Martínez M. and Hernández-Ávila M. (2012). *Encuesta Nacional de Salud y Nutrición 2012*. (eds). Instituto Nacional de Salud Pública, Cuernavaca, México. Available from: <http://ensanut.insp.mx/#> (Accessed 02 July 2013).
- INEGI (Instituto Nacional de Estadística y Geografía). (2013). *Cuadro Resumen: Indicadores de demografía y población*. INEGI, México D.F (Accessed 08 January 2014).
- INEGI (Instituto Nacional de Estadística y Geografía). (n.d.). *Información Nacional, Por Entidad Federativa y Municipios*. INEGI, México D.F. Available from: <http://www.inegi.org.mx/sistemas/mexicocifras/default.aspx> (Accessed 08 January 2014).

Olaiz–Fernández, G., Rivera–Dommarco, J., Shamah–Levy, T., Rojas, R., Villalpando–Hernández, S., Hernández–Avila, M. and Sepúlveda–Amor, J. (2006). *Encuesta Nacional de Salud y Nutrición 2006*. (eds). Instituto Nacional de Salud Pública, Cuernavaca, México.

PCD. (2014). *School Meals Planner*. [online] HGsf-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 31 March 2014).

World Bank. (2013). *World DataBank: World Development Indicators — Mexico*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 07 October 2014).

Case Study 12: Namibia — The Namibia School Feeding Programme

Country Profile

Population in 2011: 2,104,900 (GRN, 2012a).

Gross Domestic Product Per Capita in 2012 (US\$): 5,786 (World Bank, 2013a).

Population ages 0–14 years in 2012 (% of total): 37 (World Bank, 2013a).

Primary School Gross Enrollment Ratio in 2010 (%): 107 (World Bank, 2013a).

Primary School Net Enrollment Ratio in 2010 (%): 85 (World Bank, 2013a).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 29 (UNICEF, 2013).

Employment in agriculture in 2008 (% of total employment): 16 (World Bank, 2013a).

Introduction

Namibia is an arid country with a long Atlantic coast and shares its borders with Angola, Botswana, South Africa, and Zambia (Figure 1). The country is spread over a vast territory of 824,000 square kilometers, with a small population of 2,104,900 in 2011 (GRN, 2012b; GRN, 2012a). Classified as an upper-middle-income country, with a per capita gross national income of 57,702 Namibian dollars (N\$) (US\$6,520)¹ in 2011 (World Bank, 2013b; World Bank, 2013c), Namibia has extreme inequality to contend with.

Some parts of the country receive enough rain and have vegetation, particularly in the northern and central areas, that supports extensive livestock production. However, majority of Namibia is not suited for extensive agriculture due to the arid and volatile climate. Agriculture only contributes 5% of the gross domestic product, down from about 20%, 20 years ago. About 60% of Namibians live in rural areas and are dependent on subsistence agriculture with pearl millet (mahangu) being the main food crop (GRN, 2012b). A considerable part of the population still can be classified as vulnerable and food

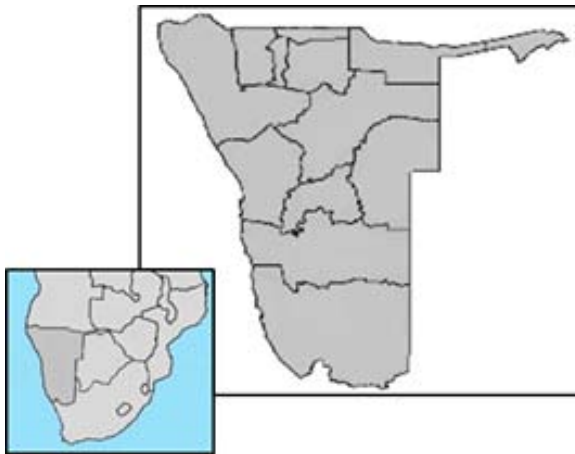


Figure 1: Map of Namibia by region and in Africa

Source: GADM (2013).

¹Estimates based on US\$1 = N\$8.85.

insecure (GRN, 2007).² About 29% of Namibia's children under five years are stunted (UNICEF, 2013). The HIV (human immunodeficiency virus) prevalence rate for Namibia is 13%. With an estimated 150,000 orphans, the Government of Namibia introduced a system of welfare grants. Consumption of micronutrient-rich foods among under-five children is lower in rural areas than in urban areas, indicating an urgent need for community health promotion (GRN, 2012b).

The right to education is enshrined in Article 20 of the Namibian Constitution (GRN, 1990). The Ministry of Education (2012) indicated a projection of the 2001 Census that shows the net enrollment ratio for children aged 7–16 years at 98% (female 99% and male 96%) (GRN, 2012c). On the contrary, provisional tables of the National Household Income and Expenditure Survey (NHIES) of 2009–2010 suggest that 9% of children aged 6–16 years (8% female and 10% male) have never been to school (Namibia Statistics Agency, 2012). According to provisional NHIES data, 22% of households were poor and 2% severely poor in 2009–2010, compared to 37% poor and 9% severely poor in 1993–1994.

The Namibia School Feeding Programme (NSFP) began as a pilot program in 1991. Following the success of the pilot program, a four-year national school feeding program was launched by the United Nations World Food Programme (WFP) in co-operation with the Government of Namibia in 1992. Vulnerable needy children were geographically targeted in schools located in drought prone low crop producing regions. This included pre-primary, primary and poor private hostel institutions.³ In May 1994, a school

²Cereal production varies considerably according to rainfall, but even in the best years the country must import a significant amount of cereal, often well over half the national requirements. In a normal year, Namibia still produces less than 50% of grain consumption requirements, the majority being produced by the subsistence sector (GRN, 2007).

³Hostels are boarding facilities constructed for learners who live distances considered too far to walk to school and exist mainly in the sparsely populated areas of the country. The categories are classified in terms of government, private, private-government subsidized, community-government subsidized, and community or informal non-registered. Currently, it is the community or informal non-registered hostels who are provided with food from the NSFP at the discretion of hostel officers. However, the goal is to have these hostels registered so that they are included in government-subsidized programs (WFP and GRN, 2012a; GRN, 2012b).

feeding impact study was conducted by the government and WFP. The study revealed positive impacts of school feeding on children in terms of eliminating absenteeism, improving concentration, overall school attendance, and passing rates. A separate study by the Namibian Institute of Social Economic Research also confirmed the findings of improved attendance (UNICEF and MBESC, 2002).

As planned, support and operations by WFP ended in 1996 as part of WFP's global efforts to rationalize operations in middle-income countries (WFP and GRN, 2012a). The operations of the program were handed over to the government in 1996 and the government declared its decision to continue providing and expanding the NSFP. By 1997, the Government of Namibia was in full control, managing and funding the program on a day-to-day basis. Shortly after handover, ration size was reduced from 146.5 grams per serving to 125.5 grams. The original protein blend ingredient of enriched dried skimmed milk was replaced by soya blend while vegetable oil was eliminated and beneficiary targets no longer included pre-primary schools. However, needy pre-primary learners linked with approved school feeding primary schools continued to benefit from the program since pre-primary schools have recently become officially part of the NSFP.

WFP made a six-month brief return, requested by the Government of the Republic of Namibia, in response to severe drought in the country's northern region in 1999. As a result, 10,000 pre-primary learners (under 6 years) and 5,000 primary learners benefited from the emergency operation. However, only primary learners were later incorporated into the NSFP. The departure of the Ministry of Education key staff, limited capacity, and limited funding began to adversely affect program quality and efficiency. In 2008, the Cabinet resolved to increase school feeding to reach an additional 100,000 orphaned and vulnerable children as a measure to mitigate the impact of high food prices on low-income consumers. This started a process of rapid growth on the NSFP, which was accelerated in subsequent years in response to the impact of natural disasters (floods and droughts). Today, the program continues to grow in accordance with national plans to expand the beneficiary learners to 300,000 by 2015 — a target which was achieved in 2013.

The NSFP has been in existence for 23 years (Figure 2 shows the evolution of the program from 1991 to date). The program has trebled in size during the past five years. Eighty-six percent of primary and combined



Figure 2: Evolution of the NSFP

Source: WFP and GRN (2012a).

schools⁴ are currently participating. The proportion of children participating in the NSFP varies between regions, from 97% to 34%, with much higher participation in rural areas as compared to urban areas. Currently, the program supports over 300,000 pre- and primary learners mainly orphans and vulnerable children in 1,300 State and private schools across the country. In the more highly socially-stratified urban areas, a stigma seems to be associated with participation in the NSFP as children who are most vulnerable and orphaned, as well as other children in need, were the original targets of the program. The findings show that any child who wishes to partake in the food may do so, whether or not he or she is considered to be a child that is most vulnerable, needy or orphaned.

The NSFP provides a standardized mid-morning meal to learners. The meal consists of one commodity — a porridge consisting of a maize meal

⁴ Combined schools have both primary and secondary grades.

blend that is cooked at schools. The maize meal blend is fortified and by weight consists of 63% maize meal, 25% soya protein blend, 11% sugar, and 1% salt.

The NSFP is centralized and managed at the national level, by the Division Management Planning, Appraisal and Training within the Directorate of Programmes and Quality Assurance in the Ministry of Education. At the regional level, the NSFP is the responsibility of regional hostel officers, who work with circuit inspectors at the district level and schools at the local level. The procurement of the food for the NSFP and its distribution to the participating schools is managed through three national-level tenders.

In 2012, a case study that aimed to be an operational review of the current school feeding program was conducted (GRN, 2012b).

Methodology

This chapter is largely drawn from the report *The Namibian School Feeding Programme: A Case Study* (GRN, 2012b) with other key documents: *The Namibian School Feeding Programme Transition Case Study* (WFP and GRN, 2012a); *The Namibian School Feeding Programme: Cost Analysis* (WFP and GRN, 2012b); and *the Namibian School Feeding Programme Reference Manual* (GRN, 2013a).

Data collection first involved conducting an inception workshop to determine what was required. Data was then collected through qualitative methods. Interviews for key informants; focus group discussions with school managers, cooks, learners, and parents; visits to 15 schools in six of Namibia's 13 regions, (Hardap, Khomas, Omaheke, Oshana, Otjozondjupa, and Zambezi [previously known as Caprivi]) were carried out and hostel officers responsible for both the NSFP and school hostels completed a questionnaire. Data from the Education Management Information System and other sources was also collected and analysed. The five standards suggested in *Rethinking School Feeding* (Bundy *et al.*, 2009) and SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis were used to assess the NSFP resulting in a number of findings and recommendations for consideration by the Government of Namibia. The final process involved a validation workshop to validate the findings reported in this chapter.

Country School Feeding Program Factsheet

Start Date	1992*	
Design and Implementation	<i>Rational/Impact</i>	To address short-term hunger for needy pre- and primary school learners provide better nutrition to orphans and vulnerable children; and to increase community participation in school management activities.
	<i>Implementation Levels</i>	Pre- and primary learners in food insecure areas, particularly in rural areas throughout the country. Special consideration is provided to children in peri-urban areas, depending on vulnerability and well-being indicators.
	<i>Supply, Storage, and Logistics</i>	Commodities managed through three national-level tenders, awarded per region to supply the maize meal blend (soya protein blend and maize meal) and to transport to regional warehouses who then deliver the blends to schools.
	<i>Modality, Food Basket Details</i>	One commodity of fortified maize meal blend porridge (125 grams/475 kilocalories) is served as a daily mid-morning school meal (200 days/year) to all beneficiaries during school term.
	<i>Food Preparation</i>	Community volunteers/cooks prepare the meals in large pots on open fires.
Policy and Legal Frameworks Documents	<ul style="list-style-type: none"> • <i>Third National Development Plan (NDP3) 2007/2008–2011/2012</i> (GRN, 2008a). • <i>Namibia's Fourth National Development Plan (NDP4) 2012/2013–2016/2017</i> (GRN, 2012d). • <i>Education Sector Policy for Orphans and Vulnerable Children</i> (GRN, 2008b). • <i>Education for All National Plan of Action 2002–2015</i> (GRN, 2002). • <i>National Policy on HIV/AIDS for the Education Sector</i> (GRN, 2003). • <i>National Drought Policy and Strategy</i> (GRN, 1997). • <i>National Policy for School Health</i> (GRN, 2008c). • <i>Namibian School Feeding Programme Reference Manual</i> (GRN, 2013a). 	

(Continued)

(Continued)

Start Date		1992*
Institutional Arrangements	<i>Lead Institution</i>	Division Management Planning, Appraisal and Training within the Directorate of Programmes and Quality Assurance in the Ministry of Education.
	<i>Supporting Institutions</i>	Good links are maintained with the Ministry of Health; and the Office of Prime Minister.
	<i>Annual Budget</i>	Total annual budget for the NSFP was N\$87,000,000 (US\$9,830,508) for year 2012–2013 and is expected to be N\$107,000,000 (US\$12,090,395) for year 2013–2014.***
Finance**	<i>Cost Per Child Per Year</i>	2011: Estimated at N\$242 (US\$27.33). The total cost including community-level contributions at the school level is N\$282 (US\$31.85).
	Community Involvement	Community participate by providing volunteer cooks, firewood, and shelters for cooking and storage.
Innovations/Good Practices		<ul style="list-style-type: none">• Government commitment to fully finance the NSFP.• One commodity is easy to prepare which helped expand the NSFP in a short space of time.
	Weaknesses/Risks	<ul style="list-style-type: none">• School feeding policy and a current manual needed.• Stable, predictable and timely funding required.

*In 1991, WFP implemented a 12-month pilot school feeding project, an expansion in the region of an ongoing private farm school feeding program in southern Namibia, which served as the framework for the subsequent four-year NSFP (1992–1996). **Cost figures reported by WFP and GRN (2012b). ***Estimates in US\$ as at the time of the case study report (end April–end July, 2012) (GRN, 2012b) and based on US\$1 = N\$8.85.

Design and Implementation

The NSFP is managed at the national level by the Division Management Planning, Appraisal and Training within the Directorate of Programmes and Quality Assurance in the Ministry of Education. The Ministry of Education uses the centralized procurement model to purchase the bulk of the food commodities using a tendering system. Only the day-to-day operations of the NSFP are decentralized, managed and co-ordinated at the regional and school levels. It is interesting to note that Namibia is one of the African countries whose school feeding program has greatly expanded since its government took full control. Although there are various challenges at play, the target of 300,000 beneficiaries was reached in 2013. The government expressed an interest to expand the program, to improve the program design, and to promote effectiveness of the program.

Objectives

According to the NSFP Manual, the goals and objectives of the NSFP are:

“To promote equitable participation in quality learning and education for all children in Namibia during all seasons by providing nutritious and healthy food through schools that are part of the social and economic life and development of communities” (GRN, 2013a).

NSFP objectives:

- Contribute to increased school enrollment, attendance and retention.
- Contribute to learning performance and progression through grades.
- Contribute to improved health and nutrition of children through the provision of foods that have been fortified with essential nutrients.

In April 2012, during the inception workshop for kick-starting the case study *The Namibian School Feeding Programme: A Case Study* (GRN, 2012b), the Ministry of Education reported that NSFP is now an essential programme that:

- Addresses short-term hunger for needy primary learners;
- provides better nutrition to orphans and vulnerable children; and
- increases community participation in school management activities (WFP, PCD, and NEPAD, 2012).

Targeting and coverage

From the revised NSFP Manual (GRN, 2013a), targeting is now conducted at the school level based on the geographical area, within schools. All needy pre- and primary learners in food insecure areas, particularly in rural areas throughout the country are targeted. However, special consideration may be given to learners in peri-urban schools, on a case by case basis through targeting, to identify needy students.

In their response to the questionnaire, the regional hostel officers (who have a key role in recommending that particular schools should be included in the program), indicated that they consider the following factors in addition to children who are orphaned and most vulnerable:

- Status of the community and parents (perhaps in terms of marginalization).
- Remoteness of the community.
- Unemployment and income of the parents or caregivers.
- Food insecurity.
- Equal access to education.
- Distance from school to home.
- Children staying with pensioners.
- Community understanding of the program and willingness to participate.
- School storage facilities.
- Poverty in general.

The number of schools participating in the NSFP grew from 666 in 2007 to 1,300 in 2012.

Within the schools that are participating in the NSFP, a calculation was made, per region, of the number of children benefiting from the program (270,772) as compared to the total number of children enrolled in the

schools in the program (347,321) and the number of orphans and vulnerable children in these schools (183,348) (GRN, 2012b, Appendix E). However, with the expansion of the school feeding program, based on the 2013 drought emergency response, the NSFP is now benefiting over 300,000 learners.

Modalities, food basket, and nutritional norms

The NSFP provides for its children a food ration that is described both as a snack and a meal. The composition of this all-inclusive food commodity includes: maize meal, soya protein blend, sugar, and iodized salt.

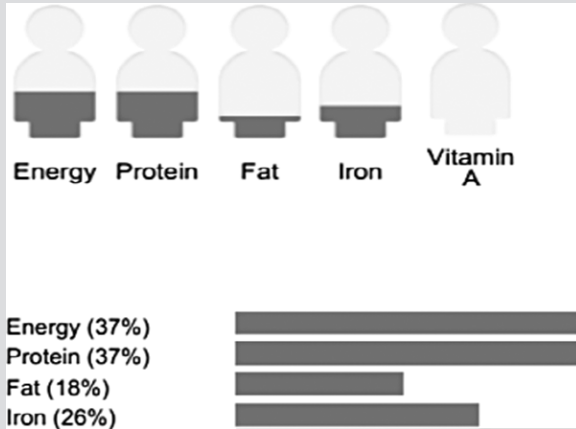
In terms of the nutritional value for the maize meal blend, laboratory tests carried out in 2011 (see Table 1) showed that the average energy that could be derived from 100 grams of maize meal blend is 1,591 kilojoules. This implies that 125 grams of ration would yield 1,988 kilojoules (475 kilocalories); about a quarter of a child's energy requirement. Although majority of the micronutrient value corresponds to the recommendations, initial analysis reveals low levels of fat, iron, and calcium contents (Table 1).

The intentions of the program are that local produce should be used whenever possible. Currently, about one-third of the NSFP food requirement is produced in Namibia, but the soya protein blend is imported from South Africa. In terms of monetary value, it could be that a similar proportion of every Namibian dollar spent on food for school feeding is being spent on Namibian produce or in terms of value addition through milling and blending.

Food procurement, transportation, storage, and preparation

The procurement of food for the NSFP and its distribution is carried out at three national-level tenders per region managed at the central level. The first tender is for the provision of protein blend (derived from soya meal products imported from manufacturers in South Africa), sugar and salt. The second tender is for the provision of maize meal, blending of maize with a shelf life of six months and transporting to regional warehouses. The third tender is for the transportation to schools, storage and handling of food and non-food items.

Gingerbread men representing the average daily nutritional content of a sample mid-morning school meal menu in Namibia's NSFP



FAO/WHO/UNU Recommended Dietary Allowance (6–12 year olds): ■ 0%–40%

- A typical mid-morning school meal ration of 125 grams of the maize meal blend (maize meal and soya protein blend) was used for the nutrient content calculations.
- Information on the mean nutrient content of the mid-morning school meal ration was obtained from the laboratory analysis (Table 1) of the nutrient content of the maize meal blend from suppliers in 2011 (GRN, 2012b; Analytical Laboratory Services, 2011).
- However, information on the vitamin A content of the maize meal blend was not analyzed by the laboratory analysis (see Table 1) and hence, not provided herein.

Source: PCD (2014).

The suppliers of the maize meal blend are required to pack the blend in polythene lined bags and to sew the bags closed. Specified information indicating: the Ministry of Education; NSFP; Weight (12 kilograms Nett); Not for Sale, Date of Manufacturing; and School Year Term should all be printed on the bag. The need for inclusion of Expiry Date has been highlighted.

