

Republic of Botswana

Evaluation of the Vulnerable Groups Feeding Programme

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Botswana Institute
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Policy Analysis

Mokoro Ltd

The Old Music Hall
106-108 Cowley Road
Oxford OX4 1JE

+44 (0)1865 403179
mokoro@mokoro.co.uk

mokoro.co.uk

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Evaluation team

Christine Fenning	Evaluator and Research Co-ordinator
Alta Fölscher	Senior Evaluator
Elizabeth Hodson	Economist
Jane Keylock	Nutritionist
Dolly Ntseane	Evaluator and National Research Co-ordinator
Molefe Phirinyane	Social Policy Adviser
Stephen Turner	Evaluation Team Leader
Matthew Smith	Quality Support
Muriel Visser	Quality Support

BIDPA field survey team

Tefo Bosilong		Godiraone Modirwagale	Supervisor
Shepard Diamango	Supervisor	Mmereki Mokgethe	
Mautleo Goitsemodimo		Katlego Molefe	
Seele Goleanye		Pako Mowaneng	Supervisor
Ontlametse Kebabope		Kamogelo Nkile	Supervisor
Singo Kediseng		Thatayaone Patikego	
Bame Kesetse		Maitumelo Ramonkga	Supervisor
Kagiso Lefitile		Olerato Sumbolu	
Portia Malele	Supervisor	Gosiame Tshegetsang	

Preface

The welfare and prosperity of Botswana depend on the good nutrition of its children. Stunting continues to afflict too many of those children, and is a matter of national concern. The first ever evaluation of the Vulnerable Groups Feeding Programme – to assess its performance in reducing stunting – is therefore an important task. Mokoro Limited and the Botswana Institute for Development Policy Analysis were privileged to be commissioned to carry out this evaluation. We are grateful to have been given this opportunity.

Performance of the task has been hampered by a lack of data on several key issues. Data have not been received from the latest reassessment of stunting rates through a three-point analysis of relevant surveys. Attempts to obtain VGFP cost data were only partly successful. The Investment Case for Nutrition that is being prepared alongside this evaluation report is therefore more qualitative than it might otherwise be.

Nevertheless, it has been clear to us what an important role the VGFP plays in helping to sustain the livelihoods and nutrition of many Batswana – and how much hard work many people do, in difficult circumstances, to implement the programme. While this report suggests that improvements can be made, it is submitted with great respect for what the programme, and those responsible for it, achieve.

We are grateful for the co-operation and support provided in many parts of Botswana by staff of the Government of Botswana and by UNICEF – and, especially, for the willingness of beneficiaries and community leaders to discuss their experience of the VGFP with us.

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Stephen Turner

Evaluation Team Leader

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Contents

Preface	iii
Tables	vii
Figures	viii
Abbreviations	ix
Summary	xi
1 Introduction	1
1.1 Evaluation of the Vulnerable Groups Feeding Programme	1
1.2 The challenge of stunting in Botswana	1
2 Approach and methods	2
2.1 Theory of change	2
2.2 Evaluation matrix	2
2.3 Evaluating impact	2
2.4 Data and documentation	3
2.5 Stakeholder participation	3
2.6 Interviews and meetings	3
2.7 Field survey	4
2.8 Telephone survey	5
2.9 Online survey	5
2.10 Methods of analysis	5
2.11 Limitations	5
3 Poverty, social protection and nutrition in Botswana	7
3.1 Poverty	7
3.2 Social protection	8
3.3 Nutrition	10
4 The Vulnerable Groups Feeding Programme	12
4.1 Background	12
4.2 Current structure and activities	13
4.3 Institutional arrangements	15
4.4 Budget and expenditure	16
4.5 Beneficiaries	16
4.6 Evaluation of the VGFP	17
5 Findings	19
5.1 The nutritional status of Botswana children	19
5.2 Nutrition in Botswana Government policy	21

5.3	The relevance of the VGFP	24
5.4	Utilisation and acceptability of the VGFP	26
5.5	Nutrition-related knowledge and practices	31
5.6	The efficiency of the VGFP	34
5.6.1	Nutritional efficiency	35
5.6.2	Procurement and logistics	35
5.6.3	Institutional efficiency	40
5.6.4	Monitoring and evaluation	41
5.7	The effectiveness of the VGFP	41
5.8	The impact of the VGFP	43
5.9	The sustainability of the VGFP	43
6	Achieving good nutrition for Batswana children	44
6.1	Building a multisectoral approach	44
6.2	Effective social and behaviour change communication	45
6.3	Focusing on the first 1,000 days	46
6.4	The interface between nutrition and social protection	47
7	Conclusions	49
7.1	Theory of change assumptions	49
7.2	Factors affecting the performance of the VGFP	51
8	Recommendations	54
8.1	Introduction	54
8.2	The short term (to April 2021)	55
8.3	The medium term (April 2021 – April 2023)	58
8.4	The long term (from April 2023)	59
9	Developing an investment case for nutrition	62
9.1	Overview	62
9.2	Limitations due to data constraints and the nature of the VGFP	62
9.3	Analytical approach	62
Annex 1	Terms of reference	64
Annex 2	Theory of change	71
Annex 3	Evaluation matrix	75
Annex 4	Data on the nutritional status of Batswana children	81
Annex 5	Other data	89
	VGFP deliveries a decade ago	89
	Direct feeding, from December 2018	92
Annex 6	Social protection	94
Annex 7	Field survey instruments	95

Guidelines/Questions for in-depth interviews with individual parents/carers at HF	95
Guidelines/Questions for in-depth interviews with individual parents/carers at home	97
Guidelines/Questions for in-depth interviews with MOHW staff at CWC	99
Guidelines/Questions for FGDs with parents/carers	101
Guidelines/Questions for FGDs with VDCs	103
Guidance notes for meetings with District Health Management Teams	105
Annex 8 Ethics and informed consent	108
Annex 9 Online survey	110
Annex 10 Field survey coverage	114
Annex 11 Evaluation schedule	118
Annex 12 Persons met	119
References	124

Tables

Table 1. Poverty incidence by strata, 2015/16	7
Table 2. Nutrition in Botswana: most recent data	11
Table 3. VGFP rationing criteria	14
Table 4. VGFP procurement costs, 2009/10 - 2017/18	16
Table 5. VGFP beneficiaries, 2009/10 - 2017/18	17
Table 6. Key evaluation questions	18
Table 7. Nutrition indicators for children aged under five, 1996 - 2007	19
Table 8. Priority areas in the National Nutrition Strategy, 2015 - 2020	22
Table 9. Procurement lead times for VGFP and primary school feeding commodities	36
Table 10. Theory of change assumptions	49
Table 11. Short-, medium- and long-term recommendations for the VGFP	61
Table 12. Evaluation questions and criteria	75
Table 13. Sources of data on malnutrition	82
Table 14. Underweight prevalence of children under 5, by district (2017) and selection of districts visited	88
Table 15. Food deliveries against target, primary schools and health facilities, 4th quarter 2008	89
Table 16. Food supplies and deliveries to primary schools and health facilities, 2006 - 2008	90
Table 17. Food supplies to clinics, August 2009	91
Table 18. MOHW direct feeding initiative, 2019 – 2019	92
Table 19. Social protection programmes identified by draft National Social Protection Framework	94
Table 20. Field survey coverage	114

Figures

Figure 1. Child's consumption of VGFP ration as reported by parents/carers	27
Figure 2. Child's consumption of VGFP ration as reported by MOHW staff at HF's	28
Figure 3. How long a month's VGFP ration lasts	30
Figure 4. Effectiveness of nutrition education of parents and carers	31
Figure 5. Health staff's views on breastfeeding practice	32
Figure 6. Parents' and carers' views on duration of breastfeeding	32
Figure 7. Parents' and carers' reported breastfeeding practice	33
Figure 8. VGFP ration availability and HF attendance, 2017 – 2018: lower, median and upper quartiles	37
Figure 9. VGFP ration availability and HF attendance, 2017 – 2018: three representative clinics	38
Figure 10. Frequency of problems with supply of VGFP rations	39
Figure 11. Frequency of no rations: six most deprived districts compared with other districts	39
Figure 12. Frequency of partial rations: six most deprived districts compared with other districts	40
Figure 13. VGFP theory of change	74
Figure 14. Total underweight, children aged under five: figures from different sources	84
Figure 15. Malnutrition in Botswana, BNSS data, 2013 – 2018	85
Figure 16. Moderate and severe underweight by district, 2013 and 2018	86
Figure 17. Percentage underweight by district, 2013 and 2018	87

Abbreviations

AIDS	acquired immunodeficiency syndrome
ALNAP	Active Learning Network for Accountability and Performance in Humanitarian Action
ANC	antenatal care
BFHS	Botswana Family Health Survey
BIDPA	Botswana Institute for Development Policy Analysis
BMFHI	Baby and Mother Friendly Hospital Initiative
BMI	body mass index
BNNSS	Botswana National Nutrition Surveillance System
BSFP	Botswana School Feeding Programme
BVAC	Botswana Vulnerability Assessment Committee
CHV	community health volunteer
CSO	Central Statistics Office [now Statistics Botswana]
CSSR	Centre for Social Science Research, University of Cape Town
CWC	Child Welfare Clinic
DFID	United Kingdom Department for International Development
DHMT	District Health Management Teams
EC	European Commission
EQ	evaluation question
ET	evaluation team
FAO	Food and Agriculture Organisation of the United Nations
FGD	focus group discussion
FRS	Food Relief Services
GDP	gross domestic product
GMP	growth monitoring and promotion
GOB	Government of Botswana
HDI	Human Development Index
HEA	Health Education Assistant
HEO	Health Education Officer
HF	health facility
HIV	human immunodeficiency virus
IC	investment case
IEC	information, education and communication
IFA	iron and folic acid
IMAM	Integrated Management of Acute Malnutrition
IMCI	Integrated Management of Childhood Illness
IPMS	Integrated Procurement Management System
IR	inception report
ITT	invitation to tender
IYCF	infant and young child feeding
kg	kilogram
KII	key informant interview
LBW	low birth weight
m	million
MADFS	Ministry of Agricultural Development and Food Security
M&E	monitoring and evaluation
MAM	moderate acute malnutrition

MFED	Ministry of Finance and Economic Development
MGD	McGovern-Dole
MICS	Multiple Indicator Cluster Survey
MLGRD	Ministry of Local Government and Rural Development
MNP	micronutrient powder
MOA	Ministry of Agriculture
MOHW	Ministry of Health and Wellness
MUAC	mid-upper arm circumference
NA	not applicable
NCD	non-communicable disease
nd	no date
NDP	National Development Plan
NFCD	Nutrition and Food Control Division
NFTRC	National Food Technology Research Centre
NGO	non-governmental organisation
NNS	National Nutrition Strategy
np	no page number
NSPF	National Social Protection Framework
NSPR	National Strategy for Poverty Reduction
ODI	Overseas Development Institute
OECD DAC	Development Assistance Committee of the Organisation for Economic Co-operation and Development
ORS	oral rehydration salts
P	Pula
PLW	pregnant and lactating women
PMTCT	prevention of mother to child transmission
QS	Quality Support
REACH	Renewed Efforts Against Child Hunger
RHVP	Regional Hunger and Vulnerability Programme
SADC	Southern African Development Community
SAM	severe acute malnutrition
SAVE	Secure Access in Volatile Environments
SBCC	social and behaviour change communication
SRH	sexual and reproductive health
STI	sexually transmitted infection
SUN	Scaling Up Nutrition
TB	tuberculosis
TBC	to be confirmed
TL	team leader
TOC	theory of change
TOR	terms of reference
UHT	ultra-high temperature
UNAIDS	The Joint United Nations Programme on HIV and AIDS
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
UNICEF	United Nations Children's Fund
VGFP	Vulnerable Groups Feeding Programme
WFP	World Food Programme
WHO	World Health Organisation
WIDER	World Institute for Development Economics Research

Summary

Introduction

1. Although there is a lack of recent data on the issue, it is likely that stunting remains a significant challenge in Botswana, despite the fact that this country is wealthier, with better health services, than most in Africa. It is now generally accepted that stunting is most effectively prevented by ensuring good nutrition during the first 1,000 days from conception, and that poor nutrition in these first 1,000 days can cause irreversible damage to a child's growing brain, affecting her or his ability to do well in school and earn a good living – with corresponding consequences for the welfare and prosperity of the nation in which she or he lives. It can also set the stage for later obesity, diabetes, and other chronic diseases that can lead to a lifetime of health problems. Because data on this key indicator of socio-economic development are less complete and consistent in Botswana than they should be, it is difficult to discern whether stunting among children aged under five has declined as far as might be expected - although the data from clinics suggest that rates are still unacceptably high, given the nation's overall level of income and development.
2. The Vulnerable Groups Feeding Programme (VGFP) has its origins in drought relief, but has long been a principal instrument in efforts to enhance the nutrition of young children. According to the Ministry of Local Government and Rural Development (MLGRD) it served 302,343 beneficiaries in 2017-18. (Botswana's population is 2.3m.) This supplementary feeding programme provides rations of specially formulated Tsabana and Malutu porridge, as well as other foods, for all children aged between six months and five years across Botswana. The rations are issued when parents and carers bring these children for their routine growth and health checks at the Child Welfare Clinics (CWCs) operated at health facilities. Rations are also provided for children aged between five and six who have not yet entered school, and to medically selected pregnant and lactating women.
3. Concern about likely ongoing levels of stunting led to the commissioning by UNICEF of this evaluation of the VGFP for the Government of Botswana (GOB); although it is recognised that there are other measures in the National Nutrition Strategy. Working in close consultation with the Ministry of Health and Wellness (MOHW) and the MLGRD, the evaluation team assembled available data and documentation; interviewed key informants; carried out a field survey across 12 MOHW districts that interviewed over 250

VGFP beneficiaries and over 100 MOHW personnel, as well as holding focus groups with parents, carers and Village Development Committees; and undertook an online survey of District Health Management Team (DHMT) members and other GOB staff at district level. The evaluation is guided by an inferred theory of change for the VGFP – despite its importance, the VGFP has no design document or formal statement of objectives – and an evaluation matrix that amplifies the questions in the terms of reference.

4. In association with this evaluation of the VGFP, the evaluation team will submit an investment case for nutrition. That will offer – to the extent that available data permit – a realistic assessment of potential policy and programme adjustments, prioritised investments and proven interventions towards prevention of stunting in the country. Preparation of the investment case, and the evaluation overall, have been hampered by the unavailability of data. Data from a re-analysis of three key surveys on nutrition that was commissioned this year have not been received. Getting information on the costs of the VGFP has proved difficult.

Poverty, stunting and VGFP support

5. The VGFP is implemented in a country where poverty is declining, but persists at significant levels. In 2015-16, the poverty head count rate was 24.3%; but it was calculated that GOB social protection assistance reduced this to 16.3%. A significant proportion of the population, most notably in western Botswana, depends heavily on social transfers for food and livelihood security. In practice, the VGFP often forms part of this social protection support, with much of the food provided for young children actually consumed by other family members. Fifty-six percent of parents and carers interviewed for this evaluation said that the child on whose behalf Tsabana or Malutu was received actually ate between 25% and 50% of what was received. MOHW staff at health facilities estimated that 40% of children consume only a quarter of the rations provided for them by the VGFP. There is also concern that Tsabana and Malutu are often not prepared according to instructions, diminishing their nutritional value for children.
6. According to the World Bank, stunting in Botswana is strongly associated with poverty status, low education of parents, rural and urban village location, and unemployment. Stunted children are predominantly in households that are poor or vulnerable, located in poor rural areas, and headed by someone unemployed or less educated. At the time of writing the best available data on nutrition come from the recalculated 2007 Botswana

Family Health Survey (BFHS). For children under 5 years old, this showed adjusted levels of stunting, underweight and wasting as 31.2%, 11.7% and 8.6% respectively. However, the survey also found the level of overnutrition in children under 5 was 15.2%, with 7.7% being overweight and 7.5% being obese. Botswana faces a triple burden of malnutrition, with micronutrient deficiencies likely to be significant too. A 2015 study of five districts found a stunting rate of 21.0%. An analysis of eight months of clinic data from 2015-16 indicates a stunting level of 22.6%. The three-point analysis mentioned above will shed further light on whether stunting has, in fact, declined.