Table 1: Summary of laboratory analysis of the maize meal blend from suppliers, February 2011*

Component	Supplier 1	Supplier 2	Supplier 3	Supplier 4	Average nutritional value of maize meal blend samples	Units of Measure
Carbo- hydrates, total	71.4	71.3	71.4	71.5	71.4	grams/ 100 grams
Energy	1,568	1,597	1,628	1,572	1,591	kilojoules/ 100 grams
Protein	13.8	10.6	11.5	12.8	12.2	grams/ 100 grams
Fat	3.1	5.4	6.2	3.9	4.7	grams/ 100 grams
Crude fibre	1.0	1.4	2.2	1.8	1.6	grams/ 100 grams
Sodium	495	362	333	811	500	milligrams/ 100 grams
Moisture	10.0	10.2	8.7	8.4	9.3	grams/ 100 grams
Ash	1.7	2.4	2.3	3.3	2.4	grams/ 100 grams
Iron	3.8	2.2	2.0	2.1	2.5	milligrams/ 100 grams
Zinc	2.5	1.6	1.1	2.2	1.9	milligrams/ 100 grams
Calcium	20	23	5	18	24	milligrams/ 100 grams

*Results reported on an 'as is' basis, and not corrected for moisture; to compare products with each other, it is better to report on dry weight basis.

Sources: GRN (2012b); Analytical Laboratory Services (2011).

Placing timely orders by the Ministry of Education has been a challenge in the program. Orders are often late due to unavailability of funds and this has sometimes contributed to late deliveries of the maize meal blend to schools.

Regional warehouses are supposed to be maintained by transporters to use only for a week or two, three times a year. Transport companies are

meant to own vehicles with carrying capacity of one-third of the mass to be transported, but most transporters own small trucks and some of them have a limited number of vehicles. During the inception workshop, it was indicated that some schools retain some bags at the end of the term to be used the following term. Encouraging schools to be compliant with storage requirements as specified in the NSFP Manual is necessary (GRN, 2013a).

An NSFP Monitoring and Evaluation Plan was implemented in 2013 to monitor and track program implementation and track the school feeding commodity. New tools and systems were developed with the assistance of WFP (GRN, 2013a; GRN, 2013c).

Ten out of 15 schools have reported instances of food going bad through infestation with weevils, other insects, fungi and other micro-organisms. Regional hostel officers respond by calling the Health Inspectors of the Ministry of Health and Social Services to come and destroy such food. The food is usually cooked on open fire. In the days when the program was under WFP, energy saving stoves were provided, but these stoves are no longer in supply. The NSFP Manual (GRN, 2013a) states that the Ministry of Education should provide pots for cooking, but during the expansion of the program funds have not been available for the pots. As a result, schools purchase their own pots using their school development fund (financed by the fee charged to the parents) and some schools, in being innovative, devise other alternatives.

Cooks work as volunteers organized by the School Board. The actual number of cooks and the schedule varies from each school. According to the NSFP Manual (GRN, 2013a), the cooks are entitled to have a daily meal, plus three dry rations per day (or 15 rations per week). Cooks receive up to 12 bags per term (one per week), and at those schools visited some schools pay the cooks from their school development funds between N\$260 (US\$29.38) and N\$620 (US\$70.06) per term.

The analysis of what was likely to happen in 2012 in terms of the supply of the maize meal blend shows a considerable oversupply of the blend to most schools. Surplus bags of food at the end of the term are divided among the children to take home. Other schools opt to keep the food for the following term as per the recommended procedure. Meals are to be served during the first break at about 10:00 a.m., although some schools served the food at noon, with the aim of keeping children in school. Cooks do not have standardized measuring jugs or scoops for measuring, cooking, and serving the

porridge. As a result, it is not clear if the children are receiving the correct portions. Nevertheless, the fact that it is one commodity, the meal may be easy to prepare, saving on time and labor. The simplicity of the design of the program has even made it possible to treble the number of beneficiaries in the space of five years. Results show that children like the porridge because it gives them energy, however, they consistently ask for more sugar to be added to improve the taste. Sanitation arrangements at many of the schools visited need revisiting in terms of encouraging the washing of hands before eating.

Links with local food production, smallholder farmers, and local communities

The food commodities used in the maize meal blend are centrally procured and this does not favor local small-scale production. The availability of the food depends largely on Namibia's ability to import food products from its neighbors, particularly South Africa and sometimes Zambia. This does not seem to pose any significant risk at the moment.

Most of Namibia is not suitable for growing maize. However, maize is produced in large scale irrigation schemes and on large State-owned farms along the Okavango River. Only in the Zambezi Region there is some small-scale maize production. There is a protected market for non-genetically modified organism maize, as maize may only be imported once all the local production has been purchased at a fixed price. Probably, less than half of the maize meal procured for the NSFP is of Namibian origin. However, Namibian mills are obliged to use both Namibian and foreign suppliers to ensure year round supply. Mahangu, a pearl millet (that could be used as an alternative for maize), is a staple of most people living along the northern belt of the country produced in small-scale subsistence agriculture. Most households prudently keep it in storage rather than risk selling it, despite efforts by the Namibian Agronomic Board to buy and commercialize the product.

In 2010, Namibia produced wheat under irrigation and after import substitution schemes produced 29% of horticultural fresh produce. Soya beans are not currently produced in Namibia. However, the Namibian Agronomic Board has expressed interest to incentivize legume production and also to use legumes for the NSFP. Cowpeas and other legumes that are

grown in Namibia could make up part of the protein mix for the NSFP, but only contain a quarter of the protein in soya. Namibia does not produce sugar, but salt is available in abundance from two producers and is iodized by law.

Policy and Legal Frameworks

The NSFP does not have a policy of its own. However, the visibility of school feeding and the need for the program to be extended are in existence in a number of policies including:

- *Third National Development Plan (NDP3) 2007/2008–2011/2012* (GRN, 2008a).
- *Namibia's Fourth National Development Plan (NDP4) 2012/2013–2016/2017* (GRN, 2012d).
- *Education Sector Policy for Orphans and Vulnerable Children* (GRN, 2008b).
- *Education for All National Plan of Action 2002–2015* (GRN, 2002).
- *National Policy on HIV/AIDS for the Education Sector* (GRN, 2003).
- *National Drought Policy and Strategy* (GRN, 1997).
- *National Policy for School Health* (GRN, 2008c).
- *Namibian School Feeding Programme Reference Manual* (GRN, 2013a).

The concern is mostly for the welfare of children in accordance with the Constitution:

“Article 95 — Promotion of the Welfare of the People

(j) consistent planning to raise and maintain an acceptable level of nutrition and standard of living of the Namibian people and to improve public health;...” (GRN, 1990).

The motivation for school feeding in Namibia has always been educational. It is a means of getting poor and/or marginalized learners, or those affected by HIV and AIDS (acquired immune deficiency syndrome), to attend school more regularly and consequently perform better at school by virtue of being better nourished. However, in an interview with the Namibian Prime Minister, in the past decade, the impact of the HIV pandemic,

droughts and floods, and the rising prices of food commodities, have tended to place more weight on school feeding as a safety net or means of social protection and as a means of improved child nutrition (Angula, 2012). From the outset, there has been some concern with school feeding as a way of encouraging local agricultural production, but it is only very recently that more thought is being given to the possible agricultural implications of school feeding.

It should be noted that the *Monitoring and Evaluation for the Namibia National Plan of Action 2006–2010 for Orphans and Vulnerable Children* (GRN, 2008d) required an activity (2.3 on page 52) concerning school feeding that has not been fully attended to. It states: “Ensure adequate provision of meals to OVC [*sic*] attending schools and Early Childhood Development Centers by revising guidelines for the SFP [*sic*] and increasing numbers of OVC [*sic*] benefiting from the SFP [*sic*].” (GRN, 2008d).

The *National Policy for School Health* (GRN, 2008c) guides the activities of the Ministry of Health and Social Services in relation to schools. The objectives of the policy include the following: to ensure that schools are implementing the Health Promoting Schools Initiatives; provide education towards healthy behavior; increase awareness, prevention and treatment of childhood diseases; and ensure regular health surveillance. District-level primary health care teams connect to the schools, and co-ordinate with other health services, such as immunization and deworming, oral health, disability, and food and nutrition. Deworming has been administered in 2012 as part of an immunization drive.

The expansion of school feeding is included in the Education and Training Sector Improvement Programme (ETSIP) in component four on meeting the needs of orphans and vulnerable children, in the sub-program on HIV and AIDS. ETSIP represents the education and training sector’s response to the call of *Vision 2030* (GRN, 2004). Its key purpose is to substantially enhance the sector’s contribution to the attainment of strategic national development goals, and to facilitate the transition to a knowledge-based economy.

The intention of the Ministry of Education is to have a policy formulated specifically for the NSFP, within the context of a program to reform school feeding. What is clear, however, is that it may have to be comprehensive and therefore, a complex policy that considers not just education, but

also food security, nutrition, health, agriculture, and the environment. Many aspects of the NSFP are to be clarified in the policy including management and funding of the NSFP, roles of different stakeholders and linkages with other sectors beyond education, target groups and criteria for targeting, and many other issues.

The two guiding documents are the administrative manual for the NSFP (updated in 2013) and the Monitoring and Evaluation Plan (GRN, 2013a; GRN, 2013c). All NSFP receiving schools have received a copy of the Manual and have been instructed on their roles from the Monitoring and Evaluation Plan. It has been noted, that the availability of the NSFP Manual and the Monitoring and Evaluation Plan do not necessarily mean that their prescripts are followed.

Institutional Arrangements

The Division Management Planning, Appraisal, and Training, within the Directorate of Programmes and Quality Assurance in the Ministry of Education is responsible with the implementation of the NSFP. The Division has only three posts, a chief inspector, an inspector of education, and a chief hostel officer. The sub-division for the NSFP has four posts, one chief control officer, one chief clerk, and two clerks. However, only the first two posts are being used solely for the NSFP, as the positions for the two clerks have been utilized for other functions within the Division. The level of a sub-division suggests that the functions to be carried out are mostly of an administrative nature.

The NSFP head office staff have significant experience in the program and appear to maintain good links with the Ministry of Health and Social Services, the Office of Prime Minister, and others that have an interest in the NSFP. Links with the Ministry of Agriculture, Water and Forestry and its associated institutions needs to be cultivated. Formal structures for the co-ordination of the NSFP with other stakeholders, whether within the Ministry of Education or beyond needs to be built. Opportunities for public-private partnerships could be developed at the national level.

Regionally, there is one hostel officer in each region usually supported by a clerk and this person is responsible for both hostels and school feeding. However, the regions differ vastly in population size. The number of schools

in the NSFP in a region thus ranges from 29 to 297. In the survey of hostel officers, five of them appealed for the appointment of a regional officer to just deal with the NSFP. Supervision of the NSFP is part of the job description of inspectors, though they have never been trained in this function.

There are no formal co-ordinating mechanisms at the regional level. The survey shows that the 13 regional hostel officers do not seem to be well-coordinated with relevant ministries in their region. Five have links with the Ministry of Health and Social Services, three with the Ministry of Regional and Local Government and Housing (responsible for food security) and two have links with the Ministry of Agriculture, Water, and Forestry.

From the visits to schools, it appears that most school principals take an interest in the program, and sign for the delivery of food. A teacher (often the one responsible for life skills or counselling) is in charge of the day-to-day program, including record keeping. Often, this teacher solicits the assistance of a cleaner or institutional worker. The latter may be mobilized to cook or serve if (enough) parents fail to arrive on a particular day. The School Board is involved because of the in-kind contributions expected of parents.

The findings show that systematic monitoring and evaluation of the program at all levels is necessary. The need for various forums or workshops regarding the program is essential. National officials paid few visits to schools. Regional hostel officers reported between 0 and 27 visits on NSFP to schools per year. It should be noted that some of the hostel officers have 100–297 schools to cover. On all these visits, written reports need to be made available. The local responsibility for monitoring and evaluation of the NSFP is with the circuit inspectors and some of them, according to the schools, have briefly looked into the school feeding program during school visits.

Funding and Budgeting

The NSFP is fully funded by the Government of Namibia. Funding allocations are paid from the Ministry of Finance to the Ministry of Education. Purchase of food for the NSFP is financed through an item under the budget line (027) 'other services', in the main Division of the Ministry of Education budget for the Directorate of Programmes and Quality Assurance. In comparison, the Ministry of Education budget has a main division for school

Table 2: NSFP budget and expenditure 2005/2006–2012/2013

Financial Year	Annual Expenditure on food (N\$)	Additional Funds from ETSIP	Total Annual Budget (N\$)	Total Annual Expenditure (N\$)	Total Annual Expenditure (US\$)*
2005–2006	9,883,980	—	9,883,980	9,883,980	1,116,420
2006–2007	9,909,000	—	9,909,000	9,907,694	1,119,100
2007–2008	9,892,000	—	9,892,000	9,949,925	1,123,870
2008–2009	10,706,160	12,000,000	22,706,160	22,706,160	2,564,720
2009–2010	10,706,160	10,000,000	20,706,160	20,706,160	2,338,820
2010–2011	21,346,565	32,000,000	53,346,565	53,346,565	6,025,640
2011–2012	50,000,000	32,000,000	82,000,000	68,000,000	7,683,615
2012–2013	55,000,000	32,000,000	87,000,000	94,000,000	10,621,468

*Estimates based on US\$1 = N\$8.85.

Source: Spreadsheet given by the Director of Finance in the Ministry of Education, Beyleveld (2012).

hostels under which it is possible to budget for all aspects of the hostel program, including personnel, goods and services, transfer payments, and capital expenditure. The budget and actual expenditure for the NSFP (food commodities and associated logistics, exclusive capital, and administration costs), in recent years is shown in Table 2.

Table 2 shows that the growth of the NSFP in recent years was financed also by ETSIP (2008/2009–2012/2013). The annual budget for 2013–2014 is expected to be N\$107,000,000 (US\$12,090,395).⁵ Arrangements were being made to transfer funds from other items to ensure that the NSFP could continue as planned.

The cost of school feeding is borne by the Ministry of Education at all levels and is estimated at N\$242 (US\$27.33) per child per year. The total cost of school feeding including community-level contributions at the school level is N\$282 (US\$31.85) per child per year based on six school visits. The program is very centralized as 79% of total costs occur at the central level (WFP and GRN, 2012b).

⁵ Estimates in US\$ as at the writing of the case study report (end April–end July, 2012) (GRN, 2012b) and based on US\$1 = N\$8.85.

The Ministry of Education has struggled almost on an annual basis, to allocate sufficient funds for this purpose during the process of budget formulation. This has led to rearguard actions, after the budget has been promulgated, to shift funds between activities, for fear of the children being without food and the consequences which this could have in terms of attendance and public protest.

It has been a matter of policy for the Namibian Government to fund the NSFP itself. There are currently no minor donors to the program either. Even at the regional and school levels very few donors are involved. The expansion of the NSFP has, however, been part of ETSIP, which is funded both by the government and a consortium of development partners.⁶ It is, in fact this provision which made the recent expansion of the program feasible.

Community Participation

According to the history of the program, the designers of the program in the early 1990s did travel the country extensively to consult with communities about what they could and should contribute to the program. Such an exercise has apparently not been repeated in recent times.

According to the NSFP Manual (GRN, 2013a), the community should provide the following: fuel (sticks, wood, paper, plastic, and coal, etc.); water; plates and spoons; soap for cleaning; materials for a cooking shelter; materials for a storeroom; and cooking utensils. In addition, the community should: prepare meals at the school; construct a cooking shelter and a storeroom; protect the school premises; organize at least three meetings per annum to discuss activities in connection with the NSFP; organize fundraising activities;

⁶All international organizations, bodies, entities or participants to this Memorandum of Understanding, who will provide, or plan to provide technical and/or financial support to the Government of Namibia or ETSIP and ETSIP-related activities and who are or will be signatories to this Memorandum of Understanding. In the Memorandum of Understanding signed in 2007, these were the signatories: European Community; the World Bank; Federal Republic of Germany; United Nations Educational, Scientific and Cultural Organization; United Nations Children's Fund; United Nations Development Programme; United Nations Population Fund; United States Agency for International Development; and Agence Française de Développement (GRN, 2010).

recycle empty bags and oil containers; participate in community development projects; and assist with the school vegetable garden.

In almost all the schools visited, potable water was available either at the school or at a nearby source. Soap was provided at the expense of the school development fund. At most schools visited, the community has been able to provide some kind of shelter for cooks, although not as described in the NSFP Manual (GRN, 2013a). Some schools have successfully arranged for volunteer cooks, but sometimes at a cost, in terms of bags of food and the school development fund. Several small gardens are available in the schools and as a requirement of the curriculum. However, the school community is often challenged by the following: inability to provide firewood and utensils for food preparation and service; inability to construct proper kitchens or storerooms; and lack of dialogue, sensitization, and consultations with the school management.

Evidence of Program Impact

As discussed earlier, it is widely held among stakeholders in the program that the NSFP attracts needy learners to enrol in school, keeps them attending regularly, enables them to concentrate and learn in class, enables them to participate actively in learning and improves the health of learners. The results of a school feeding impact study conducted in May 1994, by the Government of Namibia and WFP highlighted the positive impact of school feeding on children (UNICEF and MBESC, 2002). The program virtually eliminated absenteeism and improved concentration, overall school attendance, and pass rates. A separate study by the Namibian Institute for Social and Economic Research also confirmed the findings on improved attendance (UNICEF and MBESC, 2002). Unfortunately, there has been no recent evaluation and monitoring of data has been very weak.

Conclusions

Although there is no school feeding policy for the NSFP, the program uses the guidelines from the NSFP Manual (GRN, 2013a) that have been recently updated. Other policies identified in this study acknowledge school feeding as an education and social protection intervention. The objectives relating to

school feeding for the *National Policy for School Health* (GRN, 2008c) and the *Monitoring and Evaluation for the Namibia National Plan of Action 2006–2010 for Orphans and Vulnerable Children* (GRN, 2008d) are clearly defined and the sectors responsibility clearly articulated. Nevertheless, it is important that a specific national school feeding policy be formulated for the NSFP that outlines the objectives, rationale, scope, design, funding and sustainability, and comprehensively addresses all the other four standards of assessment.

The Namibian Government has demonstrated positive will and ownership of the program through the provision of increased funding as well as fully-financing the program. The national plan to expand the program is an opportunity to motivate the improvement of the program. The NSFP does not have its own budget line in the budgeting system. Although funds are made available every year to implement the program without major interruptions, this does not constitute stable, predictable and timely funding. Essential equipment has not been purchased. The funds allocated are insufficient to ensure quality service delivery due to insufficient planning, training, oversight, quality control, monitoring and evaluation at every level.

The NSFP head office staff have significant experience in the program and appear to maintain good links with the Ministry of Health and Social Services, the Office of Prime Minister, and others that have an interest in the NSFP. The program could be strengthened more by building alliances and links with potential partners like the Ministry of Agriculture, Water, and Forestry and its associated institutions and donors. The NSFP is understaffed at the national, regional, and ‘district’ levels. The staff assigned to perform various functions do not have the time and training to effectively undertake their tasks. Nevertheless, there is interest by the school principals of the program and teachers assigned to the day-to-day activities to improve and continue with the program. Accountability mechanisms seem to be lacking at all levels. On a positive note, engagement with the private sector (local service providers or manufacturers), provide opportunities for local entrepreneurs to contribute to the needs of the school feeding program while benefiting in monetary terms.

A formal Monitoring and Evaluation Plan was implemented and operationalized in 2013–2014, which included new monitoring tools (GRN, 2013c). The program has expanded to include all pre- and primary learners

from vulnerable and food insecure areas, particularly rural areas, throughout the country. However, special consideration is provided to vulnerable learners in peri-urban areas.

The NSFP has an acceptable food product, though learners would prefer that it was sweeter. The moisture content of the blend, the manufacturing, transport and especially storage arrangements are all potential dangers to the safety of the food. Cooking arrangements are not optimal because of voluntary cooks, shortage of cooking and serving utensils and equipment.

The food commodities used in the maize meal blend are centrally procured and this does not favor local small-scale production. Availability of food depends largely on Namibia's ability to import food products from its neighbors, particularly South Africa and sometimes Zambia. This does not seem to pose any significant risk at the moment. Supply and demand of the maize meal blend are poorly calibrated. There are a lot of inefficiencies in the system, for example, late orders of deliveries due to funding delays and other factors. However, the simplicity in the design of the program has made it possible to treble the number of beneficiaries in the space of five years.

The community members have achieved what could reasonably be expected of them to support the NSFP as they have provided the cooks, firewood and shelters for cooking. In some schools, communities and parents have rendered excellent support and contributions, although this is not the case in other schools where cooking and eating utensils, soap and pot scourers, or adequate storage space needs to be provided. A fair level of community participation and support within the limited means of communities is worth encouraging and can be followed by others.

Abbreviations and Acronyms

AIDS	Acquired immune deficiency syndrome
ETSIP	Education and Training Sector Improvement Programme
FAO	Food and Agriculture Organization of the United Nations
HIV	Human immunodeficiency virus
N\$	Namibian dollar
NDP	National Development Plan
NHIES	National Household Income and Expenditure Survey
NSFP	Namibia School Feeding Programme

PCD	The Partnership for Child Development
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UNU	United Nations University
WFP	United Nations World Food Programme
WHO	World Health Organization

Acknowledgments

This chapter is based on the report *The Namibian School Feeding Programme: A Case Study* (GRN, 2012b) conducted by Justin Ellis (Turning Points Consultancy CC, Namibia). Other key documents used in this chapter include: *The Namibian School Feeding Programme Transition Case Study* (WFP and GRN, 2012a) and *The Namibian School Feeding Programme: Cost Analysis* (WFP and GRN, 2012b).

This chapter was compiled by Edna Kalima (The New Partnership for Africa's Development [NEPAD]); reviewed by Alice Woolnough and Cai Heath (The Partnership for Child Development [PCD]), Emilie Sidaner (WFP) and Wairimu Muita (PCD, Kenya) external to Namibia; and at the country level by Jennifer Bitonde (WFP, Namibia); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

Additional contributions were provided by Josephine Kiamba (NEPAD). Confirmation of data was provided by Edda Bohn and Agnes Mukubonda (Ministry of Education, Namibia), Lawrence Karumendu, Dina Aburmishan and Gerhard Enssle (WFP, Namibia).

This chapter was reviewed and signed off by the Namibian Ministry of Education in August 2014.

References

- Analytical Laboratory Services. (2011). *Summary of Laboratory Analysis of Maize Blend from Suppliers*. February 2011. Analytical Laboratory Services, Windhoek.
- Angula, N. (2012). Namibian Prime Minister, interview by J. Ellis and J. Malcolm, Office of the Prime Minister. 7 May 2012, Windhoek.
- Bundy, D.A.P., Burbano, C., Grosh, M., Gelli, A., Jukes, M.C.H. and Drake, L.J. (2009). *Rethinking School Feeding: Social Safety Nets, Child Development, and the*

- Education Sector*. Directions in Development Series. The World Bank Group, Washington, D.C.
- Beyleveld, G. (2012). *Ministry of Education: Revenue and Expenditure for the Financial Years 1996–2012* to Ellis, J. 20 July 2012. Director of Finance, Windhoek.
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- GRN (Government of the Republic of Namibia). (2013a). *Namibian School Feeding Programme Reference Manual*. Ministry of Education, Windhoek.
- GRN. (2013b). *Tender Specifications, Provision of Maize Meal and Blending*. Directorate of Programmes Quality and Assurance, Ministry of Education, Windhoek.
- GRN. (2013c). *Namibian School Feeding Programme: Monitoring and Evaluation Plan*. Ministry of Education, Windhoek.
- GRN. (2012a). *Namibia 2011 Population and Housing Census Preliminary Results*. National Planning Commission, Windhoek. Available from: <http://catalog.ihsn.org/index.php/catalog/3007/download/45171> (Accessed 22 November 2013).
- GRN. (2012b). *The Namibian School Feeding Programme: A Case Study*. GRN, Windhoek. Available from: <http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp252281.pdf> (Accessed 13 March 2013).
- GRN. (2012c). *EMIS Education Statistics, 2011*. Ministry of Education, Windhoek.
- GRN. (2012d). *Namibia's Fourth National Development Plan (NDP4) 2012/2013–2016/2017*. Office of the President: National Planning Commission, Windhoek.
- GRN. (2010). *Memorandum of Understanding Between the Government of the Republic of Namibia and International Development Partners in Support of the Education and Training Sector Improvement Programme (ETSIP)*. GRN, Windhoek.
- GRN. (2008a). *Third National Development Plan (NDP3) 2007/2008–2011/2012*. Office of the President: National Planning Commission, Windhoek.
- GRN. (2008b). *Education Sector Policy for Orphans and Vulnerable Children*. Ministry of Education, Windhoek.
- GRN. (2008c). *National Policy for School Health*. Ministry of Health and Social Services, Family Health Division, Windhoek.
- GRN. (2008d). *Monitoring and Evaluation for the Namibia National Plan of Action 2006–2010 for Orphans and Vulnerable Children*. Volume 2. Ministry of Gender Equality and Child Welfare, Windhoek.
- GRN. (2007). *National Programme for Food Security: Programme Preparation*. GRN, Windhoek.
- GRN. (2004). *Vision 2030*. National Planning Commission, Windhoek.

- GRN. (2003). *National Policy on HIV/AIDS for the Education Sector*. Ministry of Education, Windhoek.
- GRN. (2002). *Education for All National Plan of Action 2002–2015*. Ministry of Education, Windhoek.
- GRN. (1997). *National Drought Policy and Strategy*. Ministry of Education, Windhoek.
- GRN. (1990). *The Constitution of the Republic of Namibia*. GRN, Windhoek.
- Namibia Statistics Agency. (2012). *Namibia Household Income and Expenditure Survey (NHIES) 2009–2010*. Namibia Statistics Agency, Windhoek.
- PCD. (2014). *School Meals Planner*. [online] HGSGF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 12 March 2014).
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 21 November 2013).
- UNICEF and MBESC (Ministry of Basic Education Sport and Culture). (2002). *Educationally Marginalized Children in Namibia: An Inventory of Programs, Interventions and Data*. October/November 2002. UNICEF and MBESC, Windhoek. Available from: <http://www.streetchildrenresources.org/resources/educationally-marginalized-children-in-namibia-an-inventory-of-programmes-interventions-and-data/> (Accessed 23 March 2013).
- WFP and GRN. (2012a). *The Namibian School Feeding Programme Transition Case Study*. WFP and GRN, Windhoek.
- WFP and GRN. (2012b). *The Namibian School Feeding Programme: Cost Analysis*. WFP and GRN, Windhoek. Available from: <http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp252011.pdf> (Accessed 03 December 2013).
- WFP, PCD and NEPAD. (2012). *Namibia School Feeding Programme: Case Study Inception Workshop*. Held on 24 April 2012, NamPower Convention Centre, Windhoek. WFP, PCD, and NEPAD, Windhoek.
- World Bank. (2013a). *World DataBank: World Development Indicators — Namibia*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 21 November 2013).
- World Bank. (2013b). *Data: Namibia*. The World Bank Group, Washington, D.C. Available from: <http://data.worldbank.org/country/namibia> (Accessed 15 May 2013).
- World Bank. (2013c). *Data: GNI Per Capita, PPP (Current International \$), Namibia*. The World Bank Group, Washington, D.C. Available from: <http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD> (Accessed 15 May 2013).

This page intentionally left blank

Case Study 13: Nigeria — Osun State Elementary School Feeding and Health Programme (O-MEALS Programme)

Country Profile¹

Population in 2012: 168,833,776 (World Bank, 2013).

Gross Domestic Product Per Capita in 2012 (US\$): 1,555 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 44 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2010 (%): 85 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2010 (%): 59 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 41 (UNICEF, 2013).

Employment in agriculture in 2004 (% of total employment): 45 (World Bank, 2013).

Classified as a Low-Income Food-Deficit Country in 2013 (FAO, 2013).

¹Country profile represents the Federal Republic of Nigeria and not of Osun State.

Introduction

The Federal Republic of Nigeria is a low-middle-income country with a population of over 168 million of whom 44% are under 14 years of age (World Bank, 2013). Nigeria is ranked 153rd in the Human Development Index Table, with an average life expectancy at birth of 52 years and an adult literacy rate of 61% (UNDP, 2013). In 2012, Nigeria had a gross domestic product per capita of US\$1,555 (255,273 Nigerian naira [₦])² (World Bank, 2013).

Osun State is located in the south-western part of Nigeria (Figure 1), covering an area of approximately 14,875 square kilometers (Shaad *et al.*, 2010). Osun State has an estimated population of nearly 3.5 million (Federal Republic of Nigeria, 2009),³ with just over 1 million being school-age



Figure 1: Map of Nigeria, Osun State by region and in Africa

Source: GADM, 2013.

² Estimates based on US\$1 = ₦159.

³ Estimate based on the 2006 Nigerian Census (Federal Republic of Nigeria, 2009).

children, of which half are currently enrolled in school, and 49% of whom are girls (NPC-Nigeria and ICF Macro, 2009).⁴ According to the 2008 Nigeria Demographic and Health Survey, in Osun State, 31% of children were stunted and 12% were wasted (NPC-Nigeria and ICF Macro, 2009).

Osun State is made up of three agro-ecological zones: rainforest; derived savannah; and Guinea savannah (Adetayo and Babafunso, 2001). It enjoys a tropical climate with prominent wet (March and October) and dry (November and February) seasons. The mean annual temperature varies between 21°C and 31°C and annual rainfall ranges between 800 millimeters in the savannah (derived and Guinea) to 1,500 millimeters in the rainforest belt.

Smallholder farmers predominate the agricultural production system, generally cultivating less than one hectare of farmland per household using rudimentary production techniques. Thus, yields are low. Arable crops being cultivated include maize, yam, cassava, cocoyam, rice, and sweet potato. Intercropping of maize and cassava is the most common cropping system. Livestock, including sheep, goats, pigs, rabbits, and poultry are also reared for sale and consumption. Osun State farmers until recently are generally constrained by poor access to modern agricultural inputs and credit, poor rural infrastructure, inadequate access to markets and inadequate research and extension services.

The Osun State Agricultural Ministry targets production of ₦350 million (US\$2.2 million) per day (the school feeding program has a daily consumption rate of ₦11.8 million [US\$74,214] per day). Government reasons to increase agricultural output, besides the school feeding program, include selling to other States and providing storage facilities to which farmers can contribute and increase the State-wide food security (reducing risk) during high demand periods.

In 2004, the Federal Government of Nigeria initiated the Home Grown School Feeding and Health Programme (HGSFHP) through the Universal Basic Education Act of 2004 (UBEC, 2005). The legislation stipulated that at a minimum all State primary schools must provide one meal (breakfast, lunch or a take-home ration) a day to each pupil. To begin the national program, the Federal Ministry of Education in 2005 decided on a phased-pilot

⁴Osun State Ministry of Education 2008–2009 enrollment statistics (NPC-Nigeria and ICF Macro, 2009).

of the program which rolled out in 2006, beginning with 13 States from the six geo-political zones. The 13 pilot States included: Bauchi, Cross River, Enugu, the Federal Capital Territory, Imo, Kano, Kebbi, Kogi, Nasarawa, Ogun, Osun, Rivers, and Yobe. Out of the 13 pilot States, the Osun State HGSFHP (OSHGSFHP) was the only program that remained, representing a model of good practice amongst other school feeding initiatives in Nigeria. The success of the OSHGSFHP is attributable to a number of factors, including strong political will, as well as effective financial disbursement and food procurement practices. However, the programs in the other 12 States were suspended in 2008 following funding constraints and a change in government administration.

The OSHGSFHP was redesigned in 2012 and is now termed ‘Osun Elementary School Feeding and Health Programme (O-MEALS Programme).’ O-MEALS currently provides one mid-morning school meal a day for over 252,000 primary school children in elementary grades 1–4 in all 1,382 public primary schools in Osun State.⁵ Each child is provided with one mid-morning school meal per day, with one cook (commonly known in the O-MEALS Programme as a food vendor) preparing the school meals for at least 50 school children. Other target groups include cooks employed to provide the school meal service. Potential beneficiaries also include smallholder farmers from within the communities and more specific program activities need to be explicitly designed to address this target group. While there is no document of quality standards for the O-MEALS Programme, the program mandates a menu based on the *National Guidelines for School Meal Planning* adjusted to accommodate seasonality and local availability (FME, Nigeria, 2007). School cooks are responsible for managing budgets and procuring all menu items and ingredients for the daily school meals, except animal protein (eggs, fish, beef and chicken). Cash is transferred every two weeks into designated bank accounts for each of the cooks, who then purchase food from local markets.

The O-MEALS Programme design is decentralized and community-based. Hiring cooks is initiated at the community level. Women leaders and traditional leaders are all able to participate in hiring cooks which ensures the credibility of the cooks from within the community.

⁵In Osun State alone an elementary school system is being used for grades 1–4.

Methodology

This chapter is largely drawn from *Osun State Home Grown School Feeding and Health Programme Case Study* (Shaad *et al.*, 2010) with updated information from *Osun State Home Grown School Feeding Programme: Improving Sustainability through Increased Local Farmer Participation* (Aigbedion *et al.*, 2012) and key informant interviews with O-MEALS Programme staff.

Design and Implementation

In 2006, a full-scale rollout and implementation of the OSHGSFHP to all of the public primary schools took place. After a change in Governorship in November 2010, the OSHGSFHP was suspended in January 2011. Feeding re-commenced in April 2012 following a redesign and re-branding to the O-MEALS Programme between November 2011 and April 2012.

Objectives

The objectives of the O-MEALS Programme map the current objectives of the *National School Health Policy* (FME-Nigeria, 2006) (see Policy and Legal Frameworks) and include:

- Improvement of nutritional and health status of school children.
- Increasing school enrollment, retention, and completion.
- Stimulating job creation, local goods production, and income-generating activities of local farmers.
- Reducing the incidence of poverty and stimulating development of small- and medium-scale enterprises.

The O-MEALS Programme service aims:

- To ensure that each child receives a balanced cooked meal a day that provides a minimum of 33% of the recommended dietary intake of key vitamins and nutrients.
- To provide necessary deworming treatment to school pupils.

Country School Feeding Program Factsheet

Start Date	2006 for OSHGSFHP and 2012 for the O-MEALS Programme	
Design and Implementation	<i>Rational/Impact</i>	<ul style="list-style-type: none"> • Improvement of nutritional and health status of school children. • Increasing school enrollment, retention and completion. • Stimulating job creation, local goods production and income-generating activities of local farmers. • Reducing the incidence of poverty and stimulating development of small- and medium-scale enterprises.
	<i>Implementation Levels</i>	<ul style="list-style-type: none"> • <i>Primary school children (main target group)</i>: Over 252,000 primary school children in elementary grades 1–4 in all 1,382 public primary schools in Osun State. • <i>Cooks (food vendors)</i>: Cooks are employed to provide the school meal service. • <i>Smallholder farmers from within the communities (other target group)</i>: Smallholder farmers are linked with selected off-takers within their communities to help the cooks in the process of food procurement.
	<i>Supply, Storage, and Logistics</i>	Decentralized model with food procurement, processing and delivery outsourced to school cooks.
	<i>Modality, Food Basket Details</i>	One cooked mid-morning meal per day.
	<i>Food Preparation</i>	1 cook allocated to serve at least 50 school children.
Policy and Legal Frameworks Documents		<ul style="list-style-type: none"> • Universal Basic Education Act of 2004 (UBEC, 2005). • <i>National School Health Policy</i> (FME-Nigeria, 2006). • <i>National Guidelines for School Meal Planning</i> (FME-Nigeria, 2007).

Institutional Arrangements	<i>Lead Institution</i>	Ministry of Education oversees responsibility and the O-MEALS Programme Office serves as the implementing agency. The Program Manager within the Program Secretariat reports directly to the Office of the Deputy Governor.
	<i>Supporting Institutions</i>	Ministry of Education including the State Universal Basic Education Board (SUBEB); Ministries of Health, Commerce and Co-operatives, and Agriculture, including the Osun State Agricultural Development Extension Project.
Finance	<i>Annual Budget</i>	Approximately, ₦2.6 billion (US\$16.40 million), excluding staff salaries and other support costs covered by other ministries.
	<i>Cost Per Child Per Year</i>	2013: Approximately, ₦10,080 (US\$63.40).
Community Involvement		Community members participate in the O-MEALS Programme through Parents' Forums and the School-Based Monitoring Committee existing in each primary school.
Innovations/Good Practices		The success of the O-MEALS Programme is attributable to a number of factors, including strong political will as well as effective financial disbursement and food procurement practices.
Weaknesses/Risks		<ul style="list-style-type: none"> • The capacity of Osun State to fund the O-MEALS Programme is limited with the current budget, thus a strain on Osun State finances. • Monitoring is primarily qualitative to ensure the cooks are providing a quality product, but key indicators are not currently collected to demonstrate the program's success in achieving its educational objectives.

GLOBAL SCHOOL FEEDING SOURCEBOOK: LESSONS FROM 14 COUNTRIES. <http://www.worldscientific.com/for/else/books/10.1142/p1070>
 ©Lestley Drake, editor. For online publication, non-commercial use only (CC BY-NC)

Targeting and coverage

Initially, targeting was for children in kindergarten through to primary school grade 2 in all government-owned primary schools, but following program redesign, the O-MEALS Programme targets:

- *Primary school children (main target group)*: Over 252,000 school children from elementary grades 1–4 in all 1,382 public primary schools in Osun State are targeted.
- *Cooks (commonly known as food vendors in the O-MEALS Programme)*: Cooks are employed to provide the school meal service. A cook prepares the school meals for an average of 50 school children, by adhering to a pre-approved menu mandated by the O-MEALS Programme.
- *Smallholder farmers from within the communities*: Smallholder farmers are linked with selected off-takers within their respective communities so that the process of food procurement will be easier for cooks. Other program activities targeting smallholder farmers are also envisaged.

Modalities, food basket, and nutritional norms

While there is no document specifying quality standards for the O-MEALS Programme (standard market quality is acceptable), the O-MEALS Programme mandates a menu based on nutritional guidelines and requirements for school-age children, but adjusted to accommodate seasonality and local availability of food items. The ration size is adequate to ensure program cost-efficiency. Nutrition experts in Osun State developed a menu table of foods to be served to school children, which includes eggs, fish, and meat portions once a week and chicken portions twice a week to boost the protein and zinc intake of pupils in a bid to increase cognitive development. The protein content is also provided through beans and melon seed served during the week with other food nutrients (carbohydrates, fats/oils [vegetable and palm oil] as well as minerals) and fruits.

An example of the standard weekly menus is shown in Table 1, at the start of the first Osun State programme in 2006, the OSHGSFHP in 2010 and the currently implemented O-MEALS Programme in 2012.

The nutrient content of the Osun State menu was analysed in 2010 (Agbon, Onabanjo, and Okeke, 2012) and was found to be high in protein

Table 1: Standard weekly menus in the Osun State school feeding programmes

Day	Programme Start 2006*	OSHGSFHP 2007*	O-MEALS Programme 2012**
Monday	Rice	Maize	Yam (150 grams)
	Stew	Beans	Fish stew
	Fish	Stew Fish	Orange (1 whole small size)
Tuesday	Porridge	Porridge (yam or beans)	Rice (130 grams)
	Vegetables with egusi***	Vegetables	Beans (30 grams)
	Egg	Fish	Stew Chicken Orange (1 whole small size)
Wednesday	Rice	Rice	Beans porridge (120 grams)
	Beans	Beans	Bread (20 grams)
	Vegetables with egusi	Vegetables with egusi	1 whole egg (70 grams)
	Fish Cocoa drink	Fish Cocoa drink	Banana (70 grams)
Thursday	Beans	Maize	Rice (150 grams)
	Vegetables	Beans	Egusi [†] garnished with vegetables (50 millilitres)
	Fish	Stew Egg	Chicken (80 grams) Banana (70 grams)
Friday	Rice	Rice	Cocoyam Porridge (130 grams)****
	Vegetables	Beans	Vegetables
	Fish	Vegetables Fish	Beef (70 grams) Pawpaw — one slice (90 grams)

*Data on actual food quantities per child were not available. **Food quantities per child have been included to allow for menu nutrient composition analysis. ***Egusi seeds are protein-rich seeds of melons, used to cook traditional foods in south-western Nigeria. ****Based on current information by a key informant from the O-MEALS Programme Office (Adesanmi, 2014).