National strategy and the relevance of the VGFP

7. The National Nutrition Strategy, 2015-20, has a nutrition-specific focus. Despite Botswana's membership of the Scaling Up Nutrition (SUN) movement, there has been insufficient attention or action so far to promote and co-ordinate nutrition-sensitive interventions – which, according to global studies, achieve 80% of total effect in reducing stunting. The draft National Social Protection Framework does refer to nutrition-sensitive action and calls for a focus on the first 1,000 days.
8. The relevance of the VGFP is only partial in terms of the nutrition objectives to which the TOR of this evaluation refer. There are two reasons for this. First, the VGFP was not designed as a nutrition intervention. It has grown from its origins in drought relief and is still best seen as a social protection intervention to relieve food insecurity, as the draft National Social Protection Framework acknowledges. Secondly, when assessed in nutrition terms, the VGFP can be seen to focus on nutrition-specific interventions. A fully relevant strategy to tackle stunting would recognise that nutrition-sensitive interventions have more impact, and that a fully effective programme would require a comprehensive suite of nutrition-specific and -sensitive approaches. An additional concern is the nutritional efficiency of Tsabana and Malutu, which may not be optimal and is currently under review.

VGFP efficiency and effectiveness

9. The performance of the VGFP is also impaired by inefficient procurement and delivery of commodities. This is the responsibility of the MLGRD Food Relief Services (FRS). The introduction of an online procurement system has been especially disruptive over the last year, but it is common for parents and carers to find that VGFP supplies are only partially available when they visit health facilities – or not available at all. Of the parents and carers

interviewed, 98% said that there are months when they find full rations not available at the CWC. Of health facility staff interviewed, 96% said that often only partial provisions are provided.

10. Poor child feeding and care practices were also seen by health workers as key drivers of malnutrition. The quality of IYCF and other nutrition counselling is a major factor in determining levels of stunting and of child nutrition and health overall. Inadequate staffing, skills and related resourcing for nutrition and related health extension work are a serious concern, and are likely to have a significant negative effect on the nutrition of Botswana children. Information, communication and family support measures are not effectively provided in association with the VGFP. Nutrition extension is arguably not a function of the VGFP, and is therefore not of direct concern in an assessment of the VGFP's effectiveness. But that argument itself illustrates Botswana's current lack of an appropriately constituted and configured child nutrition strategy. The country is trying to tackle stunting through a social protection/food security strategy, rather than a nutrition strategy.
11. Uncertainty about whether stunting has been reduced - from the headline figure of 31% that is most commonly quoted – makes it hard to be conclusive about the effectiveness of the VGFP in this regard. If, as seems likely, there has been some decrease in stunting, it would be hard to attribute that to an effective VGFP, given what a small proportion of the designed intake of Tsabana and Malutu actually happens – due to low deliveries and consumption by other family members. If the current three-point study of the key surveys finds that the stunting rate has not decreased, or has even increased, the conclusion would have to be that the VGFP is ineffective and that alternative strategies should be sought. In either scenario, the VGFP cannot be seen as cost-effective.

Conclusions

12. This study's conclusions are presented as answers to the nine overarching questions in the evaluation matrix about the factors affecting VGFP performance.
13. **Design factors** are central in explaining the performance of the VGFP. The VGFP was not originally designed as a nutrition intervention, but it has come to be regarded as one. For various reasons, it continues to fulfil various social protection functions – partially – by helping to address household food insecurity. For the same reasons, its effectiveness in

improving the nutrition of young children and preventing stunting is seriously compromised. Botswana needs to design a nutrition strategy and interventions in order to end stunting.

14. **GOB policy and strategic factors** are equally central in determining VGFP performance. Botswana's draft National Social Protection Framework points in appropriate directions with regard to nutrition-sensitive social protection and a focus on the first 1,000 days of life. But neither the current National Nutrition Strategy nor the structure or functions of the various potential elements of the required multisectoral approach currently achieve the required combination of roles and actions, despite Botswana's membership of the SUN movement. Policy and strategy need to be reorientated if stunting is to be tackled effectively.
15. **Institutional factors** are significant too, reflecting the design, policy and strategic issues identified above. A different and broader institutional configuration is needed in order to achieve a multisectoral strategy that combines nutrition-specific and nutrition-sensitive interventions in an adjusted relationship with a reinforced social protection strategy.
16. **Funding and budgetary factors** will be increasingly significant in the future of the VGFP. First, the availability of GOB funding may be restricted, with the Ministry of Finance and Economic Development increasingly committed to ensuring good value for money. Secondly, the multisectoral nutrition strategy that would be more effective in tackling stunting would require a different budgetary configuration, with a revised distribution of resources across various arms of government.
17. **Management and logistical factors** have been increasingly significant in explaining the disappointing recent performance of the VGFP. Old inefficiencies in the purchase and distribution of VGFP rations have been compounded by new ones. But a perfectly functioning logistical system in support of the current VGFP would not solve Botswana's stunting problem.
18. **The accessibility, acceptability and efficiency of CWC services** bundle a number of factors of varying importance in determining VGFP performance. The principal shortfall in the work of health facilities concerns nutrition training and extension, at CWCs and at household level, in order to achieve the level of social and behaviour change communication that an effective nutrition strategy requires.

19. **GOB staffing factors** are thus most significant with regard to nutrition training, extension and related SBCC functions. Significantly larger numbers of better-trained personnel are needed for this work, with stronger direction and supervision from district and headquarters levels to ensure that this vital element of a multisectoral nutrition strategy is implemented as required.
20. **Livelihood factors** are all-important in determining the results of the VGFP. One of the principal reasons why programme rations do not reach the intended beneficiary children in full is that many of their parents and carers live in food-insecure poverty, and substantial proportions of the rations are diverted to other household members. An effective set of nutrition interventions to end stunting should be distinguished from, but carefully interfaced with, an effective social protection system that keeps all Botswana from extreme poverty and food insecurity.
21. **Gender and other social factors** have a range of influences on the results of the VGFP. Gender is less significant than the fundamental social challenges facing poor and marginalised Botswana, many of whom have little prospect of sustainable livelihoods and depend heavily on social transfers from the state in order to avoid destitution. The fundamental and so far insuperable challenge of achieving sustainable livelihoods for all able-bodied citizens has multiple demoralising effects in the livelihoods of the poor. These are challenges of social protection and social development, not directly of nutrition strategy. Until they are overcome, it will be hard to redress their negative effects on the children whom the VGFP tries to help.
22. The evaluation's overall conclusion is that the VGFP is not the best tool for the job of ending stunting in Botswana and ensuring good nutrition for the nation's young children. A multisectoral set of tools, giving due emphasis to the 80% of effectiveness derived from interventions that are nutrition-sensitive rather than nutrition-specific, implies a major restructuring of the country's nutrition and social protection policies, strategies and programming.

Recommendations

23. The best way to ensure proper nutrition for young children in Botswana is thus to develop and implement a multisectoral nutrition programme – and to stop trying to achieve
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nutrition targets through the VGFP, which is effectively a social protection programme grown from drought relief roots.

24. In the medium term, therefore, the VGFP should be phased out. Its young child nutrition function should be taken over by appropriately designed young child nutrition elements in a multisectoral nutrition programme, implemented in terms of the revised National Nutrition Strategy that should replace the current one in 2020. Its social protection function – helping to ensure food security for the poor and vulnerable – should be absorbed into the relevant components of the expanded social protection system that the GOB should develop on the basis of the new National Social Protection Framework.
25. The evaluation's recommendations are not spatially or socially differentiated. They are based on the premise that a fully functioning social protection system will assure the basic food security of all Batswana; that a fully multisectoral nutrition strategy implemented by the relevant Ministries will ensure good child nutrition in the framework of that general food security; and that the Ministry of Health will continue nutrition-specific measures for children and adults who are medically determined to be malnourished. Within this overall approach, the social protection system will identify and benefit those who are food insecure (they may be more numerous during drought); and the medical system will identify and support the small numbers who, despite the effective multisectoral nutrition strategy, are malnourished due to individual circumstances.
26. The recommended changes are not small. It will take time to achieve them. The historically slow pace of institutional and policy change in the Government of Botswana is a reminder to be realistic in recommending how the proposed developments might be phased. At the same time, the scale of the problems of poverty, vulnerability and child malnutrition in this middle-income country is a stimulus to minimise delay, overcome inertia and achieve good nutrition for Batswana children as soon as possible.
27. With this in mind, the recommendations are proposed in three phases. The short term would comprise the remainder of the current financial year and all of the next one, to April 2021. The medium term would be the remainder of the National Development Plan 11 period, to April 2023. The long term stretches beyond that.

28. In the short term, there should be urgent investment and administrative efforts to upgrade the procurement and delivery of VGFP commodities so that a minimum of 80% ration delivery of all health facilities is always achieved.
29. By April 2021, Tsabana should have been reformulated. From then, it should be provided (along with oil) to children aged 6 – 24 months. Provision for children up to 36 months should be restricted to districts that have been declared drought-affected. Malutu should no longer be provided after April 2021, except to selected pregnant and lactating women (with intensified checks on which women need this support) and to children aged 37 – 59 months in drought-affected districts. The provision of double rations to severely underweight children should continue, as should special nutritional measures at health facilities for cases of moderate and severe acute child malnutrition.
30. A major task in the short term should be the development and approval of a new National Nutrition Strategy (NNS), to take effect in 2020. This is an opportunity to convene all the relevant sectors to develop a multisectoral nutrition strategy for the country with a common results framework around which all sectors can unite. The new Strategy should be based on the full multisectoral spectrum of nutrition-sensitive and nutrition-specific approaches and measures, specifying clearly what the responsibilities of the various ministries and other agencies will be and prioritising action to ensure good nutrition of children during the first 1,000 days of life.
31. As part of a revised NNS, the GOB should develop a social and behavioural change communication (SBCC) strategy that covers maternal, adolescent, infant and young child nutrition, care practices and hygiene. This strategy needs to be adopted by all relevant stakeholders and should identify the channels through which it can be delivered.
32. A future, enhanced approach to optimum young child nutrition will depend on expanded, better-skilled nutrition extension cadres: Health Education Assistants and others at HF level, and supervision/co-ordination staff at district level. Building on the work already done to identify staff needs for the 'paradigm shift' to which MOHW is committed, the Ministry should make more detailed staffing and budget preparations in the short term so that the relevant cadres can be expanded from 2021-22 onwards.
33. To complement the new NNS, it will be necessary to build on the foundations of the National Social Protection Framework over the coming five years to ensure that the suite

of social protection interventions can be strengthened in order to guarantee basic food and livelihood security for all Batswana. This is the foundation for the argument that, in the longer term, supplementary feeding programmes for young Batswana children should no longer be needed in normal circumstances.

34. In the long term, the different roles of social protection and nutrition interventions should have been recognised and achieved, so that the former supports food security while the latter promotes optimum nutrition of young children among a national population whose food security is assured. The recommendations of this evaluation for the long term focus on what nutrition interventions should be achieving following the phasing out of the VGFP.
35. The revised and expanded multisectoral nutrition and social protection systems and procedures developed during the transitional period should be in full operation from 2023. In the long term, supplementary feeding of the sort that the VGFP has provided should no longer be necessary from a nutrition programme. Tsabana and Malutu would no longer be provided through nutrition programming. By 2023, social protection interventions to assure food security are likely to be increasingly based on cash or vouchers rather than in-kind transfers. The provision of supplementary foodstuffs for selected medical patient categories will remain a responsibility of MOHW. The revised social protection system will retain responsibility for drought relief. It will not be a nutrition intervention. Focused nutritional interventions at health facilities for cases of moderate or severe acute malnutrition will continue.

1 Introduction

1.1 Evaluation of the Vulnerable Groups Feeding Programme

The Vulnerable Groups Feeding Programme (VGFP) has its roots in drought relief efforts initiated around the time of Botswana's independence in 1966 (see section 4.1 below). It is now a blanket supplementary feeding scheme, administered through health facilities (HFs) across the country, to improve the nutrition of children aged under five years (or six, if they have not yet entered school and started to benefit from the national school feeding programme). The VGFP also provides supplementary feeding for medically selected pregnant and lactating women (PLW) and to tuberculosis and leprosy outpatients. With continuing concern about the levels of stunting in Botswana, the programme is currently seen as the country's primary means of tackling the problem – although it is not the only measure, with the current National Nutrition Strategy (NNS) setting out a series of largely nutrition-specific priorities (Table 8 in section 5.2 below). The significance of stunting as a challenge to national welfare is outlined in section 1.2.

This evaluation of the VGFP has been commissioned by the United Nations Children's Fund (UNICEF) on behalf of the Government of Botswana (GOB): in particular, the Ministry of Health and Wellness (MOHW), the Ministry of Local Government and Rural Development (MLGRD) and the Ministry of Finance and Economic Development (MFED). The purpose of the evaluation is discussed further in section 4.6 below.

1.2 The challenge of stunting in Botswana

Since the seminal study published by The Lancet in 2008, there has been an increasing recognition of the importance of addressing stunting, given its effect not only on morbidity and mortality but also on the life chances of a stunted individual. In addition, the intergenerational cycle of undernutrition has become a consideration for programmers. In this cycle, undernutrition at one stage of life affects future stages, so that generations can be caught up in a cycle of poor nutrition and health outcomes. The 1,000 days from conception until a child's second birthday is seen as a critical time, during which optimal nutrition can have a lasting impact on a child's growth, learning, and future productivity (The Lancet, 2008). As the TOR for this evaluation recognise, stunting remains a significant challenge in Botswana, despite the fact that Botswana is wealthier, with better health services, than most countries in Africa. Section 3.3 below gives more details on nutrition in Botswana. It shows that, because data on this key indicator of socio-economic development are less complete and consistent than they should be, it is difficult to discern whether stunting among children aged under five has declined as far as might be expected - although the data from clinics suggest that rates are still unacceptably high, given the nation's overall level of income and development.

2 Approach and methods

The evaluation team (listed on page ii above) adopted a mixed-methods approach to the evaluation. This approach was both evidence-based and theory-based. A range of quantitative and qualitative evidence was assembled, including data on nutrition, the performance of the VGFP, and the national socio-economic context; and qualitative information and opinions from stakeholders on the same subjects.

The evaluation approach and methods were developed during the inception phase of the study (see Annex 11 for the overall evaluation schedule). They were set out in detail in an inception report. The approved inception report guided the performance of the evaluation. This section provides a summary of what it said, and directly reproduces some of the content on key methodological points.

The evaluation was guided by a Technical Working Group and reported to a Steering Committee, both comprising representatives of the key Ministries mentioned in section 1.1 above and of UNICEF. Other technical specialists and representatives of concerned Ministries took part in the Technical Working Group. Two quality support advisers (page ii) assisted the evaluation team.

2.1 Theory of change

A theory of change (TOC) was developed during the inception phase as a way to interrogate the causal chain through which the VGFP was expected to achieve its intended results. A principal purpose of developing the TOC was to identify the assumptions underpinning that process of causation. Use of a TOC was particularly beneficial, and particularly challenging, in this case. There is no design document for the VGFP – which, as explained in section 4.1 below, was originally developed as a short-term drought relief intervention. At the inception stage of this evaluation, it was therefore both helpful and difficult to work with GOB partners to agree what the intended causative process of the programme was and is, and on what basis it had been assumed that process would be effective.

The TOC is presented at Annex 2 and illustrated in Figure 13 on page 74. The findings set out in chapter 5 make various references to its assumptions, and the conclusions in chapter 6 are structured around a discussion of which TOC assumptions hold true.

2.2 Evaluation matrix

During the inception phase of this study, an evaluation matrix was developed in order to guide the analysis. It is shown in Table 12, Annex 3. In the matrix, each of the key EQs shown in Table 6 above is broken down into a number of subsidiary EQs. The matrix also shows the analytical and judgement criteria to be applied, and the data collection methods and sources of information to be used. Application of the matrix has enabled the evaluation team to be systematic in answering the questions posed by the TOR and in interrogating the inferred design logic set out in the TOC, including the assumptions that underlie that logic.