Sources: Shaad *et al.* (2010); PCD (2012).

and carbohydrates, but to have a very low zinc content; as a result, there was an improvement in the menu to include foods with high zinc contents. An analysis of the average RDA for energy, protein, iron and calcium are provided in Table 2.

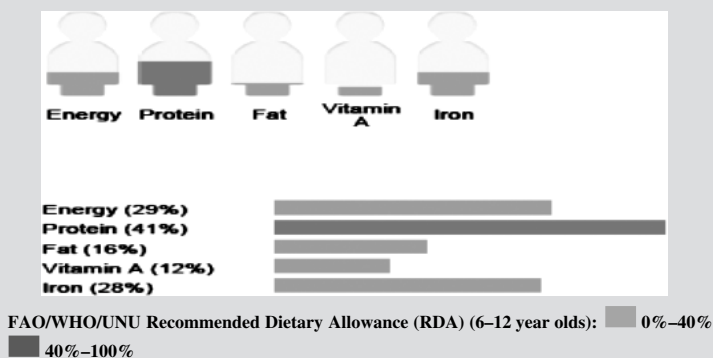
As part of the school curriculum nutrition education is taught in all primary schools. In order to reinforce the school feeding program and its

Table 2: Menu nutrient composition

Nutrients	WHO RDA (10–14 years)*	Average Daily Menu**	% of RDA (10–14 years)
Energy (kilocalories)	2210	535.78	24
Protein (grams)	50	28.08	56
Iron (milligrams)	24.00	8.27	34
Zinc (milligrams)		2.31	
Calcium (milligrams)	600	247.92	41

Sources: *Aliyar *et al.* (2015); **Agbon *et al.* (2012).

Gingerbread men representing the average daily nutritional content of a sample weekly mid-morning school menu in Nigeria's O-MEALS Programme



- A sample weekly mid-morning school menu was used for the nutrient content calculations and an average of the nutritional content was obtained of the five daily mid-morning school menus.
- The raw version of each food item was used in the nutrition content calculations.
- The beans on the menu were taken to be dried brown cowpea beans.
- Peppers, tomatoes, and Amaranthus were taken to be the vegetables on the menu.

Source: PCD (2014).

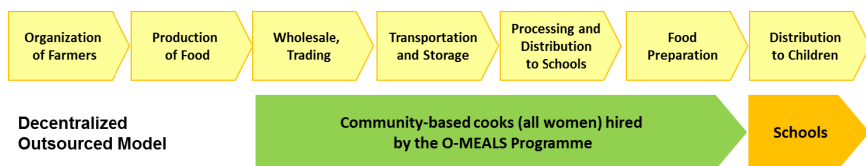


Figure 2: Stylized Osun State O-MEALS Programme supply chain

Source: PCD (2012).

effectiveness, the O-MEALS Programme team in collaboration with the Ministry of Environment, The Partnership for Child Development (PCD) and Unilever have launched an annual 21-day behavioral change school health and nutrition program during which children are taught oral hygiene, hand washing, and nutrition education. The nutrition education consists of topics on healthy dietary practices, types and classes of food, food hygiene, food sources as well as functions of nutrients.

Food procurement, transportation, storage, and preparation

The O-MEALS Programme delegates significant responsibility to cooks who are at the lowest functioning level (Figure 2).

The cooks purchase all food items with the exception of eggs, beef, fresh fish, and chicken, which are purchased from poultry farmers, fish farmers and meat sellers associations and distributed to the cooks per day, based on the menu. The cooks do not have the authority to decide on appropriate substitutions based on the menu requirements, the availability of ingredients, and the price constraints. All cooks are certified and have passed a three-month self-funded certification course on food quality, preparation and basic hygiene. All cooks have also been given a health check to ensure school children will not be exposed to any communicable disease. Prior to recruitment, the O-MEALS Programme Secretariat also provided a one-day refresher training to the cooks on interpersonal skills, food preparation, and basic hygiene.

Once the cooks have been employed they are responsible for managing their own budgets and procuring ingredients for preparation of the daily school meals. An amount of ₦50 (US\$0.31) is assigned to each school child per day.

Box 1: Flexible menu

The O-MEALS Programme was designed to allow cooks to substitute locally available products for the recommended school meal ingredients after due consultations from the Feeding Officer from the O-MEALS Programme Secretariat (for example, in areas where cocoyams are common, cooks were allowed to substitute for yams). This flexibility is still in place, but restricted to foods that the Nigerian Government approves as substitutes, to ensure food standards are maintained. A potential benefit of this flexibility is the increased potential for food items procured through the program to be produced by smallholder farmers.

Source: Sourcebook authors.

As mentioned earlier, proteins are procured centrally, with chicken, beef, fresh fish and eggs purchased at ₦21 (US\$0.13), ₦21 (US\$0.13), ₦17 (US\$0.10), and ₦21 (US\$0.13) respectively for each school child. Since chicken appears on the school menu twice a week, and beef, fish, and eggs each appear once a week, a total of ₦202 (US\$1.22) per school child is deducted from the cook's biweekly budget, leaving each cook with a budget of approximately ₦29.80 (US\$0.19) per student per meal (₦149 [US\$0.9] per week per child) regardless of the actual price of food. Following the redesign, the cooks are mandated to work in co-operative groups of 25 members each. This initiative was to enable the cooks to leverage resources and materials for maximum profit. One of the major challenges has been the lack of storage for the cooks as the demand for storage increased with joint procurement undertaken per week and sometimes per month.

According to the O-MEALS Programme staff, empowering cooks creates a strong incentive for cooks to purchase food items that meet the quality standards set by the O-MEALS Programme, as well as being cost-effective. The cooks are also encouraged to set up catering outfits for small-scale businesses after school hours and during holidays.

Currently, efforts are being made to link the demand from the O-MEALS Programme to smallholder production in Osun State, and developing these links is a priority for the program.

Box 2: Improving financial accountability of food procurement activities

At the OSHGSFHP inception in 2006, funds were disbursed from the Program Secretariat to the Local Government Area Councils (LGAs) to head teachers to cooks. The Program Secretariat staff realized that cooks were not receiving their full budget allocations and funds were leaked during the different transactions. Financial channels were redesigned to transfer money directly to accounts belonging to individual cooks in commercial banks as per instructions from the Program Secretariat. As a result of this procurement procedure design change, money is not diverted from its intended purpose of ensuring that cooks receive full payment for their services. There are still some transaction costs involved; the banks charge the cooks a ₦100 (US\$0.63) transfer fee which amounts to approximately 1% of the net payment. However, the program accounting staff maintains that these costs are far lower than the losses due to fund diversion at the LGA- and school levels.

Source: Sourcebook authors.

Policy and Legal Frameworks

At the Federal level, the Universal Basic Education Act of 2004 and the *National School Health Policy* (UBEC, 2005; FME, Nigeria, 2006) provides the legislative framework for school feeding in Nigeria (Singh, 2013). Section 15 of the Universal Basic Education Act of 2004 stipulates that all State primary schools provide students with a free lunch (UBEC, 2005).

The multisectoral *National School Health Policy* was launched in 2006 and recognizes the pivotal role of school health and nutrition in terms of achieving health and education for all goals (FME, Nigeria, 2006). The objectives of the O-MEALS Programme is framed in the *National School Health Policy* (FME, Nigeria, 2006) to:

- Reduce hunger among school children;
- increase school enrollment, attendance, retention, and completion rates, particularly among children in poor rural communities and urban neighbourhoods.

- Improve the nutritional status of school children.
- Enhance the comprehension and learning abilities of pupils/students.

The *National School Health Policy* (FME-Nigeria, 2006) identifies cross-sectoral responsibilities in the delivery of the school feeding services, for example, the responsibilities of the Federal Ministry of Agriculture and Rural Development are outlined to:

- Promote agricultural practices in schools.
- Facilitate the services of agriculture extension staff to schools.
- Encourage the formation and operation of Young Farmers' Clubs in schools.
- Supply improved farm inputs for crop and animal farming in schools.
- Develop suitable standards and cost-effective meal plans for schools in different communities in collaboration with the Federal Ministry of Health.

The Federal Ministry of Environment is responsible for the food and sanitation standards in schools.

The O-MEALS Programme mandates a menu based on the *National Guidelines for School Meal Planning* (FME-Nigeria, 2007) where the school menu is adjusted to accommodate seasonality and local availability.

Osun House of Assembly Committee on Agriculture, Education and Health has formed a joint task force for the development of State-level policy documents for the O-MEALS Programme.

Institutional Arrangements

The Osun State Government has positioned the O-MEALS Programme separate from other Ministries. The Ministry of Education oversees responsibility with the O-MEALS Programme office serving as the implementing agency. The O-MEALS Programme Secretariat reports directly to the office of the Deputy Governor within the Governor's office. Significant freedom was given to the program to best utilize its resources and design its structure to achieve the greatest impact and efficiency. Figure 3 provides a schematic view of the O-MEALS Programme.

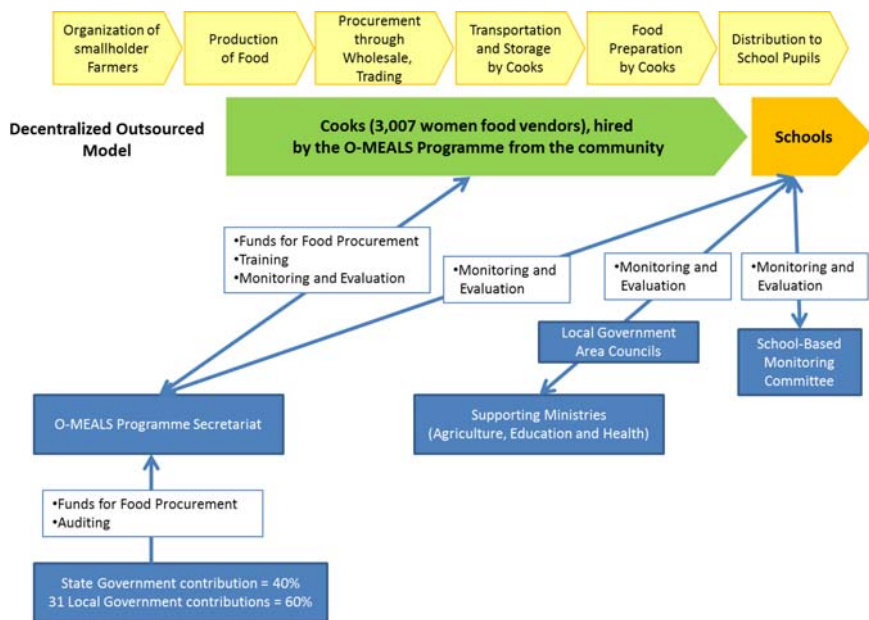


Figure 3: Schematic view of the O-MEALS model and relevant processes

Sources: Shaad *et al.* (2010); PCD (2012).

Supporting institutions comprise of the Ministry of Education including the SUBEB, Ministries of Agriculture and Health including the Osun State Agricultural Development Extension Project. There is significant co-ordination between government ministries and various levels of government. Monitoring and evaluation is conducted by LGAs, Local Education Inspectors through the Ministry of Education, LGA-level inspectors reporting to the LGA Secretary of Education, and O-MEALS Programme staff. The Ministry of Education collects data on enrollment through the SUBEB and the Local Government Education Authorities (LGEAs) and is a key indicator of the program’s success. The Steering Committee involves the Ministry of Health, the National Agency for Food and Drug Administration and Control, the Ministry of Education, and the O-MEALS Programme staff as well as other line ministries. The Ministry of Agriculture is currently not structurally linked to the O-MEALS Programme, but has representation on both the State Steering and Monitoring Committees.

Quality assurance and monitoring and evaluation

Current monitoring and evaluation stakeholders and processes include:

- *State level:* State Monitoring Committee and State Steering Committee responsible for program oversight; the SUBEB collects enrollment data on a semi-regular basis; and the Ministry of Health collects State-wide data on general child health.
- *LGA level:* LGA Education Secretaries are responsible for collecting weekly feeding forms that consist of the number of school children fed and a breakdown by gender; the LGA is also responsible for collecting data collected by the SUBEB.
- *School level:* Head teachers and food teachers are responsible for the day-to-day monitoring of food quality and portion size. Food quality is monitored by the head teacher and food teacher and the LGA checks this twice-monthly when the feeding allowance report is collected from each school. Random checks are also conducted semi-regularly.

Funding and Budgeting

Strong support from the Osun State Governor and other leading political figures has ensured continued funding for the O-MEALS Programme and has reduced potential political blockages. The O-MEALS Programme receives 40% of the funding from the State and 60% of the funding from the constituting LGAs.

The total annual budget for the O-MEALS Programme is approximately ₦2.6 billion (US\$16.40 million),⁶ excluding staff salaries and other support costs covered by other ministries. Osun State has continued funding beyond the Federal Government's initial contribution of ₦88 million (US\$674,330) made in 2006. Unlike other school feeding programs piloted in Nigeria, the O-MEALS Programme does not advocate for in-kind support from parents or from communities. Detailed discussions with the O-MEALS Programme staff underscored that the cost of the program is high in relation to Osun State's overall budget, costing approximately ₦867 million (US\$5.5 million)

⁶Estimates based on US\$1 = ₦159.

per term (₦2.6 billion [US\$16,352] annually). In addition, on a monthly basis an amount of ₦750,000 (US\$4,717) (₦9 million [US\$56,604] annually) are budgeted for the monitoring and evaluation activities (Shaad *et al.*, 2010).

Based on 2013 estimate budget figures obtained from the O-MEALS Programme staff, the total program cost is approximately ₦10,080 (US\$63.40) per child per year. In 2010, the cost per child of the OSHGSFHP was estimated to be around 43% of the estimated per school child cost of education in Nigeria.⁷

A review of Federal- and State-level data showed that since the OSHGSFHP inception in 2006, there have been significant price increases in agricultural commodities. As a result, the approved per child per meal budget allocation has been increased from the initial ₦30 (US\$0.12) to ₦50 (US\$0.31) (Shaad *et al.*, 2010).

The O-MEALS Programme staff emphasized that the current cost in relation to the overall State budget presents a challenge for stabilization, sustainability and expansion of the program. Presently, the O-MEALS Programme is under increasing pressure as the Osun State's monthly Federal allocation is reduced by Nigeria's dependence on oil revenues which have dropped in recent years due to the global economic downturn and increased restiveness in the Niger Delta Region.

Community Participation

Communities play an important role in the O-MEALS Programme. While communities have not been asked to provide financial resources, community members participate in the program through the Parent–Teacher Association. In addition, motivated community members with an interest in the program can participate in monitoring and report problems as they occur. The cooks also come from the local community, which ensures strong linkages between the cooks and the community. The community members now report to the O-MEALS Programme Office when shortcomings are identified in the quality or quantity of food produced.

⁷This figure is a rough estimate based on the 2010 case study (Shaad *et al.*, 2010) author's calculation using data from Hinchcliffe for 1998 to model expenditures in 2007 (Hinchcliffe, 2002).

Stakeholders have highlighted that a program on school feeding was a welcome intervention in Osun State, and that the people of Osun State were proud that the program was still in operation unlike in the other 12 pilot States. However, they also stressed that the sustainability of the O-MEALS Programme hinges on funding and monitoring from grassroots level. Their feedback suggested that currently the level of involvement of communities could be improved by:

- Involving the Parents' Forum both to help mobilize funding for the O-MEALS Programme and in monitoring and evaluation.
- Mobilizing communities to build and maintain the school infrastructure.
- Involving individuals within the community such as primary school heads and the community at large, who can contact school alumni, political leaders, and religious bodies both nationally and in the diaspora to support the O-MEALS Programme.
- Engaging with heads of communities to help in retrieving and maintaining land for the use of school gardens.

Job creation and empowerment of women cooks were also acknowledged as an important benefit of the O-MEALS Programme.

Evidence of Program Impact

To date, however, no impact evaluations have been undertaken on the O-MEALS Programme and as a result, there is currently minimal empirical evidence on the impact of the O-MEALS Programme in the literature. The O-MEALS Programme staff members are exploring options to rectify this.

Whilst empirical evidence is minimal, as yet, monitoring experiences from respondents indicate that the school meals have enhanced access, retention and learning in schools. During the stakeholder workshop in Osogbo, participants also identified an overall improvement in the standard of the health of school children, evidenced in particular through a reduction in diarrhoeal cases, as well as cleanliness in the school environment. Stakeholders also claimed that the school meals had a positive influence, in terms of nutrition practices and diet diversification at home, and in terms of

significant growth in Osun State's economy through the employment of 3,007 cooks and the purchase of foodstuffs from smallholder farmers. Though the feedback from respondents was positive, these benefits will need to be validated by rigorous impact evaluations.

Conclusions

The O-MEALS Programme is the only Home Grown School Feeding (HGSF) programme of an initial pilot of programs in 13 Nigerian States to have continued and represents a model of good practice amongst other school feeding initiatives in Nigeria. Its endurance is in itself a credit to a program that has continued to provide beneficial services to over 250,000 primary school children in Osun State. The innovative system of checks and balances that has been developed over the years has ensured good governance and is also a model of good practice within the country and the region. The O-MEALS Programme has not only benefited from the inspiring leadership of the program, but the engagement in program monitoring from different stakeholders at many levels has provided a strong platform for improved transparency and accountability.

Trade-offs in decentralized procurement and preparation

The decentralized procurement model where cooks procure the food every 2 weeks, for at least 50 school children per cook, also raises important trade-offs in terms of smallholder participation. Though a detailed analysis of these trade-offs is beyond the scope of this work, it is important to highlight some of the main considerations involved.⁸ The decentralized procurement procedure in Osun State has clearly allowed for improved governance of the financial flows to the lowest level, however, critically for agriculture it has also limited the size and frequency of food purchases in the market. In addition, smallholder farmers facing post-harvest management constraints, including lack of adequate storage, for example, are only able to respond to

⁸ See Sumberg and Sabates-Wheeler (2010) for an analysis of some of the trade-offs associated with smallholder farming and HGSF procurement models.

the demand at harvest time, thus, reducing the potential benefits resulting from the stable demand throughout the year.

Benefits from strong community-level engagement

The cooks are selected by a participative community-driven process that has strengthened community ownership and accountability of the O-MEALS Programme as a whole. In turn, there are indications that this has reduced the risk of cooks compromising on the quality of the food provided to school children to increase their profits from the catering activity — a key challenge currently faced by the HGSF programme in Ghana (USDA, 2009). In addition, the O-MEALS Programme, though targets only the elementary school grades 1–4, is universal in terms of school coverage. Therefore, as a program it is not subjected to the common problem of politicization in terms of school selection.

Key lessons in program management

Governance is clearly one of the strengths of the O-MEALS Programme. The finances are cross-checked and audited at multiple levels. The O-MEALS Programme staff appear to be very motivated and actively participate in the management activities, often speaking freely, and animatedly about the program's structure and success. Monitoring and evaluation activities are undertaken by different stakeholder groups across State Government institutions and civil society, ensuring that the program does not deviate from its original purpose. Structures have been established at school, LGA, and State levels to oversee the success of the O-MEALS Programme and intervene when necessary. The Steering Committee and the Monitoring Committee provide the highest level of oversight and involve participants from a variety of government offices, relevant agencies and selected communities. The general impression is that this system of checks and balances has not only improved the transparency and accountability of the O-MEALS Programme as a whole, but also improved cost-efficiency by responding to the specific challenges of corruption and leakage.

Political support versus politics

The high-level political support and public attention given to the program has helped to ensure that the O-MEALS Programme is well managed,⁹ and also provides a good platform for advocacy at the community and LGA levels, across State Ministries, agencies, and Federally.

Challenges in implementation remain

The capacity of Osun State to fund the O-MEALS Programme is limited; the current budget is a strain on the finances of a State that receives a relatively small portion of the Federal allocations. Even at the current level of commitment, funding for monitoring and evaluation is not adequate and as a result the monitoring of the O-MEALS Programme is not as rigorous as it could be to ensure quality service provision and to identify structural weaknesses. Monitoring is primarily qualitative, but key indicators are not currently collected to demonstrate the program's success in achieving its educational objectives because no baseline assessment was undertaken since 2006, at the program's inception.

Abbreviations and Acronyms

FAO	Food and Agriculture Organization of the United Nations
HGSF	Home Grown School Feeding
HGSFHP	Home Grown School Feeding and Health Programme
LGA	Local Government Area Council
LGEA	Local Government Education Authority

⁹It is important to note here that political buy-in into the program and politicization of the program are two separate issues. The first issue, as we have seen in the case of Osun State can be used to leverage financial, technical, and other resources, as well as for improved advocacy at all levels of society. The second issue, though obviously linked to the first has very different consequences, and has been associated with a lengthy catalogue of problems throughout the history of school feeding. A detailed analysis of the political economy of, why school feeding works and why it does not work, is beyond the scope of this chapter and is another important area of future research.

₦	Nigerian naira
OSHGSFHP	Osun State Home Grown School Feeding and Health Programme
PCD	The Partnership for Child Development
RDA	Recommended Dietary Allowance
SUBEB	State Universal Basic Education Board
UNU	United Nations University
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from *Osun State Home Grown School Feeding and Health Programme Case Study* by Brian Shaad and Nikhil Jaisinghani (Value Development Initiatives) and Aulo Gelli (PCD) (Shaad *et al.*, 2010) with updates from *Osun State Home Grown School Feeding Programme: Improving Sustainability through Increased Local Farmer Participation* by Amara Aigbedion, Pablo Chamoro, Ruth Duggan and Ken Fujiwara (University of California, Berkeley Haas School of Business) (Aigbedion *et al.*, 2012).

This chapter was compiled by Alice Woolnough (PCD) and Abimbola Adesanmi (PCD, Nigeria); reviewed by Brie McMahon, Cai Heath and Salha Hamdani (PCD) external to Nigeria; and at the country level by Oketayo Adeolu (O-MEALS Programme Secretariat); country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

This chapter was reviewed and signed off by the Government of Osun State in August 2014.

References

- Adesanmi, A. (2014). *Current menu table distributed by the O-MEALS Secretariat to all food vendors*, phone conversation. Conversation with key informant from the O-MEALS Programme Office, 26 March, 2014. PCD, Lagos, Nigeria.
- Adetayo, A.S. and Babafunso, S.E. (2001). Comparison of the Performance of Nigerian Indigenous Chickens from Three Agro-Ecological Zones. *Livest. Res. Rural Dev.*, **13**(2). Available from: <http://www.lrrd.org/lrrd13/2/aded132.htm> (Accessed 28 February 2014).

- Aigbedion, A., Chamoro, P., Duggan, R. and Fujiwara, K. (2012). *Osun State Home Grown School Feeding Programme: Improving Sustainability through Increased Local Farmer Participation*. PCD, London Available from: <http://hgsf-global.org/en/rpublications/390-hgsf-working-paper-series-12-osun-state-home-grown-school-feeding-program-improving-sustainability-through-increased-local-farmer-participation->
- Aliyar, R., Gelli, A. and Hamdani, S. (2015). A Review of Nutritional Guidelines and Menu Compositions for School Feeding Programmes in 12 Countries. *Frontiers in Public Health* 3:148. doi: 10.3389/fpubh.2015.00148 (Accessed 06 March 2014).
- Agbon, C.A., Onabanjo, O.O. and Okeke, E.C. (2012). Daily Nutrient Contribution of Meals Served in the Home Grown School Feeding of Osun State, Nigeria. *Nutr. Food Sci.*, 42(5), 355–361.
- FAO. (2013). *FAO Country Profiles. Low-Income Food-Deficit Countries (LIFDC) — List for 2013*. FAO, Rome. Available from: <http://www.fao.org/countryprofiles/lifdc/en/> (Accessed 06 March 2014).
- Federal Republic of Nigeria. (2009). *Legal Notice on Publication of 2006 Census Final Results*. Government Notice No. 2 of Volume 96, 2 February 2009. Official Gazette, Abuja. Available from: <http://placng.org/Legal%20Notice%20on%20Publication%20of%202006%20Census%20Final%20Results.pdf> (Accessed 28 February 2014).
- FME–Nigeria (Federal Ministry of Education, Nigeria). (2007). *National Guidelines for School Meal Planning*. FME, Abuja.
- FME–Nigeria (Federal Ministry of Education, Nigeria). (2006). *National School Health Policy*. FME, Abuja.
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Hinchcliffe, K. (2002). *Public Expenditures on Education in Nigeria: Issues, Estimates and Some Implications*. The World Bank Group, Washington, D.C.
- NPC (National Population Commission, Nigeria) and ICF Macro. (2009). *Nigeria Demographic and Health Survey 2008*. National Population Commission and ICF Macro, Abuja. Available from: <http://www.measuredhs.com/pubs/pdf/FR222/FR222.pdf> (Accessed 28 February 2014).
- PCD. (2012). *Elementary School Feeding and Health Programme Transition Strategy, State of Osun, Nigeria*. PCD, London. Available from: http://hgsf-global.org/en/component/docman/doc_details/252-tsp-document (Accessed 28 February 2014).
- PCD. (2014). *School Meals Planner*. [online] HGSF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 10 April 2014).

- Shaad, B., Jaisinghani, N. and Gelli, A. (2010). *Osun State Home Grown School Feeding and Health Programme Case Study*. PCD, London. Available from: http://hgsf-global.org/en/component/docman/doc_details/94-osun-state-hgsf-and-health-programme-case-study (Accessed 28 February 2014).
- Singh, S. (2013). *School Feeding Legal and Policy Frameworks: A Review*. PCD and WFP, London.
- Sumberg, J. and Sabates–Wheeler, R. (2010). Linking Agricultural Development to School Feeding. Future Agricultures. *FAC Working Paper*, No. 12, Institute of Development Studies, Sussex.
- UBEC (Universal Basic Education Commission). (2005). *Compulsory, Free, Universal Basic Education Act, 2004*. UBEC, Nigeria.
- UNDP (United Nations Development Programme). (2013). Human Development Report 2013. The Rise of the South: Human Progress in a Diverse World. UNDP, New York. Available from: <http://hdr.undp.org/en/2013-report> (Accessed 27 March 2014).
- UNICEF. (2013). *The State of the World's Children 2013: Children with Disabilities*. Statistical Tables: Table 2 Nutrition. UNICEF, New York. Available from: <http://www.unicef.org/sowc2013/statistics.html> (Accessed 28 February 2014).
- USDA (United States Department of Agriculture). (2009). *Assessment of Local Production for School Feeding in Ghana*. USDA, Foreign Agricultural Service, Office of Capacity Building and Development, Washington, D.C.
- World Bank. (2013). *World DataBank: World Development Indicators — Nigeria*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 28 February 2014).

Case Study 14: South Africa — National School Nutrition Programme

Country Profile

Population in 2011: 51,770,560 (*Statistics South Africa*, 2012a).

Gross Domestic Product Per Capita in 2012 (US\$): 7,352 (World Bank, 2013).

Population ages 0–14 years in 2012 (% of total): 30 (World Bank, 2013).

Primary School Gross Enrollment Ratio in 2012 (%): 102 (World Bank, 2013).

Primary School Net Enrollment Ratio in 2012 (%): 85 (World Bank, 2013).

Under-fives suffering from stunting (moderate and severe) in 2007–2011 (%): 24 (UNICEF, 2012).

Employment in agriculture in 2011 (% of total employment): 5 (World Bank, 2013).

Introduction

South Africa is 1,219,090 square kilometers (CIA, 2014; World Bank, 2013) and is the largest of the Southern Africa countries with an estimated population in 2011 of 51,770,560 people (*Statistics South Africa*, 2012a), divided into nine provinces (Figure 1). Although the country has an annual gross domestic product of 3.266 trillion South African Rands (R) (US\$408.24 billion)¹ (IDC, 2012) and is classified as a middle-income country, there are still high-levels of social inequities and 20%–50% of the population live below the poverty line in both rural and urban areas. South Africa's unemployment rate is also high at 25% (*Statistics South Africa*, 2012b). The main source of income for most households in 2009 was wages (58%), but most (15%) depend on social grants for incomes. This varies across provinces with the Eastern Cape Province having the highest rate of grant dependency (26% of households) (*Statistics South Africa*, 2010).



Figure 1: Map of South Africa by region and in Africa

Source: GADM (2013).

¹ Estimates based at US\$1 = R8.00.

South Africa is globally perceived as food secure and has a strong agricultural sector, from which it generates food for national consumption and export. However, only one in five of the South African households are food secure (Republic of South Africa, 2012a). Food insecurity is experienced in both rural and urban households, but with rural households being the worst affected.

In 2011, agriculture contributed to 3% of the gross domestic product and 5% for formal employment (World Bank, 2013). Although these figures, if viewed independently, do not depict agriculture as being a major contributor to the gross domestic product, through the establishment of strong linkages the agro-industrial sector however, contributes close to 15% of the gross domestic product. The value of food imports is more or less equal to the exports annually (Human Rights Watch, 2001; South Africa Online, 2011). Due to the aridity of the land, only 14% can be used for crop production, and only 3% is considered high potential land (Mohamed, 2000; Goldblatt, n.d.). The value of agricultural production per year is divided between livestock (47%), field crops (29%), and horticulture i.e. fruit and vegetables (24%) (Republic of South Africa, 2011a). Cereals and grains (maize, wheat, and sorghum to a smaller extent) are South Africa's most important crops, occupying more than 60% of land under cultivation in the 1990s. Other crops are peanuts, sunflower seeds, beans, and soybeans. A wide variety of fruits, including grapes for wine, but also deciduous fruits (apples, pears, and peaches) and tropical fruits (pineapples, bananas, avocados, and mangoes), earn as much as 40% of agricultural export earnings (Wikipedia, 2013).

Less than a quarter of South African households are involved in agricultural production, where the majority are produced for home consumption only. There are only three provinces that have significant proportions of producers who sell most of their produce: Western Cape Province (23%); Northern Cape Province (18%); and North West Province (11%).

South Africa's population experiences various health-related problems, some of which are at epidemic proportions. The national HIV (human immunodeficiency virus) prevalence is 11% (*Statistics South Africa*, 2011) and for 15–49 year olds the HIV prevalence is 17% (WHO, 2010). The maternal mortality rate is 165.5 per 100,000 and in the under-five age group the mortality rate is 104 per 1,000 while the infant mortality rate is 43.1 per 1,000 (Health Systems Trust, 2011). Due to the proportion of households

living in poverty there is chronic malnutrition resulting in high levels of stunting in children. Under-fives were reported with a stunting rate (moderate and severe) of 24% between 2007 and 2011 (UNICEF, 2012).

The 2005 National Food Consumption Survey also revealed that 28% of children were anaemic, 64% of children were vitamin A deficient, being fairly consistent among age groups 1–3 years, 4–6 years and 7–9 years. According to the 2005 Survey, about 45% of children were zinc deficient, with a prevalence among pre-schoolers (4–6 year olds) and primary school-going children (7–9 year olds) of 45% and 36% respectively (Steyn *et al.*, 2005).

The high mortality rate due to HIV and other diseases has left a huge number of orphans and made many more children vulnerable. Approximately 19% of the children in South Africa are orphaned (having lost one or both parents). In absolute numbers, it is reported that there are more than 3 million orphans where more than 2 million of these are HIV and AIDS (acquired immune deficiency syndrome) orphans (*Statistics South Africa*, 2011).

Education is a key government service with over 95% of children enrolled in school, with no gender bias in attendance and participation. The South African schooling system consists of 13 years and primary school is compulsory. The government spends at least 5% of its gross domestic product on education annually (CIA, 2014) and in 2012, there were 11,923,674 children in 24,255 public schools² (Republic of South Africa, 2012b). However, the number of school children varies per province and KwaZulu-Natal, **Eastern Cape** and Gauteng Provinces had the highest numbers (2,812,844, 1,886,982, and 1,858,745 respectively). Private schools have approximately 7% of school children (*Statistics South Africa*, 2010).

The South African school feeding programme has been in existence since 1994, when the first democratic government was elected, and is fully government funded. School feeding, currently housed in the Department of Basic Education, was initially implemented through the Department of Health as the 'Primary School Nutrition Programme' under the broader 'Integrated Nutrition Programme'. The main objectives of the program were educational (improved learning capacity, attendance, and punctuality) targeting children

²Excluding independent schools.

in needy primary schools (under the poverty-based quintile profiling system). When the Primary School Nutrition Programme moved to the Department of Basic Education in 2004, the scope and coverage changed to include secondary school children and the name also changed to the ‘National School Nutrition Programme’. There were also three dimensions/objectives in the implementation of the National School Nutrition Programme, namely: provision of meals to learners; nutrition education; and sustainable food production (Republic of South Africa, 2010a). Although the program is envisaged as a poverty alleviation intervention, it is also documented as an educational and nutritional intervention with the aim of enhancing active learning capacity among its recipients.

Since 1994 the government has been providing school meals to school children in poor socio-economic areas³ and this has progressed from a fortified biscuit, to a peanut butter sandwich for a few primary school children to a cooked meal provided to primary and secondary school children. In 2011, a total of 8,821,392 school children in primary and secondary schools received a daily mid-morning cooked meal, five days a week between 09:00 a.m. to 10:00 a.m. in all provinces (although times may vary slightly), for approximately 195 days, with the exception of Gauteng Province which serves a breakfast (cereal) and a lunch.

The budget for the program has grown from R477.8 million (US\$59.7 million) in 1994 to more than R4.9 billion (US\$613 million) in 2011–2012. The National School Nutrition Programme is thus, quite comprehensive, and implemented at the provincial level through a centralized or decentralized procurement system.

This chapter captures South Africa’s experience with the National School Nutrition Programme and on the two procurement modalities (centralized/ decentralized) in particular. It therefore, offers useful lessons for program managers both nationally and internationally.

³A school feeding scheme was introduced in 1943 by the pre-Apartheid United Party-led government, but discontinued in 1957/1958 and only charitable organizations continued to fund the school feeding scheme. In the Apartheid era, the government did not support nationwide school feeding and school meals were provided by private enterprises, donors, and non-governmental organizations.

Methodology

This chapter is largely drawn from the comprehensive report the *Case Study of the National School Nutrition Programme in South Africa* (Republic of South Africa, 2013). Qualitative research methods were carried out in two out of the nine provinces: Eastern Cape Province and Mpumalanga Province. An extensive literature review was conducted and included policy documents, guidelines and research on the National School Nutrition Programme. Field work was carried out, which entailed a range of interviews, and data from program managers/co-ordinators, and stakeholders both at the national and provincial levels, and at selected districts and schools in the two provinces. Only one district and six schools per district from the two provinces were involved in the research. Data were validated through workshops held at both the national offices, and at the two provincial departments. A detailed methodology is described in the comprehensive report (Republic of South Africa, 2013).

Design and Implementation

Objectives

The National School Nutrition Programme is a government program for poverty alleviation, specifically initiated to uphold the rights of children to basic food and education (Republic of South Africa, 2012c). The stated objectives of the program are to:

- contribute to the quality of teaching and learning through the provision of a nutritious meal to learners;
- improve nutrition knowledge, attitudes, and practices through nutrition education; and
- promote self-supporting schools for sustainable food production in schools. (Republic of South Africa, 2010b).

According to the National School Nutrition Programme Conditional Grant Framework, the goal of the National School Nutrition Programme is to provide nutritious meals to targeted school children with the aim to enhance learning capacity as well as improve access to education (Republic

Country School Feeding Program Factsheet

Start Date	1994	
Design and Implementation	<i>Rational/Impact</i>	<ul style="list-style-type: none"> • Contribute to the quality of teaching and learning through the provision of a nutritious meal to learners. • Improve nutrition knowledge, attitudes, and practices through nutrition education. • Promote sustainable food production in schools.
	<i>Implementation Levels</i>	Program targets quintiles 1–3 (no fee paying) primary schools and secondary schools (since 2009) in all nine provinces. In 2011, a total of 8,821,392 school children received a daily mid-morning cooked meal*.
	<i>Supply, Storage, and Logistics</i>	<ul style="list-style-type: none"> • <i>Centralized procurement system:</i> Service providers/suppliers contracted to supply and transport food commodities directly to schools. • <i>Decentralized procurement system:</i> Schools identify suppliers from local community/business districts. Delivery is monthly for dry goods and weekly for perishables.
	<i>Modality, Food Basket Details</i>	One daily mid-morning cooked meal composed of a protein, starch and a vegetable or fruit.*
	<i>Food Preparation</i>	Food is prepared at school by volunteer food handlers who prepare, serve and clean up after meals.
Policy and Legal Frameworks Documents		<ul style="list-style-type: none"> • <i>White Paper on Reconstruction and Development</i> (Republic of South Africa, 1994). • 1996 Constitution of South Africa (Republic of South Africa, 1996b). • National Education and School Act of 1996 (Republic of South Africa, 1996a; Republic of South Africa, 1996c). • School funding standards (Republic of South Africa, 1998). • The Zero Hunger Framework (Republic of South Africa, 2012d). • National school health policy (Republic of South Africa, 2012e).

(Continued)

(Continued)

Start Date	1994
Institutional Arrangements <i>Lead Institution</i> <i>Supporting Institutions</i>	<ul style="list-style-type: none">• Policy on food security (Republic of South Africa, 2012a).• Conditional Grant Framework (Republic of South Africa, 2012c).• Implementation, Monitoring and Reporting Manual (Republic of South Africa, 2004).• Program guide for secondary schools (Republic of South Africa, 2009a). <p>Department of Basic Education.</p> <p>Departments of Agriculture and Health (menu planning).</p>
Finance <i>Annual Budget</i> <i>Cost Per Child Per Year</i>	<p>The annual budget for 2012–2013 financial year is R4,906,464,000 (US\$613,308,000).</p> <p>2012–2013 average: Budget is based per child per day on R2.56 (US\$0.32) for primary school and R3.46 (US\$0.43) for secondary school. This is an annual cost of R466 (US\$58.24) for primary school and R630 (US\$78.26) for secondary school</p>
Community Involvement	<p>Community members are involved in School Governing Bodies and employed as volunteer food handlers. Small businesses/co-operatives contracted to supply food items.</p>
Innovations/Good Practices	<ul style="list-style-type: none">• Well-planned menus giving purchase weight and serving/portion sizes.• Flexible implementation allows centralized/decentralized procurement.
Weaknesses/Risks	<ul style="list-style-type: none">• Little or no linkage with smallholder farmers.• School nutrition co-ordinators program work may conflict with their academic duties.

*Gauteng Province is an exception as it serves a breakfast and lunch. The Conditional Grant stipulates feeding by 10:00 a.m., but allows for provincial variations.

of South Africa, 2012c). These objectives were found to be clearly specified in provincial policies in both the **Eastern Cape** and the **Mpumalanga Provinces** and well-understood by provincial and district Department of Basic Education officials, though not as clearly articulated by the staff at the school level.

Targeting and coverage

Targeting for the National School Nutrition Programme is poverty-based using a quintile profiling system where schools designated as quintiles 1–3 are included in the program,⁴ covering approximately 60% of all schools in South Africa. These schools have also been designated as “no fee” paying schools (Chutgar and Kanjee, 2009). When implementation of the National School Nutrition Programme began, only primary schools benefited from the program, but secondary schools have gradually been phased in with those in quintiles 1–3 having been included in financial years 2009–2010, 2010–2011 and 2011–2012 respectively.⁵ All children enrolled in schools that receive program funds, receive school meals as per criteria. There is no policy within the Department of Basic Education which directly mentions the targeting of orphans and vulnerable children in the National School Nutrition Programme, although it is expected that they would be reached through the poverty-based quintile profiling system under quintiles 1–3. In some schools, vulnerable school children are provided with breakfast, an extra lunch, or garden produce, or other similar initiatives, but this is not performed systematically.