2.3 Evaluating impact

Linked to the TOR for this study is the commitment of the current National Nutrition Strategy that an “impact evaluation of Tsabana/VGFP is undertaken and a strategy that makes effective use of supplementary foods is developed” (GOB, 2015: 65). Formal impact evaluation of the VGFP is not possible. As a programme with the assumed primary intention of combating

stunting, the VGFP not only lacks a design document; it also lacks an agreed baseline date or baseline statement against which current indicators could be compared. Furthermore, as a national programme intended to have universal coverage of children aged under five, it precludes the identification of a control area or population against which the 'treatment' situation can be compared. While a methodologically pure approach to impact evaluation is not feasible, this study does offer a constructive analysis of the practical results that the VGFP is achieving – or failing to achieve - in the nutrition and livelihoods of Botswana.

The evaluation was commissioned among a prevailing sense, in the GOB and UNICEF, that the impact of the VGFP is unsatisfactory; because, while recent data from national surveys are lacking, clinic data suggest that stunting rates are probably still unreasonably high for a country like Botswana (section 1.1 above). The evaluation team have been careful not to take this for granted. They have not begun from the premise that the VGFP is a failure. Instead, they have tried qualitatively to identify and explain the circumstances in which the VGFP has greater and lesser impact.

2.4 Data and documentation

Data were assembled from a number of sources on nutrition in Botswana, the performance of the VGFP, and related issues. The sources of data included existing official statistics, both published and unpublished, and the evaluation team's own surveys. The information assembled is shown at the relevant points in the report, with further tabulation at Annex 4 and Annex 5.

Literature and documentation pertinent to the evaluation were collected from many sources and assembled in an electronic library that can be shared with UNICEF and the GOB later if required. Documents quoted in this report are shown in the list starting on page 124.

2.5 Stakeholder participation

As noted at the start of this chapter, senior stakeholders in the VGFP and the nutrition sector participated in this evaluation through their representation on the Technical Working Group and Steering Committee. The evaluation team worked to maximise the participation of other stakeholders at all levels, from national and district government to community and household levels, through the interviews, field work and surveys described in sections 2.6, 2.7 and 2.9 below.

Within the inevitable budgetary and logistical limits of the exercise, appropriate proportionality was achieved across stakeholder categories with regard to participation in the evaluation. The limits just mentioned that it was not possible to reach the very remote and scattered populations served by MOHW mobile clinics, whose experience and views may therefore not be proportionally represented.

2.6 Interviews and meetings

The evaluation team held semi-structured interviews with key informants in Gaborone and across the country, including members of 13 District Health Management Teams (DHMTs: see Annex 7, page 105, for the guidance notes used in meetings with them). The inception report included a stakeholder analysis identifying informants on whom the evaluation should focus. A list of persons met is shown at Annex 12.

2.7 Field survey

Field survey work was designed to optimise evaluation coverage with the available resources. Table 14 at Annex 4 shows the prevalence of underweight among Botswana children aged under five in 2017, by MOHW district. (MOHW districts do not correspond directly to the administrative districts and sub-districts of the country.) The survey focused on the five MOHW districts where child nutrition is shown by these data to be worst; but it was decided also to visit the three districts with the lowest underweight figures, as well as four in the middle of Table 14.

For the field survey work, the evaluation team was supplemented by 18 locally recruited enumerators (all university graduates: see page ii). They were grouped into six teams of one supervisor and two enumerators each. Members of the evaluation team accompanied two of the six teams on field survey work, which was done from 8 to 17 April 2019.

In each of the 12 purposively sampled districts, one health facility was selected at random. A cluster sampling approach was then used to identify other HFs that are within two hours' drive of the HF first selected. A few logistical adjustments were made to this plan during implementation, for example when additional significant sites were suggested by DHMTs. The coverage ultimately achieved is shown in Table 20 at Annex 10. In the end, 43 HFs were visited, compared with the planned 30.

During field work, questionnaire surveys were administered to the parents or carers of children aged under five who were brought to the HF during the team's visit. This was, effectively, a random sample. Parents/carers were not selected to come on the day that the team visited; the team simply requested interviews with those who happened to be available at the time. The inception report estimated that 150 of these parents and carers would be interviewed. Table 20 shows that 200 were reached. In addition, at one or more HFs in each district, questionnaire interviews were carried out with parents or carers at their homes (planned coverage 36; actual coverage 58). During visits to HFs, MOHW staff were interviewed, again using a questionnaire. The inception report planned for 90 of these interviews; 107 were carried out.

At the start of all interviews and meetings, an explanatory statement and request for consent was read to informants. This emphasised that people were free to choose not to take part; that discussions were strictly confidential; and that nobody would be quoted by name. This is shown at Annex 8. Interviewers were given strict instructions on appropriate ethical principles with which to comply. These were set out in the evaluation inception report (the relevant text is reproduced at Annex 8 of this report).

During interviews with parents and carers, permission was sought to photograph relevant pages of the children's Child Welfare Clinic (CWC) cards (with names blanked out for confidentiality). As in many countries, these 'cards' (actually A4 booklets) are used to record information about children's birth, immunisation, weight, length etc., along with other relevant health data. CWC cards were not always available, and were sometimes damaged, but weight data were collected in this way for 215 children scattered across the 12 districts surveyed, with length/height data for 192 (see Table 13 at Annex 4).

The survey teams also carried out focus group discussions with parents and carers at each HF that they visited, resulting in 35 of these meetings (30 were planned). In some communities, they also held FGDs with Village Development Committees (12 planned, 16 held). During

home visits, observations were made regarding the home environment, parenting practices and availability of essential services such as access to water, sanitation and electricity.

The research instruments used to guide the interviews, FGDs and meetings with DHMTs are shown at Annex 7. All except the DHMT meeting guide were produced in a verified Setswana version as well, which is not reproduced in the annex. All the instruments except the FGD guide for VDCs and the meeting guide for DHMTs were pre-tested at a health facility in Gaborone before the field survey began.

2.8 Telephone survey

The evaluation team proposed that a random sample of 30 HFs be drawn from all HFs that it would not visit. With the assistance of MOHW, the mobile phone numbers of ten parents or carers of children receiving VGFP feeding would be sampled from each HF list, and those individuals would be advised that they would be contacted for a short telephone interview. Team enumerators would call these informants to undertake the interviews. However, the MOHW advised that the telephone survey should not proceed, as it would be a breach of patient confidentiality to share phone numbers with the evaluation team.

2.9 Online survey

In consultation with MOHW, selected staff positions at district level were identified for receipt of a confidential, anonymous online survey invitation that was sent to them by the evaluation team, using e-mail addresses supplied by MOHW. This online survey covered all MOHW districts in Botswana. It is reproduced at Annex 9. In addition, the survey invitation was sent to selected staff positions in other sectors at local government level, such as agriculture and social and community development. Obtaining the e-mail addresses from the districts took time, but ultimately the invitation was sent to 146 people around Botswana. Of these, 73 (an unusually high response rate of 50%) completed the survey, with many offering detailed narrative responses in addition to their selection of pre-coded answers. The large majority of the respondents were MOHW staff, with only five responding from other ministries. A number of quotations from the survey responses are reproduced in text boxes in this report. Quotation of the views of survey respondents does not necessarily mean that the evaluation team endorse these views. But they are an interesting reflection of what some district-level staff think.

2.10 Methods of analysis

The evaluation team combined the professional interpretation of qualitative data from the primary and secondary sources summarised above with quantitative analysis of the secondary and primary data that were collected (sections 2.4, 2.7, 2.9). Both modes of analysis were guided by the theory of change (section 2.1), with a summary assessment of the TOC assumptions forming part of the conclusions (section 7.1), and by the evaluation matrix (section 2.2 and Annex 3).

2.11 Limitations

A number of limitations have affected the implementation of this evaluation. Section 2.3 explained that rigorous assessment of VGFP impact is not possible. Related problems concern the lack of a design document or agreed objectives, performance indicators or time frame for the programme. Some senior government informants were perplexed that an evaluation was being attempted for a programme whose objectives are not clearly stated. Nor was a time frame specified for the evaluation to cover, although there was a general consensus that the

study should focus on the current structure and performance of the VGFP and ways in which it might be adjusted so as to become effective in addressing what is generally believed to remain a significant problem in Botswana: the level of stunting among children aged under five.

This key indicator – the level of stunting – is itself less clearly and currently measured than it should be. As explained in section 5.1 below, different surveys and studies over the last 12 years give different figures. Three key datasets are currently being re-analysed by UNICEF and the MOHW; the outcome of this exercise is awaited.

Especially important for development of an investment case for nutrition are data on the costs of the current VGFP and of related GOB activities and staff cadres that might be involved in a recommended strategy for enhancing support to child nutrition. The evaluation team spent some months engaging with the relevant GOB staff in an attempt to assemble this information. It had only partial success, meaning that the investment case it will submit will have to be less detailed than was hoped.

It is not possible fully to mitigate the limitations mentioned above. The evaluation team have done their best to assess the character and performance of the VGFP in such a way as to make what they believe to be constructive suggestions about better ways to assure good nutrition for the children of Botswana. These efforts have included careful and confidential collection of views on the VGFP from all types of stakeholder, with the team being scrupulous about maintaining neutrality themselves. This has mitigated against any potential for bias in the collection or interpretation of data.

3 Poverty, social protection and nutrition in Botswana

This chapter sets out the context that must be considered in understanding the performance of the VGFP in Botswana – a middle-income nation where poverty persists. Setting the scene for the subsequent analysis, it presents separate outlines of the country’s social protection system and its nutrition challenges.

3.1 Poverty

Botswana has experienced strong economic growth, from one of the poorest countries in the world at Independence in 1966 to upper middle income status today. This impressive economic growth, albeit precariously driven by heavy reliance on a single commodity, diamonds, has resulted in impressive advances against most social indicators. With an estimated population of 2.3m in 2018 (UNDP, 2018b) it currently ranks 101 out of 189 on the Human Development Index with an HDI of 0.717, and has been ranked among high human development countries in UNDP’s latest statistical update (UNDP, 2018a).

However, like some other countries that have made significant economic progress in recent decades, the Republic of Botswana continues to be challenged by the poverty and poor nutrition that afflict a significant part of its population. The incidence of poverty remains high, although with signs of a decline from 30.6 percent in 2002/03 to 19.3 percent in 2009/10 and 16.3 percent in 2015/16 (GOB, 2018a). Income inequality, drought, and HIV/AIDS prevalence are the main factors that induce poverty and vulnerability (RHVP, 2011). Government aid and transfers have reduced the incidence of poverty by eight percent, as shown in Table 1.

Table 1. Poverty incidence by strata, 2015/16

Stratum	With government aid		Without government aid	
	Poverty head count (%)	Number of persons below poverty datum line	Poverty head count (%)	Number of persons below poverty datum line
Cities/towns	9.4	41,093	11.6	50,901
Urban villages	13.4	121,230	21.1	191,935
Rural areas	24.2	175,087	35.9	260,360
National	16.3	337,410	24.3	503,196

Source: GOB, 2018a.

Botswana’s experience has shown that even a well-intentioned and comparatively affluent government cannot easily reduce poverty, however much it spends on social and other infrastructure. Especially in the more arid west of the country, significant proportions of the population depend heavily on government social transfers.

Vulnerability in an increasingly erratic arid to semi-arid climate is a prominent feature of poverty in Botswana. Drought is a recurring theme in rural livelihoods and in government’s social protection efforts, although it is often argued that ‘drought’, with its implications of short-term crisis, is the wrong word for the country’s chronic vulnerability to low and irregular rainfall (Davies *et al.*, 2017: 10). The MOHW is a leading participant in annual drought assessment surveys around the country. Government has declared drought five times in the last 25 years (GOB, 2017a: 51). Drought relief is one of the ten social protection programmes listed by the recent draft social protection framework as a responsibility of the MLGRD (GOB,

2018c: 4). Both the VGFP and the Ipelegeng labour-intensive public works programme were originally designed as short-term relief when drought was declared in specified areas – although both now operate all year round across the country.

Poor people in Botswana, like poor people everywhere, typically depend on multiple livelihood strategies. Those strategies may include support from one or more government programmes. Like the Ipelegeng programme, some of these are explicitly delivered as social protection. Others, like the VGFP, may officially focus on other sectors (like nutrition), but effectively serve as social protection (section 5.3 below).

3.2 Social protection

Botswana has worked hard over the decades to provide strong social services to its people and to redress the hardships that some of them suffer. It has done this in the context of an evolving social development policy framework. While Botswana has both formal and non-formal social protection systems, the country is known for its commitment to formal social protection (RHVP, 2011). The non-formal social protection system is noted for having played an important role in promoting welfare, and there are debates on the integration of the two systems, with the Southern African Development Community (SADC) Protocol favouring integration (Mupedziswa & Ntseane, 2013).

The Government of Botswana first showed the initiative to adopt a formal social protection system in the early 1970s with the launch of the National Development Plan (NDP, 1970-75), in which the principles of social justice and equal opportunity undergirded the social protection system (Mupedziswa & Ntseane, 2013). At the time the government was interested in developing a social protection system aimed at addressing the dual problems of poverty and destitution. Despite these initiatives shortly after independence, it was not until 2017 that a comprehensive National Social Protection Framework (NSPF) was prepared. There are numerous national policies, strategies and programmes related to social development and social protection in operation, and elements of the comprehensive new framework of 2017 are already being implemented, although formally the document remains a draft awaiting Cabinet approval (GOB, 2018c)). Table 19 at Annex 6 lists the policies and strategies that relate to social development and social protection, as identified in the new NSPF.

Botswana's **Vision 2036** is the successor to Vision 2016, which ended in 2016 after a lifespan of 20 years. While Vision 2016 was themed "Prosperity for All", the new Vision 2036 is aptly themed "Achieving Prosperity for All". The new Vision has only four Pillars: Sustainable Economic Development; Human and Social Development; Sustainable Environment; and Governance, Peace and Security. The Human and Social Development Pillar is aimed at addressing challenges such as gender equality, youth, and children's wellbeing. While many other aspects of the Pillar are important, such as culture, health and wellness, social inclusion and equality are more relevant to this evaluation. Social inclusion is aimed at ending poverty and empowering the poor, people with disabilities, the elderly and marginalised groups to participate in the nation's increasing economic opportunities. The Vision emphasises the continuation of social protection to support the vulnerable populations. But it seeks a reformed social protection approach in which targeting is improved, waste is reduced, and delivery is more effective.

The **National Strategy for Poverty Reduction** (NSPR) of 2003 is one of the key strategic initiatives aimed at combating poverty through labour-absorbing economic growth, the provision of basic quality social services to the poor, the promotion of cost-effective pro-poor

social safety nets, enhanced effective response to the HIV/AIDS epidemic, and strengthening institutions for the poor. These were to be achieved through a multi-sectoral approach for overseeing the design, implementation and monitoring of poverty reduction interventions. The NSPR was reviewed in 2010 (RHVP, 2011) and continues to provide strategic guidance for the achievement of the new Vision, and to provide a framework for NDP 11's Social Development focus areas.

Similar to NDP 10 (see RHVP, 2011: 5), **NDP 11** sets out programmes and projects consistent with the four pillars of Vision 2036. The chapter on Social Development focuses on two key areas: Social Development and Health. The prioritised areas include enhancement of prevention and rehabilitation interventions; eradication of poverty; adequate social protection; gender equality and women's empowerment; and youth empowerment (GOB, 2017c). Other priority issues identified include access to basic services for all citizens; household food security; malnutrition, income inequality; prevention of gender based violence; and economic participation of all citizens including women, youth, remote area communities and people living with disabilities (GOB, 2017c: 177).

Notable achievements have been made under the Social Development and Health focal areas. These include the enhancement of policies, strategies and initiatives targeted at cushioning the vulnerable and disadvantaged populations: social safety nets including Ipelegeng, Orphan Care, the Destitute Programme, the Old Age and World War II Veterans Pensions, the Disability Allowance and Poverty Eradication Programmes. Achievements under the Health focal area include improvements on the health indicators (infant, under-five and maternal mortality), HIV incidence, malaria, tuberculosis, and access to health services. There were other notable milestones such as the passing of the Public Health Act (revised in 2013), revision of the National Policy on HIV/AIDS, finalisation of the School Health Policy and development of the Food Safety Policy. Botswana thus has an extensive social protection system, to which the Government devotes about 4.4% of GDP. Nevertheless, as shown above, levels of poverty remain significant. Botswana has 29 social protection programmes, but with fragmented implementation (GOB, 2018c: 1).