Figure 2 illustrates the coverage of the National School Nutrition Programme over time and shows that the number of school children receiving meals increased from 6,041,381 children in 2007–2008 to 8,821,392 children in 2011–2012 and 8,850,208 children in 2012–2013. The **Eastern**

⁴Schools are ranked into quintiles (1–5) using a quintile score calculated based on school catchment area, income, unemployment rate, and level of education (literacy rate). There are five quintiles with quintile one being the poorest and quintile five being the least poorest.

⁵All farm schools fit into quintiles 1–3 in the profiling system and are included in the National School Nutrition Programme.

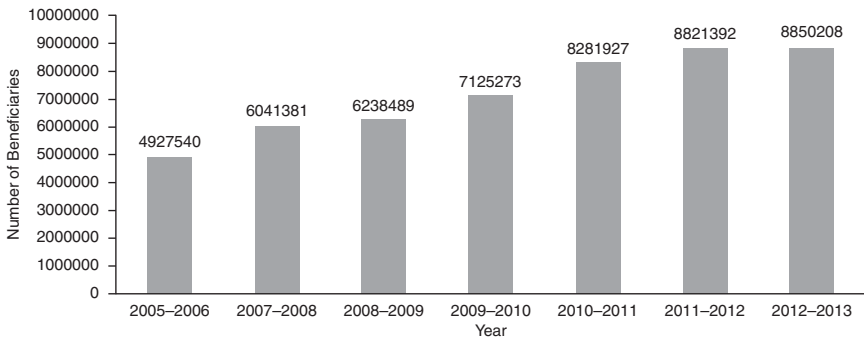


Figure 2: Number of school children fed through the National School Nutrition Programme

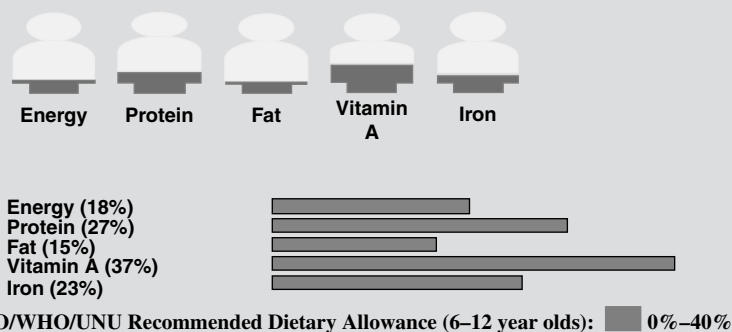
Sources: Republic of South Africa, 2009b; Republic of South Africa, 2010b; Republic of South Africa, 2011b; Republic of South Africa, 2012c.

Cape Province had 1,689,470 (88%) children in 4,680 public schools, whilst the **Mpumalanga Province** had 751,767 (74%) children in 1,639 public schools benefiting from school nutrition. Overall, nationwide coverage increased from 50% in 2007–2008, 75% in 2011–2012 and 74% in 2012–2013. Programme staff in the two provinces felt that the criteria for targeting are good in addressing poverty. However, concern was raised that the quintile profiling system, as currently applied, ends up excluding some schools that are poor and that deserve to be included in the National School Nutrition Programme. As a result schools are allowed to contest the ranking and there are also instances where quintiles 4 and 5 schools (as is the case in the **Mpumalanga Province**) have been covered on the basis of need.

Modalities, food basket, and nutritional norms

The National School Nutrition Programme is officially structured to provide one cooked mid-morning meal on-site five days a week at 10:00 a.m. in all provinces (although times may vary slightly) for approximately 195 days a year with the exception of Gauteng Province where the provision is made to serve a breakfast (cereal) and lunch. The menus are based on a meal plan which specifies the composition (a protein, starch, and a vegetable or fruit), and indicates the minimum and maximum frequency of serving specific food items. Each province then devises its own menu, in consultation with the Department of Health to ensure that the school meal meets at least 25%

Gingerbread men representing the average daily nutritional content of a sample weekly school mid-morning menu in South Africa's National School Nutrition Programme, Eastern Cape Province



- A weekly school mid-morning menu for the **Eastern Cape Province** (Republic of South Africa, 2010c) was used for the nutrient content calculations and an average was obtained of the nutritional content of the five daily school mid-morning menus.
- Cooked beans on the menus were taken to be white beans on the country meal planner tool (PCD, 2014).
- The raw version of each food item was used in the nutrition content calculations (except in the case of cooked white beans).
- Soya chuck stew was taken to be dried soya bean as this was the closest soya product available on the country meal planner tool (PCD, 2014).
- Tomatoes, carrots, spinach and green beans were taken as the red, yellow, and green vegetables on the menus.
- An orange was taken to be the fruit specified on the menus.

Source: PCD (2014).

to 30% of the recommended dietary allowance and is culturally acceptable. Although there may be variations in implementation on a day-to-day basis, the menus provide a framework which ensures that the school meals are balanced (Republic of South Africa, 2010c). However, a nutrient analysis of the menu shows that while the protein content is within the required recommended dietary allowance (27%), the energy value is much lower, providing about 18% of the recommended dietary allowance (illustrated above).

The meal plan is the same for primary and secondary schools, but serving portions differ. The menus are supplemented by a recipe book⁶ which provides guidance on how to quantify the ingredients for a given number of school children. The common food items used across the provinces are maize meal, samp (maize product), rice, beans, soya mince, pilchards, and a variety of vegetables. Feeding should ideally take place by 10:00 a.m. every school day⁷ to help alleviate short-term hunger (for children that may not have had breakfast at home).

In the **Eastern Cape** and the **Mpumalanga Provinces**, the provincial-, district- and school-level staff are aware of the program design conditions as stipulated in the conditions of the program's Conditional Grant Framework (Republic of South Africa, 2012c). The schools are serving a hot meal daily, but in the schools visited, feeding takes place between 09:00 a.m. and 10:30 a.m. The provincially defined menu meets the nutritional guidelines (with regard to the three fundamental food groups) as described above and is culturally acceptable. The schools in the **Eastern Cape Province** are able to swap menus to suit the availability of food and some schools in the Eastern Cape and the **Mpumalanga Provinces** have made internal arrangements to provide additional meals to school children, usually breakfast, sometimes using program funds (**Eastern Cape Province**) and in other cases with

⁶ Menus and recipes are well-documented and available nationally (refer to Republic of South Africa, 2010c; and Republic of South Africa, n.d.).

⁷ Gauteng Province offers a breakfast at 07:00 a.m. and a cooked meal at 11:00 a.m. One school in Eastern Cape Province serves a cooked meal at 10:30 a.m. as they also serve a breakfast at 07:00 a.m.

support from the private sector. In the Eastern Cape Province, the additional meals are provided only to needy school children.

The school meals are expected to make a meaningful contribution to the daily recommended nutrient intake of the school children. However, further analysis of the prescribed menu should be carried out to ensure the adequacy of both the quantity and quality of the school meals. For instance, in the **Eastern Cape Province**, there was concern that the portions served may be too small to meet the nutritional requirements.

Food procurement, transportation, storage, and preparation

In the first program objective aimed at provision of a nutritious meal, the National School Nutrition Programme is implemented differently in the various provinces and governed by provincial business plans. Although the program was initially implemented through a centralized procurement system, the Department of Basic Education allows for both modalities at the provincial level, with centralized models in Gauteng, KwaZulu-Natal, Limpopo, **Mpumalanga** and Western Cape Provinces, and decentralized (school based) procurement models in **Eastern Cape**, Free State, Northern Cape and North West Provinces. The **Eastern Cape Province** switched to the decentralized model in January 2011.

- *Centralized procurement system:* Program funds are held and accounted for at the provincial level except those earmarked for the purchase of fuel (i.e. gas) and the stipend for volunteer food handlers which are transferred to schools. The province contracts service providers/suppliers in accordance with tender regulations and provides the schools with the food commodities on signing service-level agreements. In the **Mpumalanga Province**, suppliers deliver dry rations once a month, while perishables are delivered weekly. The food commodities are sourced nationally (through wholesalers) or from local (usually commercial) farmers. A major disadvantage of tender-based/centralized procurement, expressed by the Mpumalanga Province staff, is that it favors larger companies, thereby maintaining inequality.

- *Decentralized procurement system:* Schools receive funds directly from the province and procure services on their own. For a school to receive funding for any procurement including that of the National School Nutrition Programme procurement, it requires a ‘*Section 21 Company*’ status,⁸ indicating competency to manage school funds (CIPC, 2011). Provincial authorities can decide whether or not they wish to permit individual schools to take on the responsibility for payment of suppliers depending on perceptions of capacity and experience at a particular school. Procurement is mainly based on a quotation system and suppliers may or may not include delivery of food to the schools.

In the **Eastern Cape Province**, program funds are transferred into school accounts to procure food directly from the cheapest supplier, as well as to pay for gas and for the volunteer food handlers’ stipends. Suppliers are identified from within the local community or business district. Dry goods are procured monthly whereas fresh food items are collected weekly or a day before they are needed. Supplies are sourced nationally and a smaller portion is sourced from local farmers. Schools have been able to make savings from the program funds where these savings are used, for example, to provide extra meals. However, there have been concerns around the high workload on the part of the nutrition co-ordinator and/or the principal in managing the National School Nutrition Programme.

Regardless of the procurement model, food preparation and storage is a challenge. Food preparation is performed at schools, but in the schools visited, only a few have proper kitchen and storage facilities. Efforts are being made to provide kitchen facilities either through the Department of Basic Education’s infrastructure budget or through private sector involvement, but progress is slow.

The schools in both procurement systems hire volunteer food handlers⁹ from the community (some of whom are parents of the school children) who

⁸These are companies that are registered to provide services and are “Associations Not For Gain” (CIPC, 2011). Schools without ‘Section 21 Company’ status have been accorded the partial status to enable National School Nutrition Programme procurement.

⁹Although referred to as voluntary food handlers, they are paid a honorarium of R720 (US\$90) which is budgeted for as part of feeding costs. Some schools may pay a higher stipend with funds from other sources if offering additional meals.

prepare and serve the meals to the school children and clean up. On average, there is one volunteer food handler per 200 school children (the ratio is 1:120 if the school has less than 250 children) as stipulated in the program's Conditional Grant Framework (Republic of South Africa, 2012c), but this ratio is inadequate for the preparation of meals.

The second program objective of nutrition education is not only for school children through the curriculum, but is intended also to indirectly reach community members, primarily through campaigns especially those during the annual 'national nutrition week'. Nutrition education materials have been developed through the National School Nutrition Programme and support the curriculum. A number of materials have been widely displayed in the schools.

The third program objective of sustainable food production in schools has been confined to promotion and support of food production initiatives in schools. The initiatives can be in the form of vegetables and herb gardens, fruit orchards, and livestock production as well as food processing. Some schools used the produce to supplement the school meals whilst others gave away or sold the produce to community members. The implementation of this third program objective has been much slower than the first two program objectives. A recent survey showed that the number of school gardens in South Africa have declined from 6,503 in 2008 to 3,994 in 2011 (Laurie and Faber, 2011).

The three program objectives are supportive of quality education with the ultimate aim of integrating food production and nutrition education into the curriculum.

Links with local food production, smallholder farmers, and local communities

The food basket of the National School Nutrition Programme at the provincial level is such that it should favour procurement of food locally, since the menus are defined at the provincial level. However, most of the food on the menu (i.e. soya, maize, pilchards, rice, and beans), although procured from local suppliers, is not necessarily produced in the immediate community and there is little or no linkage with smallholder farmers. The food is however, produced nationally. In the schools visited in the **Eastern Cape Province**,

the food ingredients are purchased from local wholesalers with little farmer involvement in the supply of perishables. In the **Mpumalanga Province**, suppliers obtain the food from local commercial farmers and wholesalers.

Although there is relatively little evidence of local smallholder farmers benefiting from the current procurement systems in place, there are guidelines from the Department of Agriculture through the Zero Hunger Framework promoting procurement of local produce by State institutions (Republic of South Africa, 2012d).

Policy and Legal Frameworks

There is a strong legislative framework in place for the implementation of the National School Nutrition Programme through the *White Paper on Reconstruction and Development* (Republic of South Africa, 1994). Whilst the right to food, nutrition and education is enshrined in the 1996 Constitution of South Africa (Republic of South Africa, 1996b), regulations for program implementation especially with regard to targeting, apply a needs-based inequity redressal approach, as stated in the National Education Policy Act of 1996, and aim to serve the needs of the poorest (Republic of South Africa, 1996a; Republic of South Africa, 1998). The program's Conditional Grant Framework is the main guiding document which spells out the conditions for financing, the targeting criteria and the meal composition (Republic of South Africa, 2012c). The Framework is supported by other documents such as the Implementation, Monitoring and Reporting Manual (Republic of South Africa, 2004) and the program guide for secondary schools (Republic of South Africa, 2009a), amongst others. The National School Nutrition Programme is largely framed as an education intervention, but from the purpose and objectives of the Conditional Grant Framework it is evident that the program is also a nutrition intervention (Republic of South Africa, 2012c).

The National School Nutrition Programme is also linked to the National Education and School Acts of 1996 (Republic of South Africa, 1996a; Republic of South Africa, 1996c) and to the recently revised national school health policy (Republic of South Africa, 2012e). In addition, the program is also linked to the policy on food security and the Zero Hunger Framework within the Department of Agriculture, although the implementation of the

Zero Hunger Framework is still in its infancy (Republic of South Africa, 2012a; Republic of South Africa, 2012d). One of the policies mooted by the Zero Hunger Framework is that hospitals, schools and universities be encouraged to buy produce from small-scale farmers (Republic of South Africa, 2012d).

In the **Eastern Cape** and the **Mpumalanga Provinces** there was very strong awareness of key National School Nutrition Programme policies and guidelines (with copies available at all levels), and a good understanding of the program objectives.

Institutional Arrangements

The Department of Basic Education is currently the custodian of the National School Nutrition Programme as mandated by the Cabinet Resolution of 18 September, 2002 (Wildeman and Mbebetho, 2005, p. 40). The Department of Basic Education has a management unit at both national and provincial levels with its own dedicated staff. At the national level, the National School Nutrition Programme Unit is tasked with mobilizing resources for the program and currently it has funding from the program's Conditional Grant Framework (Republic of South Africa, 2012c). It is the mandate of the Department of Basic Education to plan for the cost-effective and efficient use of the Conditional Grant and account for the money spent on the program. The Department of Basic Education is responsible for developing necessary guidelines and policies with regard to overall management and targeting of schools and school children. Each school is expected to appoint an educator (referred to as a nutrition co-ordinator) who is responsible for program implementation. Concerns were raised that the work involved for the National School Nutrition Programme demands a lot of attention and may be interfering with the academic duties of the nutrition co-ordinator.

The Department of Basic Education works closely with the Departments of Health and Agriculture as well as the private sector, but there is no official co-ordinating structure/committee that brings the different departments or stakeholders together. Currently there are private sector initiatives with the Department of Basic Education which are supporting the development of infrastructure (such as built or container kitchens) as well as providing an

additional meal (such as breakfast), but this is directed at individual schools or regions.

The Department of Basic Education hires staff to regularly monitor the implementation of the National School Nutrition Programme through visits and quarterly reports. Monitoring visits are conducted by district, provincial and national officials of the National School Nutrition Programme using a standardized tool that requires the staff to observe the way in which the program is implemented, and to deal with complaints from schools. The number of visits varies from once or twice per quarter to more frequent visits when schools face challenges. The National School Nutrition Programme staff occasionally perform school visits in collaboration with the provincial and district staff where there are major problems to be tackled or when specific projects or campaigns are being launched. In the **Eastern Cape Province** it was reported that monitoring visits were hampered by lack of transport.

Monitoring activities at schools are mainly undertaken by the nutrition co-ordinator and these include daily quality control activities (tasting the meal served to the school children), checking the deliveries by the supplier in terms of quantities, quality (no expired goods), and correct invoicing. The nutrition co-ordinator completes the standardized monthly report on the number of school children benefiting from the meals on a daily basis per grade. Overall, monitoring has revealed that not all schools are compliant with the menu options, food safety standards, and the recommended meal serving times. In the **Mpumalanga Province**, there was a concern raised amongst staff that there is no mechanism in place to monitor the quantity of food prepared and served each day at each school.

Funding and Budgeting

The National School Nutrition Programme is funded annually by the National Treasury via a Conditional Grant (Republic of South Africa, 2012c). In the 2010–2011 financial year the total amount allocated by the government for the program in the country was R3.7 billion (US\$462.5 million)¹⁰ for an average of 182 days (range from 165 to 195 school days). The total allocation for 2012–2013 is R4,906,464,000 (US\$613,308,000) to be spent

¹⁰ Estimates based at US\$1 = R8.00.

on more than 8 million school children (8,821,392) across the country. Allocations per province vary based on the different numbers of children included in the targeted schools and the cost per meal. This cost is worked out at an average of R2.56 (US\$0.32) per primary school child and R3.46 (US\$0.43) per secondary school child inclusive of food components, cooking fuel and honorarium/stipends for volunteer food handlers. These “costs per child per day” are actually ex-budget (operational budget) expenditures per child and do not include capital costs for storage, preparation, cooking, serving and eating equipment or for gardening equipment (for the food production component of the National School Nutrition Programme). The individual cost also does not include donations. In April 2011, an additional R83 million (US\$10.4 million) was transferred, for the first time, to the provinces to purchase utensils and stoves. This was an additional item, apart from the operational costs of the program.

The budget is developed nationally under the medium-term expenditure framework starting three years in advance and is based on an official number of actual grade R (year before grade 1 or Reception year), primary, secondary, and special school children in quintiles 1–3 in each province, during the preceding year, and the cost per meal. An additional 5% is included for capital expenditure and 0.5% for promotional activities. Subsequently, provinces may request a revision if they find that, 2–3 years later the numbers of children have changed. Additional funding may also be considered in special circumstances such as an unanticipated increase in food inflation. Between 2008 and 2010, there was a 54% increase in the budget due to food price hikes and the change of meals from cold uncooked meals to warm cooked meals. Thereafter, the budget has been increasing on average by 30% from 2009–2010 to 2010–2011.

Funding to the provinces is disbursed in quarterly tranches. In the **Mpumalanga Province**, funds are then transferred into the school account for the volunteer food handlers’ stipends and for gas and in the **Eastern Cape Province** all funds are transferred into the school account except the administration costs. Although the funds are transferred to the schools in the Eastern Cape Province in one lump-sum each quarter, there are instructions on how much the schools should spend per line-item (procuring food, transportation, paying volunteer food handlers and gas), making accountability easier. There seems to be general satisfaction at the school, district, and

provincial levels in the Eastern Cape Province that the decentralized model, which has been in place for less than two years, is better than the previous centralized model especially in the way funds have been managed so far. At the provinces, there is monthly reporting from the schools to districts and to the provinces. Reporting from the provinces to the national office is carried out quarterly. Subsequently quarterly performance reports are submitted to the National Treasury.

Community Participation

Community participation is embodied in Act 84 of the South African Schools Act (Republic of South Africa, 1996c) in which parents are encouraged to render voluntary services to the school and also encouraged to participate in decision-making roles through being part of the School Governing Bodies¹¹ (Republic of South Africa, 2004). Parents in the **Eastern Cape** and the **Mpumalanga Provinces** were noted to be contributing firewood for meal preparation, but in the Eastern Cape Province, the community members were paid for the firewood whilst in the Mpumalanga Province the community members were not paid.

The School Governing Body is tasked with different responsibilities that may include the management of the National School Nutrition Programme. In the program, parents and community members can be involved as part of the School Governing Body and as volunteer food handlers. The role of the School Governing Bodies is clearer in a decentralized model where they can procure menu items, equipment and assist in appointing the volunteer food handlers. The School Governing Bodies account for the monetary usage in the National School Nutrition Programme thus, assisting by having more people monitoring program implementation at the school level.