This realisation has led to the development of the **National Social Protection Framework**. The NSPF was completed in 2018 and was developed to provide a roadmap for a coordinated social protection system. The rationale for the NSPF is based on the following.

- Botswana has a mature social protection system to which the Government commits a significant amount of resources. The social protection programmes are fully funded by the government.
- Outcomes do not match the amount of spending due to inefficient delivery and overlapping programmes. There are administrative deficiencies, double dipping by some beneficiaries and lack of monitoring and evaluation.
- There is a realisation that the provision of social protection is an investment in Botswana's population and an important factor in its sustainable development (GOB, 2018c: 1).

Among several challenges related to risk and vulnerability the NSPF notes the prevalence of stunting among children under five years at 30 percent, and the magnitude of the problem of malnutrition (GOB, 2018c: 2). The NSPF further mentions the long-term negative effects that stunting has on the development of children and consequently the development of the

country. With regard to nutrition, the NSPF notes that social protection in Botswana has not fully realised its potential in contributing to improvements in health and development, but there is considerable potential to improve the design and targeting of existing programmes to achieve that. The Minister of Finance and Economic Development stated in the Budget Speech that “in an effort to improve the efficiency of these social welfare programmes, Government will implement National Social Protection Framework, which was adopted in 2017 (GOB, 2019c: 12). One of the important aspects of the NSPF, at an advanced stage of implementation, is the Social Registry; this is in fact a key proposal of NDP 11.

The NSPF is explicit about the need for a nutrition-sensitive approach to social protection in Botswana (section 5.2 below). It identifies three “pathways to better nutrition through social protection”:

- promoting household food security by improving income and food availability, and increasing assets;
- care practices for women and children: targeting nutritionally vulnerable populations through the 1,000 days approach (see section 5.2 below);
- working on health services and the environment, specifically by promoting improvement, access and delivery of health and sanitation services.

The NSPF argues that

Building systems for nutrition impact will require policy coordination between the Ministry of Health and Wellness and social protection programmes. This will be informed by a robust analysis of local causes of malnutrition – food access and affordability, behaviours and practices [and] policy analysis of the social protection and health/nutrition sectors. In addition, national and social protection policy documents will be linked and mutually supportive with coherent systems to address risks across the lifecycle; integrated nutrition objectives. Monitoring and evaluating the impact of social protection programmes on nutrition will be strengthened.

GOB, 2018c: 17.

Although obviously presented from a social protection standpoint, the NSPF thus takes a more multisectoral, nutrition-sensitive approach to Botswana’s nutrition challenges than the National Nutrition Strategy (section 5.2 below).

3.3 Nutrition

Botswana continues to face a suite of nutrition challenges, as Table 2 shows. The growing significance of the double burden of malnutrition is clear. According to the World Health Organization (WHO), the coexistence of high stunting and overweight rates is a proxy marker of this double burden, which is typical of populations in the nutrition transition (WHO, 2017).

Poverty and poor maternal nutrition are reflected in the growing number of children with low birth weight. This rose from 8% in 2000 to 13.1% in 2007 (SUN, nd¹).

¹ nd: no date.

Table 2. Nutrition in Botswana: most recent data

Issue	% of group affected	Source
Under 5 stunting	31.4	GOB, 2009
Under 5 wasting	7.2	GOB, 2009
Under five overweight	11.2	GOB, 2009
0-5 months exclusive breastfeeding	20.3	GOB, 2009
Women anaemia 15-49 years	30.2	WHO, 2011
Adolescent overweight male	9.5	SUN, nd
Adolescent overweight female	23.4	SUN, nd
Adult overweight male	22.3	NCD Risk Factor Collaboration, 2016a
Adult overweight female	27.8	NCD Risk Factor Collaboration, 2016a
Adult obesity male	8.5	NCD Risk Factor Collaboration, 2016a
Adult obesity female	30.5	NCD Risk Factor Collaboration, 2016a
Adult diabetes male	7.6	NCD Risk Factor Collaboration, 2016b
Adult diabetes female	9.5	NCD Risk Factor Collaboration, 2016b

Botswana recognised the complex multi-sectoral nature of its nutrition challenge when it joined the Scaling Up Nutrition (SUN) movement in April 2015. As the Lancet's seminal series points out, chronic malnutrition contributes to poor health outcomes and has long term effects on survivors, who face a higher risk of poor cognitive development, poor education performance and low economic productivity, eventually leading to poverty, and likely repetition of the cycle (The Lancet, 2008; The Lancet, 2013). The nutritional status of Botswana children is discussed in more detail in section 5.1 below.

4 The Vulnerable Groups Feeding Programme

This chapter describes the programme under review: its long history, its current operational structure and institutional arrangements; and the data that could be found about its budget, its expenditure and its beneficiaries.

4.1 Background

To mark the 50th anniversary of what became the VGFP, MLGRD staff undertook a historical review of the programme (summarised to the evaluation team in GOB, 2019a and GOB, 2019b). The Botswana National Supplementary Feeding Programme was started on 1 April 1966 as a response to the famine induced by what the nation's founding President, Sir Seretse Khama, described to Parliament as "the worst drought in living memory" (Davies *et al.*, 2017: 9). This programme was implemented by the United Nations World Food Programme (WFP) under Emergency Operation 324 (Seekings, 2016). It was extended six times (October 1970, April 1975, October 1978, December 1983, November/December 1986 and October 1991).

The current guidelines say that

Over the years, the VGFP has served to assist the nutritionally at risk and to improve the declining household food security during drought years. Initially, beneficiaries were medically selected for enrolment into the VGFP during non-drought years. However, following the 1992 to 1997 drought, it was recommended that selection criteria should include socio-economic circumstances rather than medical conditions only; hence the beneficiary categories were redefined.

GOB, 2013a: 33.

The statement in the TOR (Annex 1) that the GOB introduced the VGFP "as a mitigation to prevent stunting" is therefore not wholly accurate. As drought relief, the programme had broader social protection objectives. In 1993 the programme was embedded in the MLGRD budget and during a transitional period of five years WFP handed over the programme to the government. In 1998 the GOB took on full responsibility for the VGFP.

Between 1966 and 1979, WFP provided corn soya meal (commonly known as Malutu), vegetable oil, dried skimmed milk and maize meal through this programme. From 1980 to 1997, the rations comprised the same commodities plus additional foods for severely malnourished children: eggs, pumpkins, beans, peanuts, sugar, oranges, potatoes and dark green vegetables (GOB, 2019b).

By the time UNICEF commissioned work on a social development policy framework in 2010, the VGFP was functioning much as it does now, with the Tsabana enriched sorghum/soya blend added for children aged from 6 to 36 months and Malutu given to children aged up to 59 months (or 72 months if not yet in school). That study reported that

under the Vulnerable Group Feeding Programme (VGFP):

- *specially designed food rations are distributed through clinics to all children aged between 6 and 60 months (there are separate ration packages for 6-*

18, 19-36 and 37-60 months, and all rations are doubled for severely malnourished children);

- *this under-fives feeding programme is currently extended to children up to six years old;*
- *food rations are distributed through clinics to selected pregnant and lactating women and to tuberculosis outpatients.*

Guidelines for the VGFP are included in recent guidelines on growth monitoring and promotion and nutrition surveillance [GOB, 2008]. No other formal policy statements or reviews appear to exist...

Foodstuffs for infants, pre-school children, pregnant and lactating women and tuberculosis patients are distributed at health facilities for preparation and consumption at home. The tsabana sorghum/soya formula used for infants has been developed and is produced in Botswana. Vitamin enrichment is adjusted according to the target group...

Procurement, delivery and accounting for the required foodstuffs to schools and health facilities all over Botswana are major logistical and administrative challenges. Some procurement is still done centrally by MLG; other supplies are procured by Councils. Predictable difficulties arise, such as the unavailability of some commodities from time to time, late deliveries and occasional food quality or storage problems. (Pest control in stores is a regular budget item.)

Turner *et al.*, 2010a: 106, quoting GOB, 2008.

The budget for the VGFP was reported to be P196m for 2009/10 and P195m for 2010/11. The VGFP and school meals were reported to be the only two social protection programmes reaching more than 5% of the population (Turner *et al.*, 2010a: xi; 115). Further data on the VGFP as recorded about ten years ago are provided at Annex 5.

4.2 Current structure and activities

The background just presented above makes it clear that the VGFP was designed as a general food security intervention, with its roots in drought relief. It thus served as a social protection mechanism rather than a nutrition intervention; although the current evaluation arises from concern about its effectiveness in improving young children's and pregnant and lactating women's nutrition. A drought relief function is retained in the current programme, with rations being increased in areas and at times for which the GOB annual assessment process has led to the declaration of drought.

As noted above, there is no formal design document for the VGFP. According to an overview presented to the evaluation team, the objectives of the programme are:

- *to improve the nutritional status of children under the age of five and at-risk medically selected lactating and pregnant women through the provision of supplementary foods;*
- *to mitigate against intermittent food shortages during droughts.*

GOB, 2019a: 4-5.

The following groups of people are eligible to receive VGFP rations.

- Children between the ages of 6 – 59 months.
- Children between the ages of 60 – 72 months if not in school (currently, 70% of schools have a reception class, and most children in this age group are therefore in school).
- Pregnant women who, according to medical assessment at health facilities:
 - are anaemic;
 - have low weight at the first antenatal care (ANC) visit ($\leq 45\text{kg}$);
 - have children under five who are underweight;
 - have been pregnant five or more times;
 - are under the age of 18;
 - have poor pregnancy outcomes.
- Lactating mothers (within one year of delivery) who are:
 - anaemic;
 - feeding twins or more;
 - with children under five who are underweight;
 - under 18 years of age.
- TB outpatients (GOB, 2019a: 12-14; see also GOB, 2013a: 34-35).

VGFP rations for children are collected when parents and carers (who include some men) bring the child to the health facility for routine growth and health checks. The rationing criteria are shown in Table 3 below.

Table 3. VGFP rationing criteria

Beneficiary	Food commodity	Ration	Selection criteria
Children 6 -18 months	Tsabana	150g/day i.e. 2.5kg pack x2 per month	All children in this age group
	Oil	25 ml/day i.e. 1 bottle (750ml) per month	
Children 19-36 months	Tsabana	200g/day i.e. 2.5kg packx3 per month	All children in this age group
	Oil	25 ml/day i.e. 1 bottle (750ml) per month	
Children 37- 60 months	Fortified precooked Sorghum Soya meal (Malutu)	175g/day i.e. 5.5kg pack per month	All children in this age group
	Beans	60g/day i.e. 1.8kg per month	

Beneficiary	Food commodity	Ration	Selection criteria
	Vegetable Oi	25 ml/day i.e. 1 bottle (750ml) per month	
Pregnant and lactating women, TB and leprosy outpatients.	Fortified precooked Sorghum Soya meal (Malutu)	175g/day i.e. 5.5kg pack per month	Medically selected per Criteria
	Beans	60g/day i.e. 1.8kg per month	
	Vegetable Oil	25 ml/day i.e. 1 bottle (750ml) per month	

Source: GOB, 2019b: 14; see also GOB, 2013a: 34.

4.3 Institutional arrangements

From a narrow, budgetary perspective, the VGFP is entirely the responsibility of the MLGRD, whose Food Relief Services (FRS) within its Department of Local Government Finance and Procurement Services are responsible for the procurement and distribution of programme rations, delivering them (via its network of warehouses) to health facilities around the country. All GOB funding earmarked for the VGFP is allocated to the MLGRD and used for these procurement and logistics purposes. FRS performs a similar function for school feeding commodities.

UNICEF has no direct role in the VGFP, which is funded entirely by the GOB. In fulfilling its mandate to promote the rights and wellbeing of children, however, UNICEF maintains close liaison with the relevant Ministries, including the MOHW, on nutrition and other relevant themes. Its ongoing dialogue with the GOB led to agreement that it should fund the current evaluation.

In terms of implementation, however, the VGFP is largely the responsibility of the MOHW, which manages all government health facilities, most of which (with the exception of some hospitals) provide VGFP rations to the target groups. The MOHW is also responsible for nutrition advice and training at HFs and in the community. The MOHW Nutrition and Food Control Division (NFCD, part of the Department of Public Health) has technical oversight of the VGFP and is responsible for nutrition surveillance services. Its technical roles include the preparation and review of product specifications, regular food quality monitoring for compliance with quality standards at production and distribution points, and training staff who are responsible for the operation of the programme. Health facilities are responsible for monthly child growth monitoring, management of the food rations, food rationing, record keeping of rations received at the clinic and issued to beneficiaries, and for the provision of outreach services, including following up with those children who are not performing well and providing support as appropriate. Despite these leading roles in the programme, there are no separate budget lines for the VGFP within the MOHW. A senior MOHW informant stressed that it is not the role of the Ministry to run a feeding programme.

4.4 Budget and expenditure

The evaluation team has so far had little success in obtaining adequate information about the budget of the VGFP. This is partly because the MOHW budget and expenditure, for the thousands of person days that it commits annually to the programme, are concealed in other budget lines. So far, estimates of the number of days at what total salary cost have been unforthcoming. It is also because repeated efforts to obtain full data from MLGRD about its budget and expenditures on the procurement and distribution of VGFP commodities have been unsuccessful. (Some MLGRD data combine the VGFP with the provision of commodities for school feeding, as in the first draft of the national social protection framework (GOB, 2017a: 13, 53.)) Approaches to the Ministry of Finance and Economic Development also failed to yield much information.

Prioritizing Nutrition Programme especially with issues of funding. Nutrition is one of the least considered factors in our set up as the Health Ministry. As much as we talk NCDs, HIV/AIDS, STIs, PMTCT, TB and Malaria we ought to do likewise with Childhood Nutrition.

Online survey respondent

So far, estimates of the number of days at what total salary cost have been unforthcoming. It is also because repeated efforts to obtain full data from MLGRD about its budget and expenditures on the procurement and distribution of VGFP commodities have been unsuccessful. (Some MLGRD data combine the VGFP with the provision of commodities for school feeding, as in the first draft of the national social protection framework (GOB, 2017a: 13, 53.)) Approaches to the Ministry of Finance and Economic Development also failed to yield much information.

The recurrent MLGRD budget for the VGFP is about P255m per year, all financed by GOB. Divided by the number of beneficiaries recorded for 2017/18 (Table 5 below), this is about P843 per beneficiary. It excludes MOHW costs, notably for staff time, and capital expenditure, e.g. on warehouses and vehicles. In 2009/10, the budget for the programme was P196m, and in 2010/11 P195m, both figures excluding transport costs (Turner *et al.*, 2010a: 115). Some expenditure data are available for MLGRD's procurement of VGFP commodities.

Table 4. VGFP procurement costs, 2009/10 - 2017/18

Year	Procurement expenditure (Pula)
2009/10	69,354,359.70
2010/11	76,904,510.87
2011/12	139,303,281.60
2012/13	79,499,011.20
2013/14	93,627,072.00
2014/15	172,636,241.70
2015/16	157,605,537.72
2016/17	not available
2017/18	109,974,035.28

Source: MLGRD.

4.5 Beneficiaries

As noted above, the VGFP is one of the widest-reaching social protection programmes in Botswana. The data below were supplied by MLGRD; it seems unlikely that exactly the same number of beneficiaries were served in three successive years from 2010/11 to 2012/13.

Table 5. VGFP beneficiaries, 2009/10 - 2017/18

Year	Beneficiaries
2009/10	230,985
2010/11	274,644
2011/12	274,644
2012/13	274,644
2013/14	248,693
2014/15	242,388
2015/16	250,971
2016/17	233,340
2017/18	302,343

Source: MLGRD.

4.6 Evaluation of the VGFP

There has never been an evaluation of the VGFP (although a UNICEF study in 2010 called for one to be done that year (Turner *et al.*, 2010b: 51)). The terms of reference (TOR) state that it was therefore considered important to undertake such a study “in order to inform policy and programme design to, in turn, maximise social outcomes, including stunting”. They do not specify a time frame for the evaluation.

The TOR state that

The main purpose of the assignment is to evaluate [the] utilisation, acceptability and effectiveness of the VGFP to improve optimal delivery of the intervention and utilisation at household level, including targeting, awareness and understanding of potential benefits in Botswana.

Evaluation TOR (see Annex 1, page 65).

The TOR show that this evaluation has both a summative and a formative purpose. It is required to assess the performance of the VGFP in terms of the usual criteria of the United Nations Evaluation Group (UNEG), and the TOR mention a focus “on the impact criteria”. At the same time, its most immediate function is formative: making evidence-based proposals on how Botswana’s stunting challenge might be tackled more effectively.

First, therefore, the relevance, efficiency, effectiveness, impact and sustainability of the VGFP must be assessed and explained. Secondly, an evidence-based approach must be proposed to address the nutrition situation in Botswana, with its triple burden of undernutrition; overweight and obesity; and micronutrient deficiencies. This approach must be supported by an investment case that will show how stunting can be reduced – and preferably eliminated – in an economically feasible manner.

The Investment Case for Prevention of Stunting... which includes a set of realistic recommendations for policy and programme adjustments, prioritised investments and proven interventions towards prevention of stunting in the country.

Evaluation TOR (see Annex 1, page 66).

This twofold purpose means proposing changes that government and society find legitimate and can achieve. It also means showing that the economic benefits of those achievements will exceed the cost – and will, indeed, help to meet that cost.

Table 6 below sets out the key evaluation questions (EQs) that the study answers. As can be seen, the key EQs in Table 6 are linked to the standard evaluation criteria of relevance, efficiency, effectiveness, impact and sustainability, following the guidelines of the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD DAC). The key EQs are also linked to the three issues on which the TOR specifically focus: acceptability, utilisation and effectiveness. These three TOR issues are shown in italics in the 'criteria' column of the evaluation matrix (Table 12 at Annex 3: see section 2.2 above).

Table 6. Key evaluation questions

Key evaluation questions	Evaluation criteria	TOR criteria
EQ1. How appropriate is the VGFP?	Relevance	Acceptability
EQ2. What are the results of the VGFP?	Efficiency, effectiveness, impact	Utilisation, effectiveness
EQ3. What factors have affected the results?	Relevance, efficiency, effectiveness	Acceptability, utilisation, effectiveness
EQ4. How sustainable is the VGFP?	Sustainability, impact	

Because of the evaluation's focus on stunting, it does not review the VGFP from the perspective of support for tuberculosis and leprosy outpatients, who are also given VGFP rations at health facilities.

The TOR (Annex 1) do not directly state who the users of the evaluation are intended to be. They do refer to a Steering Committee set up to guide it, comprising representatives of the MOHW, the MLGRD, the MFED and UNICEF. It can be inferred that the principal users of the evaluation will be these Ministries, together with UNICEF and all who are concerned with the good nutrition of Batswana children.

5 Findings

The evaluation's findings begin with a summary presentation of what quantitative information there is about the nutrition of Botswana children, looking particularly at stunting and its reported causes. The chapter then goes on to explore how nutrition is addressed in national policy. Against this background, findings are then presented on some of the key evaluation questions: the relevance of the VGFP; the utilisation and acceptability of the support it provides; and the efficiency, effectiveness, impact and sustainability of the programme.

5.1 The nutritional status of Botswana children

In order to understand the progress and challenges of the VGFP and identify the best way forward, it is important to review what is known about the nutrition of Botswana children. As is shown below, this must be pieced together from various sources.

Children's nutrition and the effectiveness of supplementary feeding programmes are a longstanding concern for the Government of Botswana, as was reported in 2010.

Available data suggest that the beneficial effect of the children's feeding programmes may have been minimal over the last 15 years. Comparison of data from the Botswana Family Health Surveys (BFHS) III and IV of 1996 and 2007 and the Multiple Indicator Cluster (MICS) Survey of 2000 suggests improvement between 1996 and 2000, and a deterioration since then.

Table 7. Nutrition indicators for children aged under five, 1996 - 2007

Indicator	Description	BFHS III, 1996	MICS, 2000	BFHS IV, 2007
Underweight prevalence	Percentage of under-fives who are too thin for their age	17	13	11.7
Stunting prevalence	Percentage of under-fives who are too short for their age	29	23	31.2
Wasting prevalence	Percentage of under-fives who are too thin for their height	11	5	8.6

Source: Turner *et al.*, 2010a: 114, quoting GOB, 2009 (with recalculated BFHS data: see Table 13, Annex 4).

At the time of writing the best available data on nutrition come from the recalculated 2007 BFHS (GOB, 2009; see also Nnyepi *et al.*, 2011). For children under 5 years old, this showed adjusted levels of stunting, underweight and wasting as 31.2%, 11.7% and 8.6% respectively. However, the survey also found the level of overnutrition in children under 5 was 15.2%, with 7.7% being overweight and 7.5% being obese.

With the information from the BFHS survey now quite dated, there are limited other sources of data to give clues as to how the nutrition situation may have changed since 2007. Three national surveys have been conducted since then: the Welfare Indicator Survey 2009-2010, the Multi-Topic Household Survey 2015-16, and the Botswana Demographic Survey 2016-17. But the findings of a recent three-point analysis of these surveys are still awaited. A

Determinants of Malnutrition study was conducted in 2015 in five of the 27 MOHW districts² experiencing moderate to high malnutrition prevalence (Powis *et al.*, 2015: 11). This found that the prevalence of stunting in children under 5 years was 21.0%, the prevalence of underweight was 13.1% and the prevalence of wasting was 7.3%. While this indicates that stunting levels may have decreased, some caution should be exercised as the study only sampled five districts. An analysis of clinic data (September 2016 – May 2017) indicates a stunting level of 22.6%, which would corroborate the hypothesis that stunting levels have decreased. The Determinants of Malnutrition study found that the prevalence of low birth weight (LBW), representing a birth weight < 2.5 kg, was 12.5%, in keeping with the prevalence of 13.1% noted in the 2007 BFHS.

Clinic data show the level of underweight in children under 5 to be around 4%, although when a sample of clinic data (September 2016 – May 2017) was reanalysed it was found that the underweight figures were understated by a factor of more than 9.1%. This suggests that these data are weak. It is worth noting that the national target for underweight prevalence is 3%.

The data on micronutrient deficiencies are very limited. The WHO Nutrition Landscape Information System suggests that anaemia in children under 5 years (Hb <110 g/L) was 43% (2011); anaemia (Hb <110 g/L) in pregnant women was 34% (2016); and anaemia (Hb <120 g/L) was 30.0% in non-pregnant women (2016) (WHO, 2019a).

The BFHS (2007) found that the prevalence of a body mass index (BMI) of at least 25 was 38.6% among adults 25-64 years of age. The health risks of being overweight are particularly serious in women (53.4%) compared to men (22.1%).

The Determinants of Malnutrition study found that 52.6% of infants were breastfed within one hour of birth and 22.7% of infants were breastfed exclusively for the first six months of life while the median duration of breastfeeding was 12 months. There was no association between the exclusive breastfeeding rate and the median duration of breastfeeding across quintiles of wealth score, place of residence, gender of the child or caregiver education.

According to the BFHS 2007 data, the prevalence of stunting rapidly increases to more than 40% within the first 24 months of life which would indicate that it is associated with poor infant feeding, particularly complementary feeding, poor child-care and hygiene practices and high burdens of infectious diseases. Formula-fed infants are at higher risk of diarrhoeal diseases. A 2013 University of Botswana child-mortality study indicated that the major causes of death among children were respiratory infections, sepsis, meningitis, diarrhoea, and malnutrition. Most deaths occurred in the first month of life, and 63% of children who died had some degree of malnutrition. This study estimated that 50% of those who died were HIV exposed and 17% HIV-infected. Overall, according to the 2007 Botswana Family Health Survey (BFHS), new-born, infant and under-five mortality were 34, 57 and 76 respectively per 1,000 live births (UNICEF, 2013: np³).

A World Bank study found that stunting is strongly associated with poverty status, low education of parents, rural and urban village location, and unemployment. Stunted children

² Francistown (urban), Selebi-Phikwe (urban), Kweneng East (urban and peri-urban), Kgalagadi South (rural) and Gantsi (mixed urban and rural).

³ np: no page number

are predominantly in households that are poor or vulnerable, located in rural poor areas, and headed by someone unemployed or less educated. Stunting is strongly associated with household size; it is more likely in households with nine or more children (World Bank, 2015: 12).

These fundamental causes of stunting in Botswana lead to the more immediate causes, as identified four years ago by the Determinants of Malnutrition study.

Children noted to have low birth weight (birth weight of < 2.5 kilograms) were significantly more likely to be wasted, stunted, or underweight at the time of the study visit, regardless of their current age. Low birth weight is a function of preterm delivery and/or intrauterine growth restriction... This highlights the need for protocols and nutritional interventions for women with poor weight gain during pregnancy and/or low body mass index. It also points to the need of targeted nutritional interventions for those preterm and small-for-gestational age infants who are not gaining weight appropriately early in life, including HIV-exposed uninfected infants. Children with a history of hospitalization were significantly more likely to be stunted, the chronic form of malnutrition, at the study visit. There are no protocols in place to ensure that recently hospitalized children receive routine, scheduled outpatient health and nutritional care... Addressing the health of mothers during pregnancy and providing interventions to preterm and low for gestational age infants present opportunities to modify growth outcomes of children under the age of 5 in Botswana. However, improved detection of malnutrition through enhancements to PIMSII, more frequent monitoring of length/height, and staff retraining may have a large impact on reducing malnutrition and under-5 mortality. Furthermore, given the overall impact on health, educational attainment and earning capacity of children who experience malnutrition, as well as the impact on the human capital of Botswana as a nation, identifying and providing nutritional interventions to children who are experiencing growth decline prior to actually meeting malnutrition criteria may have the largest impact on improving individual health and optimizing Botswana's human capital. The findings of the Determinants of Malnutrition study highlight the need for a multi-sectorial collaboration to comprehensively address factors associated with under-5 malnutrition.

Powis *et al.*, 2015: 7-8.

5.2 Nutrition in Botswana Government policy

As noted in section 4.3 above, the Nutrition and Food Control Division in the MOHW Department of Public Health has sectoral responsibility for nutrition in Botswana, although it is not responsible for the procurement and distribution to health facilities of VGFP rations. The NFCD employs nutritionists in 12 of the MOHW's currently 27 districts. In each of those districts, a District Health Management Team co-ordinates all sectoral issues and actions, including those concerning nutrition. (Current restructuring will reduce the number of MOHW districts to 18 and retitle DHMTs as Regional Health Teams.)

The Botswana National Nutrition Strategy, 2015 – 2020, currently guides the GOB's work in nutrition (GOB, 2015). It has seven priority areas.

Table 8. Priority areas in the National Nutrition Strategy, 2015 - 2020

Priority area	Activities	Implementation status
1. Infant and young child feeding	<ul style="list-style-type: none"> • IYCF Policy • Monitoring of the Code of Marketing • Training of health workers and incorporate IYCF training into pre-service training • Accelerate Baby and Mother Friendly Hospital Initiative (BMFHI) • Community-based counselling and support, potentially through community based workers of the Community Home Based Care Programme. • Communication for behaviour and social change through multiple channels, such as public education campaigns, SMS messaging, TV spots, TV soap operas, endorsement by famous personalities etc. • Counselling on complementary feeding. • Protocols and systems for protecting, supporting and promoting IYCF during emergencies (e.g. diarrhoea outbreaks). 	IYCF counselling done on an ad-hoc basis at the CWC
2. Micro-nutrient interventions	<ul style="list-style-type: none"> • Vitamin A supplementation for children 6 to 59 months old • Deworming of children 12-59 months • Deworming of pregnant women • Micronutrient powders for children (home fortification) • Iron and folic acid supplementation of pregnant and lactating women • Salt iodisation • Cereal flour fortification 	Vitamin A supplementation and deworming carried out for children. IFA of pregnant women a government intervention. MNPs and cereal flour fortification not happening.
3. Improved care practices and growth monitoring and promotion	<ul style="list-style-type: none"> • Growth Monitoring and Promotion programme • Vulnerable Group Feeding Programme 	GMP and VGFP both government programmes
4. Prevention and treatment of childhood infections	<ul style="list-style-type: none"> • Nutrition counselling as part of IMCI, in particular, feeding of the sick child and optimal IYCF practices • Hygiene and sanitation counselling as part of nutrition counselling. • How to feed sick children as part of IYCF counselling • Vitamin A supplementation for cases of measles, xerophthalmia, prolonged diarrhoea and severe malnutrition. • Deworming of under five children with vitamin A (as discussed under micronutrient interventions) • Bed nets for young children in malaria areas • Treatment of diarrhoea with low osmolarity ORS and zinc. 	Education sessions meant to be carried out before the CWC and counselling done on an ad-hoc basis at the CWC

Priority area	Activities	Implementation status
5. Integrated management of acute malnutrition	<ul style="list-style-type: none"> • Management of severe acute malnutrition and moderate acute malnutrition as per the national protocol 	Management of acute malnutrition a government programme
6. Women's and girls' nutrition	<ul style="list-style-type: none"> • Public communications campaign against overweight and obesity in girls and women • Nutritional counselling for overweight and obese women at all available contacts used for nutrition counselling such as GMP • Nutrition education messages for girls in school • Strategies and policies to reduce or eliminate the availability of snack foods in and around schools • Strategies and policies to reduce salt, sugar and trans-fat consumption through both processed and home-prepared foods. • Healthy school meals and snacks. • Dietary guidelines for the Botswana population. 	Education sessions meant to be carried out before the CWC and counselling done on an ad-hoc basis at the CWC
7. Management, monitoring and evaluation	<ul style="list-style-type: none"> • Timely, population-based data on nutrition, in particular micronutrient deficiencies, IYCF practices, worm infestation and coverage data of essential nutrition interventions. • Advocacy for increased funding for effective nutrition interventions. • Personnel responsible for implementing, monitoring and evaluating in all districts 	Ongoing efforts to upgrade M&E of nutrition programmes

Source: GOB, 2015.

Despite the context analysis showing an understanding of the multisectoral nature of the drivers of malnutrition, the activities described under each of the National Nutrition Strategy's seven priority areas have a nutrition-specific focus, drawing on global evidence from the Lancet 2013 nutrition series, focusing on the 1,000 day period from conception to a child's second birthday (known as the window of opportunity to address stunting: The Lancet, 2013; see also section 3.2 above). For example micronutrient interventions are all focused on supplementation apart from cereal fortification, while prevention and treatment of childhood infections includes zinc and oral rehydration solution (ORS), handwashing and feeding the sick child, although it does include the provision of bed nets. Ironically, it is the draft National Social Protection Framework that advocates more of a nutrition-sensitive approach (section 3.2 above).

Botswana's Focal Point for the Scaling Up Nutrition Movement (section 3.3 above) is based in the Ministry of Agricultural Development and Food Security (MADFS), and is the Ministry's Deputy Permanent Secretary of Technical Services. The MOHW is supportive of Botswana's SUN commitment. However, there has been little traction achieved to date under the SUN Movement, with no establishment of a multisectoral nutrition co-ordination platform and no strategy document yet prepared to outline multisectoral nutrition actions. A Nutrition Technical Committee has existed but did not meet last year (2018). Reasons given for this lack of progress include a high turnover of staff within the MADFS at a political level, which means officers get up to speed only to leave the post within a short time. The Ministry did produce a paper examining how agriculture could affect nutrition (GOB, 2017b), but this has

not translated into a deliberate implementation of nutrition-sensitive agriculture and food security interventions through the Ministry.

The draft National Social Protection Framework (see section 3.2 above) calls for “nutrition-sensitive social protection” and describes the VGFP as part of the social protection system (GOB, 2018c: 14).