The volunteer food handlers are usually parents of the school children in participating schools selected or appointed to prepare and serve meals for children on feeding days. Formal appointment of volunteer food handlers is performed by schools in consultation with the School Governing Bodies.

¹¹The School Governing Bodies should include elected members who are parents, but may have members of the community who are co-opted, but without the right to vote.

The stipend on the other hand is stipulated in the program's Conditional Grant Framework (Republic of South Africa, 2012c), is reviewed annually and is consistent in all provinces. However, the actual amount paid by schools may be higher (not less than the Conditional Grant indication) if decided by the school and/or the School Governing Body. In 2012, the volunteer food handlers were given R720 (US\$90) per month.

Some provinces are able to demonstrate economic empowerment of local communities through the number of local women's co-operatives/groups and other small businesses that are contracted to provide the food. In 2010 alone, at least 2,684 service providers, 2,415 small and medium enterprises, and 226 local-based co-operatives were contracted, and more than 40,000 volunteer food handlers were engaged by schools in the National School Nutrition Programme (Republic of South Africa, 2010b) — a clear indication of the program positively contributing to job creation and economic development.

Evidence of Program Impact

South Africa's school feeding programme has been in operation since 1994 and there have been several assessments/evaluations which have helped to shape the current program. For instance, a study by Wildeman and Mbebetho (2005) found that slowly increasing the number of schools implementing the program increases the program targeting success rate and that the gradual inclusion of secondary schools has been a positive response.

An evaluation of the National School Nutrition Programme commissioned in 2007 by the Public Service Commission showed that the program reaches school children who are poor, of which many of them go to school hungry (Public Service Commission, 2008). From the evaluation, the program was perceived to have improved the health of school children and had increased important educational outcomes such as enrollment, attendance at school, and improved concentration and participation in the classroom. In addition, the National School Nutrition Programme was seen to benefit the community through the appointment of volunteer food handlers, and by using local suppliers or producers of food. In this way, the program contributes towards poverty alleviation and supports local economic development (Public Service Commission, 2008).

Despite the fact that there have been a large number of nutrition research studies, including a national food consumption survey in 1999 which was quite extensive (Labadarios *et al.*, 2000), school-age children are under-researched and school children as a group have not been investigated. Also no fully-fledged impact evaluation of the National School Nutrition Programme has been carried out to measure the nutrition and education outcomes more adequately and this offers a window of opportunity for nutrition research and interventions.

Conclusions

The National School Nutrition Programme is designed to support education outcomes through good nutrition. The strongest element of the program is the daily meal provisioning. The fact that over 8 million school children (8,821,392) are receiving a cooked mid-morning meal almost every school day of the year in designated schools across the country indicates effective coverage. There is an effort to adapt policies annually to incrementally reach more children as evidenced by the extension of the program to secondary schools.

The National School Nutrition Programme has enjoyed positive political support. The program is State-funded, with dedicated financial resources at the national and provincial levels and funding is seen as a long-term commitment.

The quintile system of ranking schools is an appropriate approach in that it results in whole schools being targeted for meal provision rather than individual school children. However, the actual method of profiling the schools has been contested and requires further refinement to ensure schools are correctly ranked. There is also need for further monitoring of the targeting practices within schools to ensure that the targeting criteria are met. The school meal needs to be further analysed to ensure that it is of the right quantity and nutritional value if it is intended to meet the recommended dietary allowance (20%–30%) for school children. At the same time, the schools with poor infrastructure, in terms of kitchen and storage facilities, need improvement as this can potentially affect the food quality.

The National School Nutrition Programme's national office has allowed for variation in the procurement strategies at the provincial level, which indicates flexibility and adaptation to different contexts and enables provinces to learn from each other. Simple, but effective, contract management and accountability systems are gradually being introduced from school level to district, provincial, and national levels to enable better control and reporting of financial flows.

Procurement of locally produced ingredients in order to support the local economy and smallholder farmers is not currently a central strategy of the program. Emphasis is placed on the efficiency and cost-effectiveness of the meal provision resulting in procurement mainly being through large wholesalers in the districts. There is some commitment to local economic empowerment in provinces where community-based organizations are contracted to supply the meal ingredients, but this does not necessarily lead to fresh produce being purchased directly from local smallholder farmers. Procurement policies need to be developed to encourage at least part of the meal ingredients to be locally produced and sold to schools. Equally important is the simultaneous development of agriculture and support to local farmers to ensure a sustainable supply of food to the local schools benefiting from the National School Nutrition Programme.

Although the policy framework for the implementation of the National School Nutrition Programme is well-developed for use in the Department of Basic Education, the links and co-ordination with other sectors is not clear. The co-operation with the Department of Health on other school health services such as deworming of children is not explicit. The continuous role of the Department of Agriculture in promoting school vegetable gardens and supporting small farmers to supply produce to the schools is not specified. Therefore, there seems to be little uniformity in the intersectoral policies at the provincial level, resulting in the three key activities of the program being the sole responsibility of the Department of Basic Education.

The Department of Basic Education has sufficient professionally trained staff in the directorate at the national level (to plan the national program and support provinces and districts to implement the daily meal provisioning), and at the provincial and district levels. Regular training activities take place to continually upgrade the capacity of staff at the provincial and district levels, as well as at the school and community levels. This is an important

strategy to ensure that financial management, procurement, and food preparation are developed to a higher standard. However, the program monitoring aspects still need improvement, particularly around targeting, and checking the portions of meals served to the school children. The role of the nutrition co-ordinator also needs to be reviewed to avoid conflict with academic duties.

Since the beginning of South Africa's school feeding programme in 1994, community participation has been identified as a key cornerstone for the implementation of the program. However, until 2004 community members had a limited role in reality. Even when the Primary School Nutrition Programme was moved to the Department of Basic Education in 2004, the role of community members in program design was not clearly scoped. Currently, the role of the community is still visualized mainly in terms of employment (the volunteer food handlers). The provincial Department of Basic Education officials (particularly in the **Eastern Cape Province**) acknowledged the challenges they have been facing with engaging the community and identified the need to sensitize communities and the School Governing Body members on the importance of participating in the National School Nutrition Programme. Developing linkages between school feeding and local agriculture production on a more systematic basis could result in greater community involvement in schools and even greater economic benefits.

Abbreviations and Acronyms

AIDS	Acquired immune deficiency syndrome
FAO	Food and Agriculture Organization of the United Nations
HIV	Human immunodeficiency virus
PCD	The Partnership for Child Development
R	South African Rand
UNU	United Nations University
WHO	World Health Organization

Acknowledgments

This chapter is largely drawn from the more comprehensive report the *Case Study of the National School Nutrition Programme in South Africa* prepared by

Kirstie Rendall-Mkosi, Friede Wenhold, and Nomathemba Brenda Sibanda (Republic of South Africa, 2013).

This chapter was compiled by Josephine Kiamba (The New Partnership for Africa's Development [NEPAD]); reviewed by Alice Woolnough and Cai Heath (The Partnership for Child Development [PCD]) external to South Africa; and at the country level by staff in the Directorate of the National School Nutrition Programme at the National Department of Basic Education; country profile and country map were compiled by Charlotte Broyd (PCD); gingerbread men details were provided by Roshan Daryanani (PCD) with support from Salha Hamdani (PCD); and edited by Anastasia Said (PCD).

This chapter was reviewed and signed off by the Department of Basic Education in 2014.

References

- CIA (Central Intelligence Agency). (2014). *The World Factbook: Africa, South Africa*. CIA, Washington, D.C. Available from: <https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html> (Accessed 08 February 2013).
- CIPC (Companies and Intellectual Properties Commission). (2011). *Section 21 Company*. CIPC, Pretoria. Available from: http://www.cipro.co.za/products_services/co_regis_section21.asp (Accessed 12 April 2013).
- Chutgar, A. and Kanjee, A. (2009). School Money Funding the Flaws. *Hum. Sci. Res. Council Rev.*, 7(4), 18–19.
- GADM. (2013). *GADM Database of Global Administrative Areas*. GADM. Available from: <http://www.gadm.org/> (Accessed 30 August 2013).
- Goldblatt, A. (n.d.). *Agriculture: Facts & Trends, South Africa*. WWF, SA, Cape Town. Available from: http://awsassets.wwf.org.za/downloads/facts_brochure_mockup_04_b.pdf (Accessed 30 August 2013).
- Health Systems Trust. (2011). *South African Health Review 2011*. Health Systems Trust, Durban. Available from: <http://www.hst.org.za/publications/south-african-health-review-2011> (Accessed 02 September 2013).
- Human Rights Watch. (2001). *Unequal Protection: The State Response to Violent Crime on South African Farms*. Human Rights Watch, New York. ISBN 1-56432-263-7. Available from: <http://www.hrw.org/legacy/reports/2001/safrica2/> (Accessed 30 August 2013).

- IDC (Industrial Development Corporation). (2012). *Sectoral Trends: Performance of the Primary and Secondary Sectors of the South African Economy*. Department of Research and Information, Guateng. Available from: <http://www.idc.co.za/home/media-room/articles/684-sectoral-trends-performance-of-the-primary-and-secondary-sectors-of-the-south-african-economy.html> (Accessed 11 April 2013).
- Labadarios, D., Steyn, N., Maunder, E., MacIntyre, U., Swart, R., Gericke, G., Huskisson, J., Dannhauser, A., Voster, H.H. and Nesamvuni, A.E. (2000). *The National Food Consumption Survey (NFCS): Children Aged 1–9 Years, South Africa, 1999*. Directorate of Nutrition, Department of Health, NFCS, Pretoria.
- Laurie, S.M. and Faber, M. (2011). Baseline Survey to Assess Educators', Learners' and Parents' Knowledge, Attitudes, Perceptions and Practices on Nutrition Education and Food Production. Technical Report, October 2011. ARC-Roodeplaat Vegetable and Ornamental plant Institute, Pretoria.
- Mohamed, N. (2000). Greening Land and Agrarian Reform: A Case for Sustainable Agriculture. In *At the Crossroads: Land and Agrarian Reform in South Africa into the 21st Century*, ed. Cousins, B. PLAAS University of the Western Cape and National Land Committee. Available from: http://www.plaas.org.za/sites/default/files/publications-landpdf/_pubs_downloads_at-the-crossroads_Table%20of%20Contents%20AND%20Introduction.pdf_.pdf (Accessed 30 April 2014).
- PCD. (2014). *School Meals Planner*. [online] HGSGF-global.org. Available at: <http://www.hgsf-global.org/en/bank/menu-planner> (Accessed 22 July 2014).
- Public Service Commission. (2008). Report on the Evaluation of the National School Nutrition Programme. Public Service Commission, Pretoria.
- Republic of South Africa. (2013). *Case Study of the National School Nutrition Programme in South Africa*. Department of Basic Education, Pretoria.
- Republic of South Africa. (2012a). *Food Security Policy for the Republic of South Africa*. Department of Agriculture, Forestry and Fisheries, Pretoria.
- Republic of South Africa. (2012b). EMIS: School Realities Report, 2012. September 2012. Department of Basic Education, Pretoria. Available from: <http://www.education.gov.za/EMIS/StatisticalPublications/tabid/462/Default.aspx> (Accessed 11 April 2013).
- Republic of South Africa. (2012c). *Part 1: Local Government Conditional Grant Allocations*. Government Gazette, 35399(563), 129. Part 1 of 2, 31st May 2012. Government Printer, Pretoria. Available from: https://www.greengazette.co.za/documents/national-gazette-35399-of-31-may-2012-vol-563_20120531-GGN-35399.pdf (Accessed 19 March 2013).

- Republic of South Africa. (2012d). *The Framework for the Zero Hunger Programme: Actuating the Integrated Food Security Strategy for South Africa*. Department of Agriculture, Forestry and Fisheries, Pretoria.
- Republic of South Africa. (2012e). *Integrated School Health Policy 2012*. Department of Health, and Department of Basic Education, Pretoria. Available from: http://www.health-e.org.za/wp-content/uploads/2013/10/Integrated_School_Health_Policy.pdf (Accessed 07 May 2014).
- Republic of South Africa. (2011a). *Agricultural Productivity in South Africa: Literature Review*. Directorate of Economic Services Production Economics Unit. Department of Agriculture, Forestry and Fisheries, Pretoria. Available from: www.nda.agric.za/docs/GenReports/AgricProductivity.pdf (Accessed 20 May 2013).
- Republic of South Africa. (2011b). National School Nutrition Programme: Annual Report 2010–2011. Department of Basic Education, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=17VLKpPN%2BT0%3D&tabid=419&mid=1213> (Accessed 11 April 2013).
- Republic of South Africa. (2010a). *The Best of the National School Nutrition Programme*, First Edition. Department of Basic Education, Pretoria (Accessed 11 April 2013).
- Republic of South Africa. (2010b). National School Nutrition Programme: Annual Report 2009–2010. Department of Basic Education, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=7X4e1kmLH1k%3d&t&abid=440&mid=1911> (Accessed 11 April 2013).
- Republic of South Africa. (2010c). *National School Nutrition Programme: Approved 2010–2011 Provincial Menus*. Department of Basic Education, Pretoria (Accessed 11 April 2013).
- Republic of South Africa. (2009a). *National School Nutrition Programme: A Guide for Secondary Schools*. Department of Basic Education, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=aUXWnnj3f5A%3D&t&abid=93&mid=1130> (Accessed 11 April 2013).
- Republic of South Africa. (2009b). National School Nutrition Programme: Annual Report 2008. Department of Basic Education, Pretoria. Available from: <http://www.gov.za/sites/www.gov.za/files/NSNP%20Annual%20Report%202008.pdf> (Accessed 11 April 2013).
- Republic of South Africa. (2004). *National School Nutrition Programme: Implementation, Monitoring and Reporting Manual*, First Edition. Department of Basic Education, Pretoria.
- Republic of South Africa. (1998). *National Norms and Standards for School Funding*. Government Gazette, 19347(400), 12 October 1998. Republic of South Africa,

- Cape Town. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=ZYYtOiXHTeE%3D&tabid=188&mid=498> (Accessed 03 March 2014).
- Republic of South Africa. (1996a). *National Education Policy, Act No. 27 of 1996*. President's Office, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=D0o0xCZGzTs%3D&tabid=188&mid=498> (Accessed 03 March 2014).
- Republic of South Africa. (1996b). *Constitution of the Republic of South Africa, Act No. 108 of 1996*. Government Printer, Pretoria.
- Republic of South Africa. (1996c). *South African Schools, Act No. 84 of 1996*. President's Office, Pretoria. Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=aIolZ6UsZ5U%3D&tabid=185&mid=1828> (Accessed 11 April 2013).
- Republic of South Africa. (1994). *White Paper on Reconstruction and Development*. Government Gazette, 16085(353), 23 November 1994. Republic of South Africa, Cape Town. Available from: <http://www.gov.za/sites/www.gov.za/files/governmentgazetteid16085.pdf> (Accessed 03 March 2014).
- Republic of South Africa. (n.d.). *Mnandi 4 Sure! A Recipe Book for the National School Nutrition Programme*. Department of Basic Education, Pretoria (Accessed 11 April 2013).
- South Africa Online. (2011). *Agriculture, Forestry and Land*. Maesti Web Consulting Services, Sanbornville, New Hampshire (Accessed 12 May 2013).
- Statistics South Africa. (2012a). *Statistical Release P0211.4: Census 2011. Statistics South Africa*, Pretoria. Available from: <http://www.statssa.gov.za/publications/P03014/P030142011.pdf> (Accessed 06 May 2014).
- Statistics South Africa. (2012b). *Statistical Release P0211: Quarterly Labour Force Survey. Statistics South Africa*, Pretoria. Available from: <http://www.statssa.gov.za/publications/P0211/P02114thQuarter2012.pdf> (Accessed 12 April 2013).
- Statistics South Africa. (2011). *Statistical Release P0302: Mid-Year Population Estimates. Statistics South Africa*, Pretoria. Available from: <http://www.statssa.gov.za/publications/P0302/P03022011.pdf> (Accessed 08 February 2013).
- Statistics South Africa. (2010). *Statistical Release P0318: General Household Survey 2009, (Revised Version). Statistics South Africa*, Pretoria. Available from: <http://www.statssa.gov.za/publications/P0318/P03182009.pdf> (Accessed 08 February 2013).
- Steyn, N.P., Labadarios, D., Maunder, E., Nel, J. and Lombard, C. (2005). Secondary Anthropometric Data Analysis of the National Food Consumption Survey in South Africa: The Double Burden. *Nutrition*, **21**, 4–13.

- UNICEF. (2012). *The State of the World's Children 2012: Statistics*. Children in an Urban World. UNICEF, New York. Available from: <http://www.unicef.org/sowc2012/pdfs/SOWC-2012-TABLE-2-NUTRITION.pdf> (Accessed 30 August 2013).
- WHO. (2010). *South Africa: Health Profile*. WHO, Geneva. Available from: <http://www.who.int/gho/countries/zaf.pdf> (Accessed 08 February 2013).
- Wikipedia. (2013). *Agriculture in South Africa*. Wikipedia. Available from: http://en.wikipedia.org/wiki/agriculture_in_South_Africa (Accessed 12 May 2013).
- Wildeman, R.A. and Mbebetho, N. (2005). *Reviewing Ten Years of the School Nutrition Programme*. Institute for Democracy in South Africa (IDASA), Pretoria.
- World Bank. (2013). *World DataBank: World Development Indicators — South Africa*. The World Bank Group, Washington, D.C. Available from: <http://databank.worldbank.org/data/home.aspx> (Accessed 30 August 2013).