To make social protection more nutrition sensitive, social protection programs need to mainstream nutrition into all programming with the following types of activities:

- *Target activities to the most nutritionally vulnerable populations*
- *Include education activities within social protection interventions to increase household awareness of health and nutrition care giving and health seeking behaviours*
- *Enhance the quality of nutrition services (e.g., growth promotion, interventions for improved diet quality) in social protection interventions — particularly transfer programmes*
- *Use school feeding programs as vehicles for micronutrient supplementation and deworming, including links with nutrition education*
- *Scale up in times of crisis in order to reduce the long-term negative impacts of external financial, price and weather shocks.*

GOB, 2018c: 16-17.

It urges the adoption of nutrition-sensitive social protection measures through three pathways: improving income, food availability and increasing assets, targeting nutritionally vulnerable populations through the 1,000 days approach and promoting improvement, access and delivery of health and sanitation services.

Building systems for nutrition impact will require policy coordination between the Ministry of Health and social protection programs. This needs to be informed by robust analysis of local causes of malnutrition – food access and affordability, behaviours and practices and policy analysis of the social protection and health/nutrition sectors. In addition, national nutrition and social protection policy documents need to be linked and mutually supportive with coherent systems to address risks across the lifecycle; integrated nutrition objectives

GOB, 2018c: 17.

It can be seen that GOB thinking on appropriate approaches to nutrition has broadened since the National Nutrition Strategy was adopted. While the National Social Protection Framework has not yet been formally approved, its call for multisectoral, nutrition-sensitive approaches to be combined with nutrition-specific ones is certainly relevant.

5.3 The relevance of the VGFP

This section addresses one of the principal evaluation criteria that the TOR identify (section 1.1 above): the relevance of the VGFP in terms of tackling stunting.

In 2007, the prevalence of stunting in children under 5 years old was 'high' according to WHO thresholds (WHO, 2019b) - which would indicate that, around that time, it was appropriate to take measures to address stunting. However, at the same time 15.2% of children under 5 were either overweight or obese, which is also a concern. This double burden of malnutrition (triple burden including micronutrient deficiencies) suggests that a universal food ration to all children in Botswana is not appropriate, as while it may aim to fill the nutrition gap for children who are nutrient-deficient, it provides extra nutrition to children who are consuming an excess of nutrients. Given the lack of up-to-date data, it is impossible to conclude whether interventions to address stunting are still relevant from this perspective.

The Lancet nutrition series provides evidence for ten nutrition-specific interventions for addressing undernutrition (Bhutta *et al.*, 2013b: see box). This recommends complementary food supplements only in food-insecure populations. This resonates with the finding of the World Bank poverty assessment report that stunting in Botswana is associated with food insecurity and poverty (World Bank, 2015: 129), but it also supports the conclusion that a universal ration for all children under 5 years in Botswana is not appropriate. The drought and vulnerability assessment for 2017/18 found that 35,055 people (about 1.5% of the national population) were vulnerable and below the livelihood protection threshold, while 42.4% of urban households and 46.2% of rural households were classified as poor (BVAC, 2018: 66, 86). This indicates the level of need relative to the Lancet recommendation.

High-impact nutrition-specific interventions

Pre-conception

1. Pre-conception folic acid supplementation or fortification.

Pregnancy

2. Maternal multiple micronutrient supplementation.
3. Maternal balanced energy & protein supplementation as needed (i.e. supplements in which protein provides less than 25% of the total energy content) (high protein supplements are not recommended).
4. Maternal calcium supplementation

Early infancy and young childhood

5. Promotion of early and exclusive breastfeeding for 6 months and continued breastfeeding for up to 24 months.
6. Appropriate complementary feeding education in food secure populations and additional complementary food supplements in food insecure populations
7. Vitamin A supplementation
8. Preventative zinc supplementation
9. Management of severe acute malnutrition (SAM)
10. Management of moderate acute malnutrition (MAM)

Bhutta *et al.*, 2013b.

A WHO document on reducing stunting also recommends caution when providing cereal-based complementary foods since "infants' bodies self-regulate their energy intake to meet their needs and therefore will reduce their intake of breast milk when given a large amount of energy from other foods. Processed cereal-based and other commercially available complementary foods should not be considered the only component of complementary feeding and appropriate marketing of such foods can support caregivers to follow appropriate food preparation and feeding practices, including sustained breastfeeding" (WHO, 2018: 16).

The Lancet series also recommends maternal balanced energy and protein supplementation as needed (i.e. supplements in which protein provides less than 25% of the total energy content - high protein supplements are not recommended). The WHO clarifies this further

with the recommendation that in undernourished populations, balanced energy and protein dietary supplementation is advisable for pregnant women to reduce the risk of stillbirths and small-for-gestational-age neonates (WHO, 2016: xi). This suggests that while a VGFP ration for pregnant and lactating women is relevant, it should be according to need, namely in populations with undernourished mothers. The WHO states that “undernourishment is defined by a low BMI (i.e. being underweight). For adults, a 20–39% prevalence of underweight women is considered a high prevalence of underweight and 40% or higher is considered a very high prevalence. Mid-upper arm circumference (MUAC) may also be useful to identify malnutrition in individual pregnant women and to determine its prevalence in this population. However, the optimal cut-off points may need to be determined for individual countries based on context-specific cost–benefit analyses” (WHO, 2016: 18). The VGFP does aim to provide the ration according to risk as pregnant and lactating women receive the ration based on criteria such as low weight at first ANC visit. It is especially important to target according to risk given the high levels of overweight and obesity in female adults.

The Lancet Nutrition Series showed that the ten nutrition-specific interventions alone will only reduce stunting by 20% (Bhutta *et al.*, 2013b: 468; see box above). This means that the remaining 80% can only be addressed through nutrition-sensitive programming: measures in such sectors as early child development, school feeding, the promotion of appropriate food production strategies, water, sanitation and hygiene, and women’s empowerment. Whatever the relevance of the VGFP, it can only go so far to address stunting; multisectoral programming has greater significance.

The 1,000 days from conception until a child’s second birthday has been identified as a critical time, during which optimal nutrition can have a lasting impact on a child’s growth, learning, and future productivity. (The Lancet, 2008) Good nutrition for pregnant women promotes healthy birth outcomes and can reduce the risk of maternal illness and death, as well as illness, death, and stunting in the child. The intergenerational cycle of undernutrition means that undernutrition at one stage of life affects future stages, such that generations can be caught up in a cycle of poor nutrition and health outcomes.

The VGFP protocol does attempt to adhere to this life cycle approach. Medically selected pregnant women and lactating women are targeted, as well as pregnant and lactating adolescents. The VGFP does cover the critical period until a child’s second birthday, during which catch-up growth can occur.

Overall, the relevance of the VGFP is only partial in terms of the nutrition objectives to which the TOR of this evaluation refer. There are two reasons for this. First, the VGFP was not designed as a nutrition intervention. It has grown from its origins in drought relief and is still best seen as a social protection intervention to relieve food insecurity, as the draft National Social Protection Framework acknowledges. Secondly, when assessed in nutrition terms, the VGFP can be seen to focus on nutrition-specific interventions. A fully relevant strategy to tackle stunting would recognise that nutrition-sensitive interventions have more impact, and that a fully effective programme would require a comprehensive suite of nutrition-specific and -sensitive approaches.

5.4 Utilisation and acceptability of the VGFP

The evaluation TOR (section 1.1 above) require an assessment of how VGFP rations are used, and how acceptable they are to beneficiaries. The issue, and the answers, are not as simple as they might seem.

The VGFP is enthusiastically used by beneficiary households. The principal utilisation issue is whether rations are consumed in full by the children (and others) for whom they are intended. The general belief among informants at all levels is that adults and non-beneficiary children consume significant amounts of the Tsabana and Malutu intended for children aged under five (or under six, in some cases). Anecdotes abound about the popularity of Tsabana among adults, with many saying that it is the tastiest porridge available in Botswana. (Much less is said about Malutu.) Adults hearing that a friend or relative is collecting Tsabana for a child may contact the parent or carer with pleas that they spare some for them. One of the health facilities contacted was among informants reporting the belief of some men that Tsabana will strengthen their sexual performance. This evaluation's survey question (see Annex 7) asked parents and carers at health facilities how much of the Tsabana or Malutu received for their beneficiary child was consumed by that child. Of the 199 parents/carers who responded, 80% said that the child ate 50% or less of the ration received. Only 9% said that the child ate all the ration.

A few number of children eat Tsabana, it is mostly eaten by adults. Nutrition education should be intensified for pregnant mothers and lactating mothers to avoid malnutrition cases.

The supply is not regular and the items come [in] pieces, you never find the whole package in a month this end up affecting our coverages. Some caretakers are very mobile... they'll move around looking for Tsabana. Health education also is important as some parents report that their children develop diarrhoea after eating Tsabana. Farmers also buy this Tsabana to feed their livestock as it is believed that it's good for breeding. I think nutritional status of Tsabana should be improved too.

Tsabana is very tasty and is believed to cause diarrhoea to the target population and hence eaten by adults. Change in composition yet maintaining same nutritional value will improve consumption by the target group.

Online survey respondents

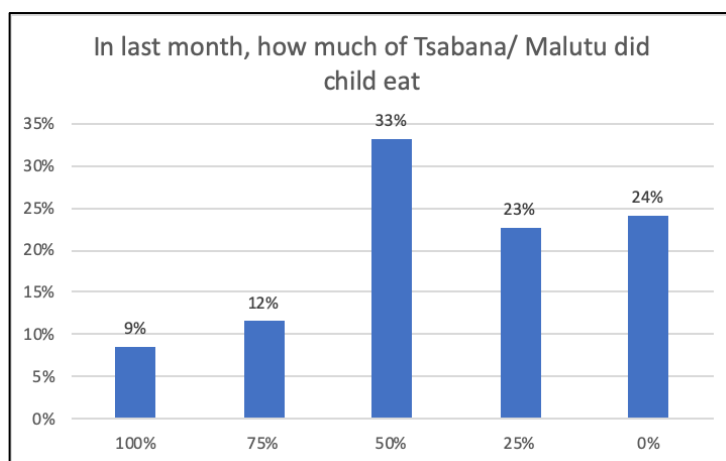


Figure 1. Child's consumption of VGFP ration as reported by parents/carers

Source: evaluation survey of parents/carers at HFs.

The 102 MOHW staff who answered the same question when interviewed at HFs indicated that a similarly small percentage of children consume all the ration provided for them, and a similarly large percentage consume only half, or less.

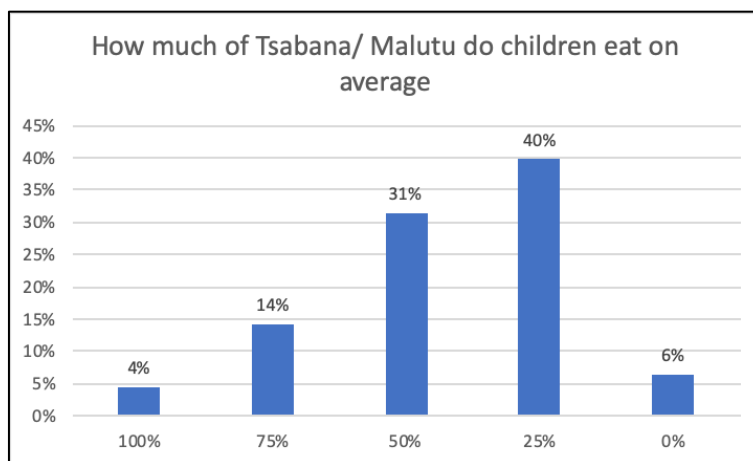


Figure 2. Child’s consumption of VGFP ration as reported by MOHW staff at HFs

Source: evaluation survey of MOHW staff at CWCs.

In the 41 focus group discussions held with parents/carers and Village Development Committees, the view of 66% of the groups was that target children consume 25% of VGFP rations supplied at their local HF.

In some feeding programmes around the world, there is concern that the rations may enter the commercial market in various ways. This problem is not common in Botswana. Nine (5%) out of 199 parents and carers at HFs who were asked whether they ever sell part of the VGFP ration answered in the affirmative. Some HF staff express concern about parents and carers who sell Tsabana or Malutu in order to obtain alcohol.

A more significant challenge in the utilisation of VGFP rations is how they are prepared when the recipients bring them home. Hardly any parents or carers said they had any problems preparing Tsabana or Malutu, with just a handful referring to shortage of fuel. Forty-eight percent of these respondents said that they add sugar to Tsabana during preparation; 41% add salt. For Malutu, the proportions adding sugar and salt were 31% and 28%.

Most of the time ration is not complete, meaning some of the food commodities are always missing such as cooking oil which is meant to improve palatability and absorption of some nutrients thus children that do receive do not benefit as they should. Therefore I recommend improvement in food distribution, it should be timely and complete. Food composition for Tsabana most specifically should be changed and include maybe human breastmilk if possible that older people should know that the food is meant to benefit children alone.

Online survey respondent

MOHW staff interviewed at HFs were often critical of the way parents/carers prepare Tsabana and Malutu. Of 103 staff who answered the question, 37% said that parents/carers follow the preparation instructions for these commodities in full. But 25% of these staff felt that the instructions are only partially followed, and 38% said that the instructions are not followed at all. Specifying the reasons for this, 23% of the respondent staff said that family members may prefer the food prepared in a different way; and 18% spoke of the parents’/carers’ lack of knowledge. Poor preparation is only partially a matter of poor understanding about how these foods should be cooked.

When Tsabana is fed to children, they are mostly said to like it. Of 158 respondent parents/carers receiving Tsabana for their children across the 12 MOHW districts surveyed for

this evaluation, 79% said that children like Tsabana; 19% said they do not. Two percent said that the Tsabana was not given to the child. There is a common view that Tsabana can cause diarrhoea, especially in younger children; although MOHW staff argue that this is either because the child's digestive system is not yet accustomed to it, or because the food has been wrongly prepared. Of 153 parents/carers receiving Tsabana who answered a question whether it causes problems for children, 61% said no and 39% said it causes diarrhoea. Of the 106 MOHW staff at HF's who answered the same question, 36% referred to Tsabana causing diarrhoea.

The picture is similar for Malutu. Of 158 respondent parents/carers receiving Malutu for their children across the 12 MOHW districts surveyed for this evaluation, 77% said that children like Tsabana; 22% said they do not. Diarrhoea is also mentioned as a problem with Malutu: 24% of interviewed parents/carers with children receiving it said that Malutu can cause diarrhoea. Only 8% of MOHW staff at HF's answering this question referred to diarrhoea.

The VGFP also supplies Malutu, beans and oil to medically selected pregnant and lactating women. Those selected are a small minority: in only nine (5%) of the households interviewed at HF's during this evaluation. Of these nine, one said she consumed all the Malutu supplied for her use. Five said they consumed half of the supply; three said that they ate only a quarter of it.

The acceptability of both Tsabana and Malutu is qualified by some

concerns about the condition in which beneficiaries receive them. Of parents/carers receiving Tsabana, 88% had no such concerns; for Malutu, the proportion was 92%. The minority who do refer to problems are mainly concerned about the commodities being at, or even past, their expiry date by the time they are distributed. (Both products have a shelf life of four months.) From the perspective of the recipients, VGFP quality standards are largely adequate. From the perspective of the GOB, various measures by the MOHW to ensure the proper and safe composition and preparation of VGFP commodities are usually, but not always, successful. Every production batch from the manufacturers is tested in MOHW laboratories; the plant is inspected every two months; recalls are occasionally imposed – for example because the plant has undercooked the commodity. The MOHW quality check process is often slow, however, leading to concerns that rations may reach health facilities with only a limited shelf life left. UNICEF's recent supply chain study suggests that some of this quality control

Kgalagadi North is one district where social ills are rife, exacerbated by culture... Too much alcohol consumption is the main impediment to nutrition education. Until social ills are tackled multi-sectorally, nutrition education remains a fallacy (dream).

More health workers per ward so as to give education to some of our community who wake up and go for traditional beer drinking the whole day.

Nutrition education can be improved through conducting Pitso/ kgotla meeting as well as daily talk with mothers coming for monthly growth monitoring and promotion. Involvement of community leaders also can be very helpful in ensuring that nutrition education reaches majority of the people in the district. But most of the time Nutrition doesn't serve much of a purpose especially where food security is very poor. You will find that sometimes we give nutrition education but there's actually food insecurity at home such that even after acquiring the information care givers don't have anything at home to cook.