This page intentionally left blank

Index

A

- Africa, 6, 13, 386
 - East, 282
 - Southern, 14, 60, 410
 - Sub-Saharan, 219, 249, 303, 309
 - West, 116–118, 140–141, 166, 167, 218, 226, 308
- Agriculture, 3–4, 8, 14–15, 20, 34, 37, 61, 72–74, 86, 94–95, 109, 117–118, 120–121, 138, 145, 190, 211, 229–230, 237, 248, 284, 293, 296, 299, 301–303, 309, 342, 358, 371, 374–375, 379, 391, 398–399, 403, 411, 416, 424–425, 431–432
- AIDS, 372–373, 412
- America
 - Central, 6, 330
 - South, 6, 84, 144, 190
- Anaemia, 190, 219–220, 249, 331, 412
- Asia, 6
 - South, 248

B

- Basket, 148, 169
- Botswana, 4, 6–8, 10–12, 22, 27, 32, 34, 43, 45, 52–54, 60–62, 66, 69, 71–72, 74–75, 78–79, 358
- Brazil, 3–10, 12, 22, 24–27, 33–39, 42–44, 47–49, 52, 55, 84, 86, 90, 99–100, 102, 107–108
 - National School Feeding Programme (PNAE), 62–63, 66–68, 73–79, 85–86, 89–91, 93–104, 106–109
- Budget, 34, 36, 265, 310, 336
 - policy, 33–35, 37

C

- Cape Carde
 - National School Nutrition Programme, 117–119, 122–125, 129–131, 133–134, 137, 139–140

- Cape Verde, 4, 7–8, 10, 22, 33–34, 37, 43, 45, 47–48, 53, 116–119, 122–123, 136, 138–140
- Chile, 3–7, 10–11, 22, 25, 33–34, 36, 38, 42–43, 47, 54, 144–145, 147, 152–153, 155, 157–162
 Programa de Alimentacion Escolar (PAE), 145–148, 150–161
- Cognition, 5
- Cognitive development, 283, 392
- Commodities, 64
- Community, 319
- Community Participation, 11, 35, 38, 51, 53, 55–56, 63–65, 69, 77, 79–80, 88–89, 107, 109, 121, 149, 155, 160–162, 169–170, 175–177, 181, 183–184, 195–196, 207, 209–210, 223, 235–237, 252, 262, 264, 267–268, 273, 286–287, 289, 291, 293, 299–302, 313–314, 321–324, 334, 337, 350, 363–364, 366, 377–378, 380, 388, 391, 401–402, 404–405, 415–416, 423, 428–429, 431–432
- Cooks, 378
- Cost program, 287
- Costs, 299
- Côte d'Ivoire, 3–4, 6–8, 10, 12, 22, 34, 42–43, 45, 47–48, 54, 166–168, 172–173, 176–178, 181, 183–185
 Programme Intégré de Pérennisation des Cantines Scolaires (PIP/CS), 167–168, 171–174, 176–178, 181
- D**
- Data collection, 63, 147, 168, 193, 205–206, 250, 300, 304, 322, 332, 362, 399–400, 414
- Deworming, 190, 205, 234, 236, 256, 272–273, 389, 431
- Diarrhoeal disease, 402
- Donation, 124–126, 177, 427
 cash, 11, 53, 170, 181, 300, 313
 community, 41, 65, 77, 134, 136, 180, 234, 295, 298, 308, 313, 322
 in-kind, 11, 51, 121, 123–126, 134, 136–137, 170, 181, 300, 313, 375, 400
 parents, 41, 51, 53, 117–118, 120–121, 124–126, 132–134, 136–137, 139–140, 295, 375, 400
- E**
- Early child development, 284, 297, 373
- Ecuador, 4, 7, 10–11, 22, 27, 32, 34, 36, 38, 43, 47, 52, 190, 192–193, 197, 201, 210–211
 School Food Program, 192–194, 195–211
- Education, 3–5, 15, 20, 23, 25–26, 32–38, 43–45, 49, 61–62, 86, 93, 101–102, 109, 128–129, 130–131, 146–148, 150, 158, 160, 166–167, 169, 172, 176–179, 182, 191–194, 196–197, 202, 210–211, 219, 229–230, 236–237, 249–251, 253–254, 261, 264–265, 283, 285–286, 288, 293, 296, 298–299, 302, 308–309, 311–312, 319, 323–324, 331, 333, 336, 343, 346–347, 390–391, 397–399, 401, 405, 412, 414, 416–417, 422–425, 429–432
 health, 73

nutrition, 5, 14, 67, 89, 107, 129,
133, 314, 333–335, 343–345,
349, 351, 359, 363, 365–366,
369, 372–374, 378, 376–377,
393, 395, 413–415, 423

Education for All, 177

Employment, 52–53, 55–56, 77, 79,
129, 160, 260, 403, 411, 432

agriculture, 83, 115, 143, 165,
189, 217, 247, 281, 329, 357,
385, 409

budget, 299, 401, 405

caterer, 220, 222, 224, 228–229,
234–239

cooks, 45, 48, 52–53, 55, 64,
77, 79, 87, 120–121, 127,
129, 131–136, 158, 177, 180,
220, 222, 224, 228, 251, 256,
259–260, 262, 267, 271, 322,
362–363, 370, 388, 390–392,
395, 397, 401–404

food handlers, 54–55, 422–423,
427–429, 432

food stampers, 53, 65

parents, 51–53, 65, 77, 101, 107,
127, 167, 181, 198, 200,
209–210, 268, 285, 289,
291–292, 300, 310, 334, 340,
375, 380, 422, 428

parents association, 209

Parent–Teacher Association (PTA),
65, 93–95, 101, 103, 223, 236,
250

teacher, 375, 402

women, 53–54, 77, 80, 129, 131,
168, 170, 177, 181, 183, 203,
268, 314, 318, 388, 402, 429

Enrollment

school enrollment, 66

F

Food, 148, 169

Food basket, 6, 14, 49, 64, 67, 69,
72, 87, 90, 120–122, 126, 136,
152, 172, 194, 196, 198–199, 201,
211–212, 220, 222, 225, 251, 254,
256, 286, 289, 293, 299, 312, 314,
333, 335, 337, 345, 363, 367, 392,
415, 418, 423

Food commodities, 6, 8, 65, 70–71,
75, 78, 124–129, 132–133, 137,
195, 199, 201, 211, 257–258, 273,
286, 288–289, 292–293, 363–365,
367, 370–371, 373, 376, 380, 401,
415, 421

Food handlers, 295, 415–416,
421

Food insecure, 380

Food insecurity, 2–3, 12–14, 20–21, 23,
37–38, 62, 73, 77, 85–87, 96–100,
102, 117–119, 126–133, 136–138,
140–141, 167–168, 171–172, 176,
181, 186, 190, 219–221, 224–225,
229, 248–249, 259, 271, 284,
286–289, 294, 300, 302, 309, 311,
314, 318, 335, 337, 344, 346, 351,
358, 363, 366, 374–375, 387, 411,
416, 424

Food supplies, 70, 75

G

Gardens, 156, 289, 293

school, 53, 117–118, 120–121,
127, 131, 285, 291–292, 299,
301, 336, 347–348, 378, 402,
423, 431

municipal, 117–118, 120–121,
127–129

pedagogical, 95–96, 107

Ghana, 4, 6, 8, 10–12, 22, 32–34, 37, 39, 43, 48, 52, 218–221, 226, 229, 230–235, 237, 239–242, 404

Ghana School Feeding Programme (GSFP), 220–221, 224–226, 228–229, 231–233, 235, 237–242

Gingerbread men, 68, 80, 90, 110, 123, 141, 153, 162, 173, 186, 197, 213, 226, 255, 275, 290, 304, 315, 326, 338, 352, 368, 381, 394, 406, 419

Goals, 177

Gross domestic product, 44, 49, 60–62, 84, 145, 167, 178–179, 218–219, 248, 265, 283, 309, 358, 410–412

per capita, 44–45, 59, 115, 143–144, 165, 179, 189–190, 217, 247, 281, 307, 309, 329, 331, 357, 385–386, 409

H

Hand stampers, 74, 76–77, 79–80

Health, 3, 5–6, 14–15, 20, 23, 34, 37–38, 53, 61–62, 99–100, 109, 130–131, 133, 146, 150, 202, 220, 229–230, 237, 257, 272, 285, 296, 299, 307, 309, 311–312, 314, 318, 322, 330–333, 335, 342, 344–347, 351, 359, 365, 372–375, 378–379, 387, 389–391, 395, 398–400, 402, 412, 416, 418, 425, 429, 431

Health and Nutrition, 4

Human Immunodeficiency Virus (HIV), 2, 359, 372–373, 411–412

Home Grown School Feeding (HGSEF), 4, 10, 13–14, 42, 52, 63, 79, 147, 157, 168, 220, 237, 298, 403–404

Home Grown School Meals Programme (HGSEMP), 304

I

India, 4, 7–8, 10–12, 22, 24, 26, 34–37, 43, 45, 48–49, 53–54, 248–250, 253, 255, 260–261, 263, 271–273
Mid-Day Meal Scheme (MDMS), 249–251, 253–273

Iodine, 256

Iron, 7, 14, 256, 283

K

Kenya, 3, 5, 7–8, 10–12, 33, 37–39, 42, 47–48, 52–54, 282–283, 285, 290, 298, 302–303

Home Grown School Meals (HGSM), 11, 22, 34, 37, 43, 47–48, 284–297, 299–300, 302–303, 305

Home Grown School Meals Programme (HGSEMP), 284–285, 288, 290, 294–295, 298, 302–303

Njaa Marufuku Kenya (NMK), 3–5, 12, 22, 34, 37, 43, 47–48, 54, 287–289, 291–295, 297–302, 304–305

L

Low-Income Food-Deficit Country, 165, 217–218, 247–248, 281–282, 307–308, 385

M

Malaria, 236

Mali, 4, 7, 10–11, 22, 34–35, 37, 39, 44–45, 48, 53, 308–309, 313–315, 317–326

- Programme National d'Alimentation
Scolaire, 310–311, 314–316,
319–320, 322–324
- Malnutrition, 12, 14, 62, 73, 167,
171–172, 190, 210, 222, 224,
230, 261, 286, 289, 309, 322,
331, 412
- Meals, 194, 250, 334
- Menus, 341
- Mexico, 4–6, 8, 10, 22–23, 33–35,
37, 44, 47–48, 53–54, 330–331,
335–336, 338–339, 351
Desarrollo Integral, 332
Desayunos Escolares, 330–331,
336, 338–339, 349, 351–352
- Micronutrient, 6, 8, 11, 14, 172, 256,
359, 367
deficiency, 283
- Millennium Development Goals
(MDGs), 85, 177, 224, 284, 314,
318
- Monitoring, 9, 138, 180, 426
- Monitoring and evaluation, 32–38,
49, 52, 74–78, 85, 88, 95, 101–103,
107–110, 119, 132–133, 146, 156,
158–159, 161, 168, 177, 180,
183–184, 192, 200, 205–207, 209,
232, 239–240, 250, 262–264,
267–268, 294–296, 300, 303,
310–311, 313, 319, 323–324, 326,
334, 347–348, 350–351, 370,
373–375, 378–379, 391, 399–402,
404–405, 424, 428, 430, 432
- N**
- Namibia, 4, 10, 22, 24, 44, 47–48, 53,
55, 358–360, 362, 365, 367–368,
371–372, 375, 377–378, 380–381
- Namibia School Feeding
Programme (NSFP), 359–362,
364–368, 370–380
- National School Nutrition Programme,
23, 54, 126, 132–133, 413–414,
417–419, 421–424, 425–432
- Nigeria, 7–8, 11, 19, 22–23, 25, 37,
45, 48, 52–54, 385–386, 388, 394,
396–397, 400–401, 403
Osun State, 33–35, 44–45, 48,
52–54, 386–393, 395–396,
398–403, 405–406
Osun State Elementary School
Feeding Health Programme
(O'Meals Programme), 33,
388–389, 391–396, 398–405
- Non-communicable diseases, 118–122,
131, 139–140
- Nutrition, 3, 5–6, 12–15, 21, 26, 33,
36–37, 52–54, 62, 72–73, 88–89,
91, 99–102, 118–122, 130–133,
138–140, 146, 150, 158, 172, 176,
196, 201–202, 205, 210–211, 223,
225–226, 230, 232, 237, 240, 249,
251, 253, 255–257, 262, 268, 272,
285, 289–290, 293, 296, 299–301,
303, 311, 314–315, 317–318, 322,
325, 332, 334–339, 341, 343–345,
348–350, 363, 365–368, 372–374,
389–390, 392, 394–395, 397–398,
402, 412, 414–416, 418–422,
424–426, 430, 432
education, 291
insecurity, 14, 190
security, 14, 37–38, 85–89, 91,
96–102, 118–119, 126–131,
133, 136, 138, 140–141, 287,
289, 294, 302

O

- Obesity, 330, 333, 335, 344
 Orphans and vulnerable children, 3,
 289, 332, 359–361, 363, 366–367,
 373, 379, 412, 417
 Osun State, 4, 10–11, 19, 25, 385
 Overweight, 145, 191, 211, 330–331,
 335, 344, 346

P

- Parasites, 190
 Partnership for Child Development
 (PCD), 14, 16, 28, 40, 49–50, 57,
 80–81, 110, 140–141, 162, 168,
 196, 199, 212–213, 225, 232,
 237–238, 240–242, 275, 352, 285,
 295, 304, 316–317, 322, 326, 381,
 406, 433
 Policy, 38, 230, 342, 372
 Population, 59, 83, 115, 143, 165,
 179, 189, 217, 247, 281, 307, 329,
 357, 385, 409
 ages 0–14 years, 59, 83, 115, 143,
 165, 189, 217, 247, 281, 307,
 329, 357, 385, 409
 agriculture, 307
 Primary School Gross Enrollment, 249
 gross enrollment, 62, 118
 Procurement, 3, 9, 11, 14, 25,
 33–45, 47, 49, 52–53, 56, 70, 73,
 77, 93–95, 101, 103, 107–108,
 126–127, 133, 146, 156, 175, 179,
 185, 195, 198, 202, 223, 228–229,
 233, 235, 238, 257, 259, 268–269,
 272–273, 288, 291–293, 297,
 299–300, 302, 310, 316, 319, 321,
 324, 338, 340–341, 362, 367, 388,
 390–392, 395–397, 413, 422–424,
 427, 431

- centralized, 25, 45, 63, 71, 79,
 94–95, 120–121, 148–149,
 152, 161, 169, 198, 365, 380,
 413, 415–416, 428
 community, 70, 228,
 292–293
 decentralized, 11, 25, 63, 70–71,
 76, 79, 93–95, 98, 107–108,
 222, 228, 267, 286, 288, 313,
 334, 340, 351, 403, 413, 416,
 421–422, 428
 district, 70
 in-kind, 53
 local, 47, 52, 65, 128–129, 260,
 273, 431
 locally, 423
 national, 70
 semi-decentralized, 94–95
 Program cost, 1, 3, 41–44, 46, 65, 76,
 88, 105, 121, 133–136, 149, 159,
 170, 177, 180, 195, 197, 221, 223,
 227, 233, 252, 266–267, 272, 298,
 303, 320–321, 325, 334, 348–349,
 370, 376, 400–401, 416, 422, 425,
 427

R

- Recommended Dietary Allowance
 (RDA), 6–8, 124–126, 153, 173,
 220, 228, 289, 291, 389, 393, 420,
 430

S

- Safety net, 139–140
 School enrollment, 5, 53, 62, 70, 76,
 78, 139–140, 146–148, 151,
 171–172, 182, 220–222, 224,
 237–238, 249, 253, 256, 270, 272,
 283–284, 286, 288–289, 298, 301,

- 309, 311, 314, 316, 318, 322–323, 365, 387, 389–390, 397, 399–400, 429
- primary school gross enrollment, 59, 83, 115, 143, 165, 189, 217, 247, 270, 281, 307, 314, 329, 357, 385, 409
 - primary school net enrollment, 59, 83–84, 115, 143, 165, 189, 217, 247, 271, 281, 283, 307, 309, 329, 357, 359, 409
 - school net enrollment ratio, 219
- School feeding, 1–3, 5, 9–10, 13–15, 19–24, 26–27, 31–39, 41–44, 46–49, 118–119, 122, 129, 131, 133, 135–136, 138, 145, 147, 149–150, 155–161, 167–169, 171–172, 176–179, 182–184, 191, 197, 219–220, 222, 225, 229–231, 233, 237–239, 241, 249, 251, 253–254, 257, 260–261, 264, 267, 273–274, 283–284, 287, 289, 292–299, 301–302, 309–311, 313, 317–326, 330, 333, 342–343, 345, 348, 359–360, 362–365, 367, 372–379, 381, 387–388, 393, 397–398, 400, 402–403, 405, 412–413, 420, 429, 432
- allocated, 426
 - budget, 2, 41–45, 47–49, 62, 65, 76–77, 80, 131, 134, 146, 155, 161, 178–179, 252, 254, 264, 266, 272, 274, 283, 286–287, 289, 294–296, 298, 302–303, 313, 320–321, 334–345, 348–349, 351, 413, 416, 422, 427
 - costs, 49
 - education policy, 73
 - policy, 20, 23, 27, 41–42, 51–52, 56, 90, 120–122, 129–131, 139–140, 146, 149, 161, 169, 176, 249–251, 262, 269, 271, 274, 310–313, 318–319, 323, 325, 333, 343–344, 415–416, 422, 425, 427
 - procurement trade-offs, 10
 - trade-offs, 1, 2, 5, 15, 49, 78, 272, 303, 403
- School gardens, 205
- School meal, 1–3, 6, 8–9, 11, 14, 26, 35, 37–38, 42, 52–54, 63–64, 66–67, 73, 75, 78, 87, 92–93, 95–96, 100–101, 119–126, 131–133, 136, 139–140, 148, 150–155, 158–162, 173–174, 176–177, 180, 191, 196, 198, 200–201, 204–205, 207, 209–211, 220, 222, 224, 226, 228–230, 236–237, 252, 255–265, 268–274, 284–289, 291–292, 294, 297–299, 301, 303, 312, 314–315, 332–333, 335–340, 345, 349–350, 361, 363, 367–368, 370–371, 377, 387–390, 392, 395, 398, 401–402, 413–415, 417–418, 420–421, 423, 430, 422, 424, 426–428, 431–432
- School meals planner, 44, 68, 225–226, 290, 315, 419
- School menu, 5–8, 11, 52, 68–69, 86, 90–91, 97–98, 101, 103, 107, 117–118, 120–121, 123–127, 152–153, 172–173, 197, 225–227, 236, 255–257, 264, 290–291, 293, 315, 319, 333, 337–339, 368, 388, 392–396, 398, 416, 418–421, 426, 428

Smallholder farmers, 3, 10, 12–14, 45, 47, 49, 54, 71–73, 79, 88, 96–98, 109, 127, 147, 149, 155–157, 159, 161, 183, 200, 204, 211–212, 229, 237, 260, 285, 287–289, 293, 300, 302, 311–314, 316–317, 323–325, 341, 387, 388, 390, 392, 396, 403, 416, 423–424, 431

Social safety net, 2, 73, 120–121, 129, 137, 238, 373

South Africa, 4–5, 7–8, 10, 22–24, 26, 32–34, 36, 44, 47–48, 52, 54, 358, 367, 371, 380, 410–412, 417, 419, 423–424, 429, 432

 National School Nutrition Programme, 23, 413–414, 417–419, 421–422, 425–432

Stakeholder, 11, 36, 38–39, 55, 63, 69, 100, 109, 128–129, 133, 156, 160, 230–231, 285, 294, 296–297, 303–304, 311, 319, 325, 374, 378, 400, 402–404, 414, 425

Stunting, 14, 59, 83, 115, 143, 145, 165, 167, 189, 217, 220, 247, 249, 281, 283, 307, 322, 329, 331, 357, 359, 385, 387, 409, 412

Supplementation, 256

Supply chain, 1, 5, 35, 38, 56, 78, 88, 96–98, 107–110, 148–149, 155, 193, 223, 228, 258, 260, 274, 316, 342, 348, 395

Supply chain models, 9–10, 12

 centralized, 70

 centralized insourced, 9

 centralized outsourced, 9–10

 decentralized, 3, 87, 89, 390

 decentralized insourced, 9, 15

 decentralized insourced model, 9

 mixed, 9

 outsourced, 238

 semi-decentralized insourced, 9–10

 semi-decentralized outsourced, 9–10

U

Undernourished, 249

Undernutrition, 14, 145, 270–271, 330, 332, 335–336

Underweight, 62, 145, 167, 220, 249, 322

United Nation World Food Programme (WFP), 28, 32, 36, 40, 47–48, 50, 62–63, 66, 72, 75, 79, 110, 117–119, 122, 124–129, 132–133, 135–136, 139–140, 167–168, 171–172, 177–178, 182, 186, 190–191, 193, 196–197, 199, 202, 212–213, 220–221, 225, 238, 240–241, 275, 283–284, 288, 291, 293, 295, 298, 302, 304, 310, 314, 317, 326, 352, 359–360, 364, 370, 378, 381

Universal, 4

V

Vitamin A, 7, 14, 283, 368, 412

W

Wasting, 387

 underweight, 145

Water and sanitation, 6, 234, 295, 318–319, 371, 398

Women, 350

World Bank, 116, 178, 225, 238, 240–241, 282, 377



Global School Feeding Sourcebook

Lessons from 14 countries

Compiled by the Partnership for Child Development at Imperial College London, the World Food Programme, the World Bank and the African Union's New Partnership for Africa's Development, this is the first sourcebook of its kind to document government-led school feeding programmes in low and middle income countries. It includes a compilation of concise but comprehensive chapters about national programmes in 14 countries from sub-Saharan Africa, Asia and Latin America. The sourcebook highlights the trade-offs associated with alternative school feeding models and analyses the overarching themes, trends and challenges which run across them.

This sourcebook supports learning and knowledge exchange among countries looking to strengthen and scale-up national school feeding programmes. The evidence presented here sheds light on identified global good practices which can be employed to improve the quality and effectiveness of programmes that positively impact on the lives of millions of children and communities worldwide.



Imperial College Press

www.icpress.co.uk

P1070 hc

ISBN 978-1-78326-911-2



9 781783 269112