Nutrition education is not effective in our district because the caregivers are not implementing what they are taught due to the fact that they do not have foods at their homestead to cook or feed their children

Nutrition education is not the problem the problem is shortage of enough nutritious foods for the poor...

Online survey respondents

work could be contracted to the private sector (UNICEF, 2019b: 19). Informants at FRS warehouses also report quality problems with the commodities that accompany Tsabana and Malutu, notably beans – which are sometimes spoiled by pests and have to be returned unused. Figure 10 on page 39 shows how often respondents to this evaluation’s online survey mentioned problems with food quality affecting the VGFP.

There is consensus among all informants about the reasons for the way VGFP rations are used. They link mainly to the fundamental cause of stunting in Botswana: poverty. Significant numbers of Botswana households are food-insecure and live in poverty (section 3.1 above). According to numerous informants, additional supplies of food to such houses are often consumed by many or all family members, and not restricted to the child or children for whom they were intended. Given the pressure on the time and resources of such parents and carers, it is impractical to expect a different pot to be used (probably using extra fuel) for the separate preparation of Tsabana or Malutu for the children. There are also cases when VGFP rations are received, but not actually needed, by better-off households, and therefore transferred to non-target adults or children in other families.

The distribution and use of VGFP rations within recipient households is one of two reasons why those rations do not often last for the full month between HF visits, as they are meant to. The second reason is incomplete supply to HFs (section 5.6 below). Figure 3 below shows the incomplete duration of much VGFP utilisation. Rations often last less than the full month because less than a month’s supply was provided by the health facility, and/or because they were consumed by more household members than intended.

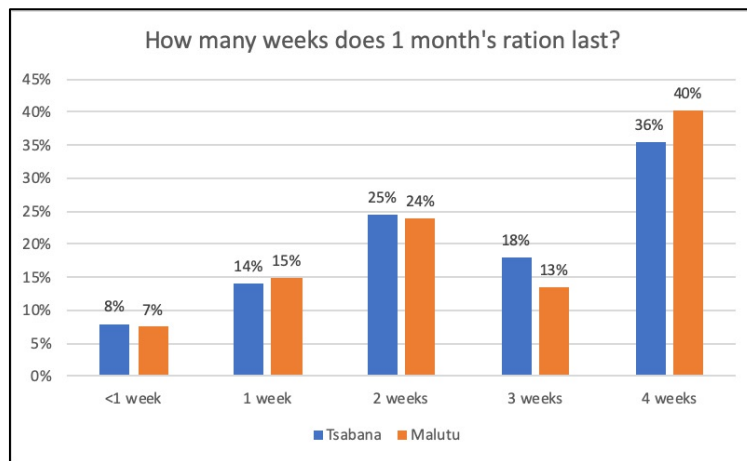


Figure 3. How long a month's VGFP ration lasts

Source: evaluation survey of parents/carers at HFs and at home.

Parents and carers interviewed by the evaluation’s field survey were asked whether there were gender differences in the feeding of Tsabana and Malutu to children. Of 124 respondents to this question with regard to Tsabana, 40% said that there is a difference between the way the food is given to boys and to girls. Of the 89 who answered with regard to Malutu, 33% said that there is a difference. Probing by interviewers did not reveal any systematic gender discrimination in the distribution of VGFP rations among children. Parents and carers mostly explained that boys tend to eat more than girls, so are given more. Where there may be slightly more significant gender discrimination, according to community-level informants, is in the tendency of some poor families to reserve the best and/or the most food for the male

head of the household. In the many cases where Tsabana and Malutu are shared around the family, this gender factor may further reduce the amount of the VGFP ration actually consumed by the target children.

Overall, the VGFP’s interventions and products have proved highly acceptable to the households receiving its support – although this evaluation is probably the first time that a small sample of them have been given the opportunity to express their opinions about it. That should make it easier for their views to be taken into consideration in determining the future of the programme. But the strong acceptability of Tsabana and Malutu is based on their broad social protection function in supporting household food security, rather than on any more specific child nutrition function – even though parents and carers are certainly aware that these rations assist their children’s healthy growth.

5.5 Nutrition-related knowledge and practices

To combat stunting and to achieve all other elements of good child nutrition, it is essential that parents, carers and the broader community have adequate, appropriate knowledge about the subject and put it into practice. According to the 73 respondents to the evaluation’s online survey (section 2.9 and Annex 9), the nutrition education of parents and carers leaves much to be desired (Figure 4 below).

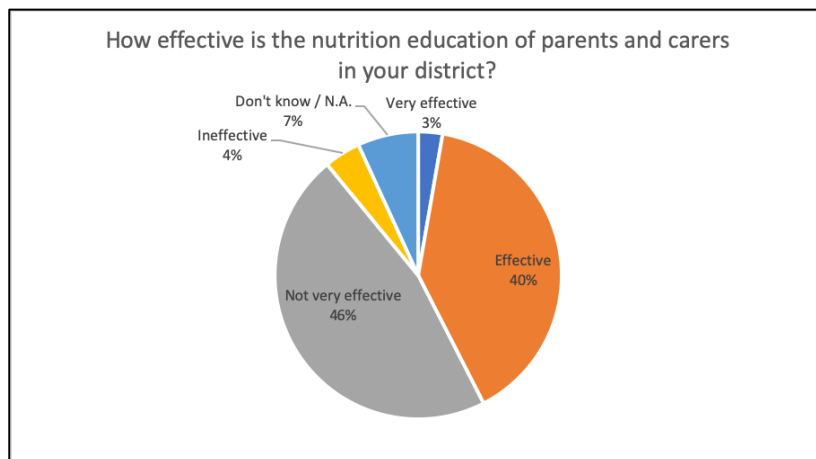


Figure 4. Effectiveness of nutrition education of parents and carers

Source: evaluation online survey of MOHW and other district-level staff.

Nevertheless, almost all the MOHW staff interviewed at health facilities confirmed that infant and young child feeding (IYCF) training and counselling are provided there by locally-based staff (mainly Health Education Assistants (HEAs)). Eighty-one percent of these respondents said that this training is provided more than once a week. Nutrition messages are meant to be conveyed every time parents and

The program can be improved such that early childhood care and education centres are also used especially in rural/settlements. Just like health/clinics do during campaigns like Vitamin A where health personnel visit day care centres and playgroups to administer the Vitamin A drops. Three ministries (Health and Wellness, Local Government and Rural Development, and Basic Education) should intensify working together at grassroots level than just on paper/at Ministerial level and should account at full Council by having VGFP as a stand-alone agenda item.

Online survey respondent

carers bring children to the CWC. Staff respondents were not fully confident in the effectiveness of this nutrition education, with 27% saying that mothers do not change their behaviour on the basis of what they are taught. Other informants interviewed by the evaluation team at district and HF levels also suggested that the quality of nutrition education is not optimal.

One of the most important elements of good child nutrition is exclusive breastfeeding in the early months of life – ideally the first six months. The VGFP ration of Tsabana is available for children above that age (up to 36 months). MOHW staff at HFs stated that exclusive breastfeeding is common (Figure 5). According to these staff, the factors affecting how long a child is exclusively breastfed include the mother’s work or school commitments (mentioned by 41% of respondents); health implications (38%) and the advice that MOHW staff give (35%: respondents could mention more than one factor). Figure 6 shows a large majority of parents and carers interviewed at health facilities saying that a child should be exclusively breastfed for six months, and Figure 7 shows their reported practice for all their children aged under ten years.

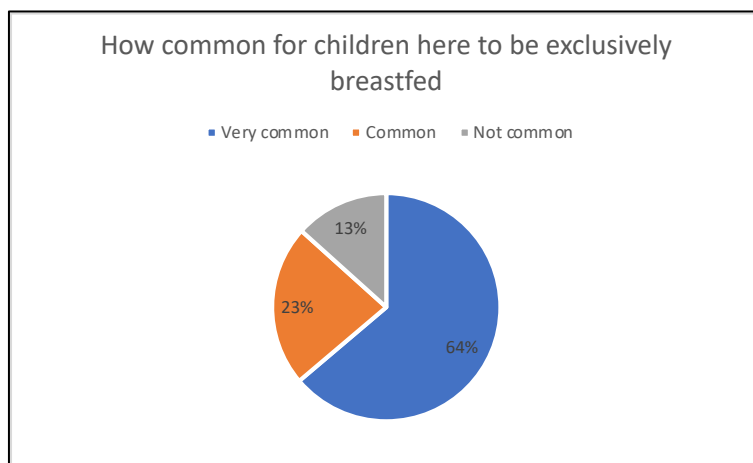


Figure 5. Health staff’s views on breastfeeding practice

Source: evaluation survey of MOHW staff at CWCs.

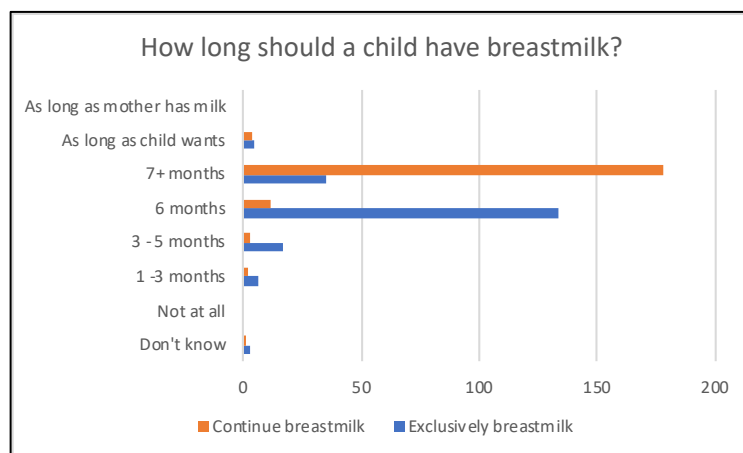


Figure 6. Parents' and carers' views on duration of breastfeeding

Source: evaluation survey of parents/carers at HFs. X axis shows number of respondents.

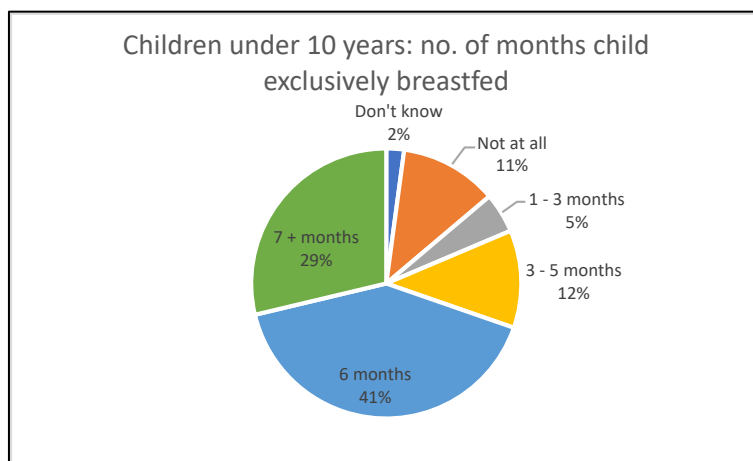


Figure 7. Parents' and carers' reported breastfeeding practice

Source: evaluation survey of parents/carers at HFIs.

Strengthening Botswana's nutrition-related knowledge and practices is a key element of a multisectoral approach to the nation's nutrition challenges, and resonates with the MOHW's overall Road Map and intended 'paradigm shift' from curative to preventive services (UNICEF, 2018: 3). Multiple methods should be used for this social and behaviour change communication (SBCC) purpose (including broadcast, social and printed media, as well as counselling and education). But the backbone of such an effort, especially in the rural sector, will continue to be the nutrition extension programmes and personnel of the MOHW, focusing at community and household levels.

Caregivers should be educated more, we need to create an environment where they can learn better. We also need to consider observed feeding at our facilities in order to make sure that children indeed do get the necessary nutrients, especially for malnourished children.

Continuous health education to mobilise and inform the community on the importance of nutrition and health for all people especially women before and after pregnancy to ensure that we produce strong and healthy children thus ensuring healthy wellbeing for all thus having a healthy nation.

Health education remains the fundamental key aspect, let's have our health promoters /health education officers out at facilities not to be just sitting at DHMTs, upgrade our HEAs, all of them to at least a level of diploma, in the long run establish some facilities each per district where such kids can be closely taken care of. Thank you.

Online survey respondents

The National Nutrition Strategy 2015 – 2020 recognises infant and young child feeding as the first of its seven priority areas, describing it as "probably the single most important intervention for improving child nutrition in Botswana" (GOB, 2015: 57). For this and other purposes, it calls for the preparation of "an implementation plan, with inputs from other sectors, to achieve coverage at scale of the essential nutrition interventions identified as being the 'right things' for the nation... This Strategy envisages rapidly scaled up training and counselling on infant and young child feeding" (GOB, 2015: 71). While it is not clear whether such an implementation plan has since been developed, a probably recent (2018?) MOHW document on staffing to achieve the 'paradigm shift' says that "ideally, we need at least one Health Education Assistant [HEA] for every population of 500 people and 10,000 for Health

Education Officer/Technician" (GOB, nd (a): np). It identifies a need for a 47% increase in Health Education Officers/Technicians at DHMT level (from 139 to 205) and for a 90% increase in HEAs, from 716 to 1,361. Neither this document nor the National Nutrition Strategy make any reference to a specific cadre for nutrition extension work. Such work is seen as one of the functions of the general health extension personnel. A new Community Support Strategy is proposed in an undated MOHW document, building on the roles of HEAs (of whom 650 were reported to be in post) and of community health volunteers (CHVs). Harmonisation of the numerous cadres of CHVs is proposed in a separate undated (2017?) document (GOB, nd (b); GOB, nd (c).

Current health facility staff do certainly undertake SBCC work as part of nutrition extension efforts during the visits of parents and carers to the HF and – to a lesser extent (due to staff shortages and logistical constraints) during home visits. But much more could be done to strengthen nutrition-related knowledge and practices among Botswana parents and carers.

Especially but not only in western Botswana, there is concern that parents and carers are not sufficiently able or willing to give their children adequate care – including the proper preparation and feeding of the food provided by the VGFP for them. Many GOB staff refer to dependence on alcohol and allege general parenting and social irresponsibility in very poor households – which, they say, sometimes include delaying child feeding while seeking or consuming alcohol; preparing Tsabana or Malutu carelessly; diverting some or all of the food to adult household

members; or even selling the rations in order to obtain alcohol. While this evaluation could not measure the extent of these reported problems, they are clearly symptoms of poverty and social marginalisation – challenges for the national social protection strategy and system, which so far has been unable to address them effectively. The views expressed by staff also represent a common misunderstanding among educated people about how extreme poverty and marginalisation affect people's morale and behaviour.

5.6 The efficiency of the VGFP

This section considers the efficiency of the VGFP from three perspectives: nutrition, procurement and logistics, and institutions.

I will suggest the government should allocate a team that will only focus on child nutrition as a programme because in my district there is no nutritionist nor community dietitian only clinical dietitians, this will help to do more of prevention than curative. In most districts community health nurses are the ones running the programme while they are multi tasked hence some programmes are not given more attention. Health Education Assistants are also multi tasked and due to shortage of staff mostly they are alone in Child Welfare Clinics which sometimes they miss some cases of malnutrition hence late diagnosis. More training slots should also be given to those who are dealing with malnutrition like us Community Health Nurses to be nutritionists because we are already coordinating nutrition programs with less knowledge.

Mentoring by the national level. There should be a nutrition officer in the district. Most of facilities don't have HEAs; we need to be given more HEAs. Health Education Officers should have a plan and do frequent support visits to the facilities. Improve stakeholder collaboration. To be honest most HEOs spend time in the offices and their contribution to the health education at the facilities is not remarkable, they are seen mostly during campaigns. The HEO should have objectives targeting malnutrition and health education in general, and their supervisors at national level should see that these HEOs are implementing these objectives. They should be placed at facility levels not all in at the DHMT.

Online survey respondents

5.6.1 Nutritional efficiency

For optimum nutritional efficiency, the VGFP should combine the highest possible nutritional effectiveness with the lowest possible cost. As will be explained further in chapter 9, the incompleteness of VGFP cost data precludes a full assessment of nutritional value for money. In terms of nutritional composition, expert informants state that changes are required to Tsabana to improve the bioavailability of iron and alter the zinc content, and to have a carotenoid form of vitamin A rather than palmitate to avoid toxicity. The MOHW has requested WFP to conduct an evaluation to assess the efficacy of Tsabana and Malutu through reviewing their formulation and processing, assessing the presence and absence of anti-nutritional factors and micronutrient bio-availability in line with the global standards. Although that evaluation is not yet complete, it can tentatively be concluded that the composition of the two commodities could be improved, making them more biologically efficient. Whether this would increase or reduce their cost is not yet known.

A second key aspect of nutritional efficiency concerns the way Tsabana and Malutu are prepared by parents and carers. As explained in section 5.4 above, these foods are not always prepared according to instructions, despite the advice that HF staff give. This obviously reduces the potential nutritional benefit for the recipient child (assuming that the food is being consumed by the child(ren) for whom it is intended).

5.6.2 Procurement and logistics

The efficiency of VGFP procurement and logistics are a longstanding concern (section 4.1 above). As explained in section 4.3 above, these functions are the responsibility of the MLGRD Department of Local Government Finance and Procurement Services. Tsabana and Malutu are procured from Botswana manufacturers through conventional GOB competitive tendering processes. Two companies dominate the market, with one delivering to 11 of the 20 FRS depots, and the other delivering to nine. Procurement, transport, warehousing and final distribution for the VGFP and for the school feeding programme are integrated in the budget and systems of the MLGRD Food Relief Services. The combined FRS budget for the two programmes was P649m in 2018/19 (MLGRD had requested P723m). According to informants, GOB funding is not a constraint on the VGFP. If, for drought or other reasons, additional funds are needed in the course of the financial year, MLGRD is normally able to secure them through supplementary votes.

Over the last 12 months, the efficiency of FRS procurement for the VGFP has been severely affected by the introduction of the GOB's electronic Integrated Procurement Management System (IPMS), which requires invitations to tender (ITTs), and suppliers' bids, to be advertised and submitted on line. There have been numerous and lengthy teething problems. FRS started its first IPMS process in July 2018, but was only expected to publish its first ITT on the new platform in April 2019. Meanwhile, suppliers have been operating on interim contracts of three to four months at a time, leading to various interruptions in supply (UNICEF, 2019b: 12). Another common cause of delay is appeals by unsuccessful bidders against supply contract awards. The appeals process can be protracted, so that, again, short interim contracts must be used in the meantime. Supplies of sunflower oil, for example, have been on the basis of interim contracts since 2016 because of appeals.

A recent UNICEF study of the supply chain for the VGFP and the primary school feeding programme found that

Delays in the turnaround times for processing procurement transactions have proven to be the biggest bottleneck to programme implementation. Delays with processing tenders have been noted with commodities that are procured centrally by the FRS such as Tsabana, Malutu, canned stewed beef (for the Primary School Feeding Programme) and cooking oil). The lack of buffer quantities in the programmes' supply chain system exacerbates the stock-outs related to delays in procurement.

UNICEF, 2019b: 12.

The supply chain study included a table that highlights some of these inefficiencies (note that UHT milk is procured for the school feeding programme).

DHMT should play a more significant role in the procurement and supply of food rations because currently it's a case of the supplier in this case being Food Botswana versus the clinics, even if one commodity is not available, management is not aware of that situation and no immediate action taken to rectify the situation... For instance it's been years the ration is incomplete, issued without cooking oil and beans.

In my clinic it's been a year now without cooking oil, my suggestions is that retail stores like Choppies can be engaged to supply cooking oil.

Problem is the supplier. Normally the supply don't cater for all children as they will provide Tsabana and beans, next month will be Malutu and Tsabana. For oil we spend almost 8 months without supply. We as facilities we provide them with accurate numbers of beneficiaries.

Some of the rations to be procured locally e.g. cooking oil and beans.

Supply ration well in time to districts and avoiding supply in excess when expiry date is due in a few days.

Tender for supply should be done at District level not national level. Currently it is done at national level to supply the whole country and lapse in supply affect the entire country. Therefore Food Resource department need to be resourced or incorporated into DHMT or as deemed appropriate for timely service delivery.

Online survey respondents

Table 9. Procurement lead times for VGFP and primary school feeding commodities

Commodity	Expiry date of contract	Award date of new contract	Procurement lead time
UHT milk	May 2017	February 2018	9 months
Cooking Oil	November 2018	No award to date (interim contracts raised at 4 depots)	7 months to date
Tsabana	August 2018	No award to date (interim contracts raised)	10 months to date
Malutu	May 2018	No Award to date (interim contracts raised)	13 months to date

Source: UNICEF, 2019b: 12.

Various other factors affect the logistical efficiency of the VGFP. The FRS reports that its fleet of vehicles is old, which impairs the full and timely delivery of commodities from its 20

warehouses to the 916 health facilities that it serves. Some of the warehouses are in poor condition, with inadequate temperature and pest control. The FRS reports significant concern about pilferage at HFs. An initiative started two years ago to appoint ration clerks at HFs, but many of those employed are interns and stock management skills across the system are inadequate. Meanwhile, the recent supply chain study notes that “at the facility level there are no standard logistics tools used to manage the inventory of the food commodities... There are no guidelines on the minimum and maximum stock or inventory levels that facilities must hold... The lack of inventory management practices makes management of commodity supplies very difficult... Most depots and facility level storage spaces do not meet the Food and Agricultural Organisation (FAO) minimum requirements for storage of food commodities... Deliveries from depots should take place every quarter. However, because of the limited storage capacity at the schools and health facilities, they are rarely able to store the full complement of commodities for the programmes. As a result multiple delivery runs are required to replenish stocks.” (UNICEF, 2019b: 14, 16).

The net result of these challenges is that supplies of Tsabana and Malutu to HFs is erratic and incomplete – which seriously undermines the efficiency (and the effectiveness) of the VGFP. Data from the Botswana National Nutrition Surveillance System (BNNSS) have been analysed below to show the relationship between VGFP ration availability and HF attendance in 2018 – 2018. It should be noted that the data have only been analysed for HFs with attendance exceeding 100, as performance is even more varied at the smaller facilities.

If the availability of rations were a perfect match for the number of children coming to CWCs, the graph summarising the situation at all HFs would show a single flat line at 100%. Instead, Figure 8 shows three lines plotting the relationship between ration availability and attendance for the lower quartile of all HFs (those with the worst experience), the median, and the upper quartile, whose ration availability/attendance ratio was better.

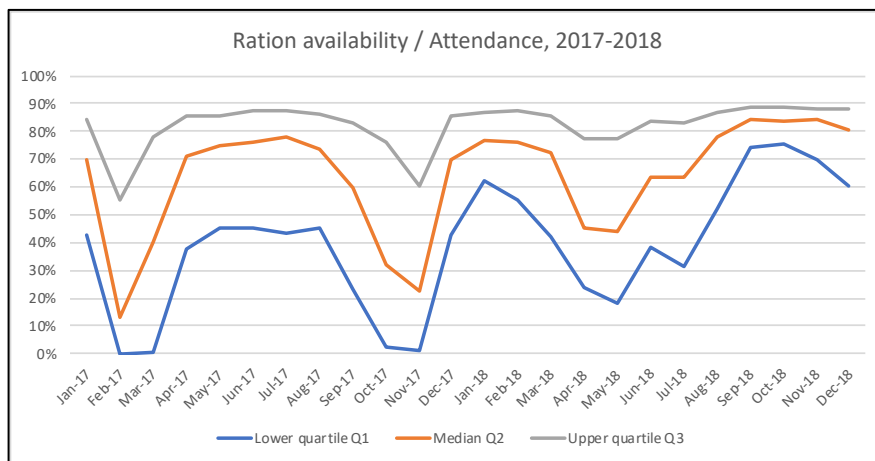


Figure 8. VGFP ration availability and HF attendance, 2017 – 2018: lower, median and upper quartiles

Source: evaluation team analysis of BNNSS data.

Figure 9 shows the situation in the same period for three individual, representative clinics in the three bands. It gives a better impression of the substantial variation in the extent to which ration availability matches clinic attendance from month to month.

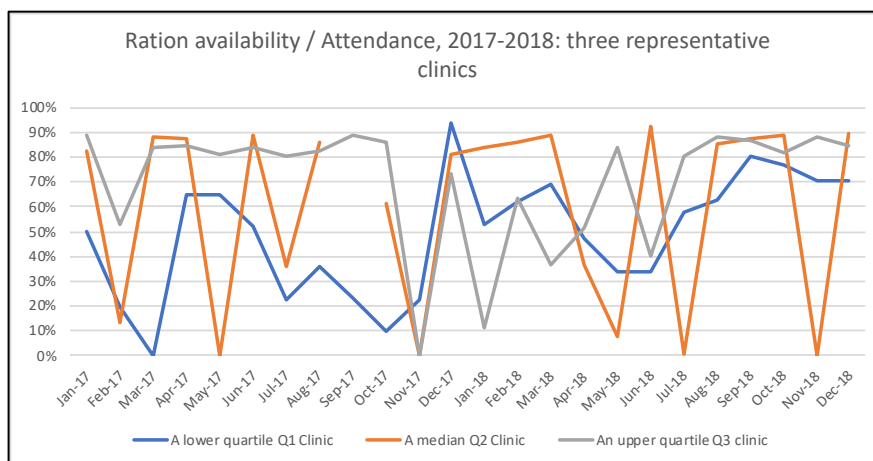


Figure 9. VGFP ration availability and HF attendance, 2017 – 2018: three representative clinics

Source: evaluation team analysis of BNNSS data.

Asked how regularly full VGFP rations are available at CWCs, 92% of respondent MOHW HF staff said “occasionally” and only 3% said “often”, while 5% said “never”. Of the parents and carers interviewed, 98% said that there were months when they came to the CWC and found that full rations were not available. In focus group discussions with parents and carers, 46% of the groups said that full rations were never available. When MOHW HF staff were asked how common it was for partial rations to be provided, 96% said “often”.

Consider increasing number of Tsabana/Malutu since it's shared amongst the whole family and child gets none. Reinforce health education on importance of feeding children ration from pregnancy till 5+.

Online survey respondent

Figure 10 below sums up the supply problems as reported by the 73 respondents to the evaluation’s online survey. It shows that there are many months at many places when supply of one or more of the commodities is insufficient. Problems with damaged or (nearly) expired stock also occur at significant levels.

Further analysis was done by taking the worst quartile of the MOHW districts ranked in Table 14 at Annex 4 (Gantsi, Kgalagadi North, Mabutsane, Kgalagadi South, Kweneng West and Boteti) and comparing these ‘deprived districts’ with all the other districts. It can be seen from Figure 11 and Figure 12 below that these six districts experience VGFP supply problems more often than the others.

The procurement and logistical problems outlined above pose a fundamental challenge to the VGFP, whose efficient nutritional performance among the intended beneficiary children is posited on their parents or carers receiving the full ration each month when they visit the CWC. As explained in section 5.4, that performance is further compromised by the fact that most beneficiary children only consume part of whatever ration their parents or carers are able to obtain.

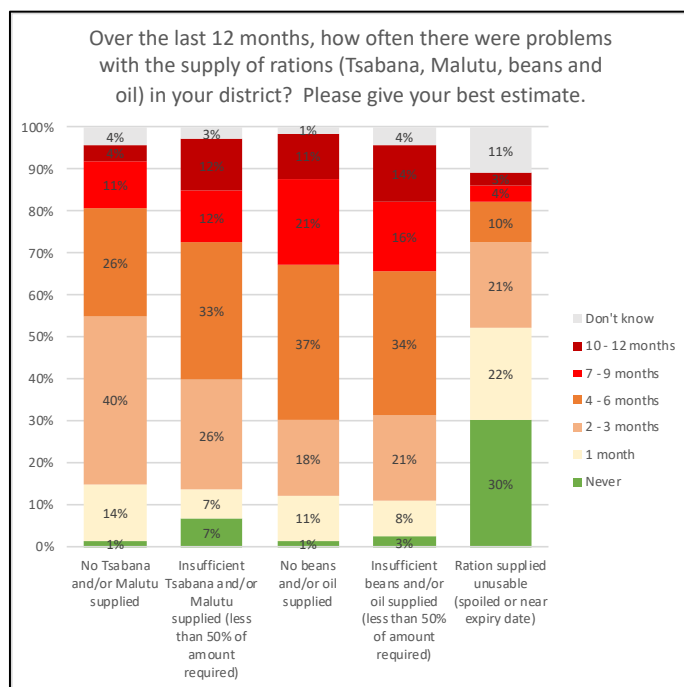


Figure 10. Frequency of problems with supply of VGFP rations

Source: evaluation online survey of MOHW and other district-level staff.

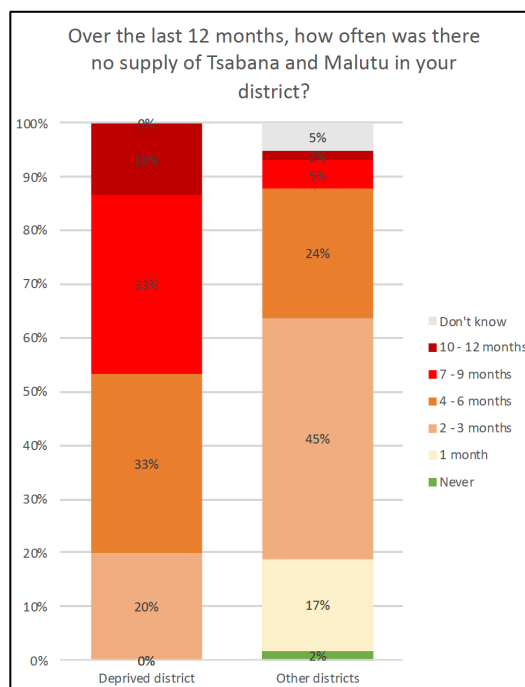


Figure 11. Frequency of no rations: six most deprived districts compared with other districts

Source: evaluation online survey of MOHW and other district-level staff.

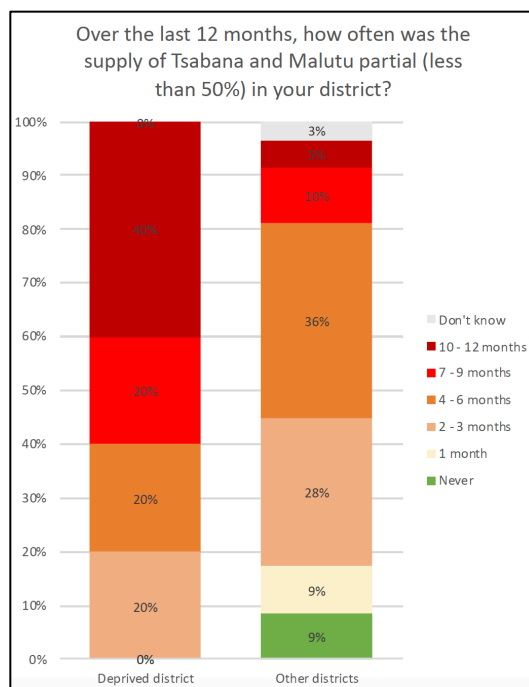


Figure 12. Frequency of partial rations: six most deprived districts compared with other districts

Source: evaluation online survey of MOHW and other district-level staff.

5.6.3 Institutional efficiency

It is now ten years since the MOHW took over responsibility for local health facilities from District and Town Councils. That should have been one step towards greater institutional efficiency for the VGFP, as previously District Councils had a role in the programme alongside the Ministries of Health and Local Government.

The continuing split of the VGFP between those two ministries remains fundamentally inefficient, as it divides the technical element of the programme from the logistical one and immediately creates needs for co-ordination that would be absent if a single ministry were responsible for all aspects of it, with a dedicated budget for all of those aspects. The current split reflects the character of the programme as originally dedicated to drought relief and today still performing more of a food security, social protection function than a purely nutritional one. (On the other hand, the recently introduced direct feeding programme for moderately and severely underweight children at selected HFs in selected districts is run by the MOHW (Table 18, Annex 5).) As noted above, the MOHW does not consider it its role to operate a food security programme. At the same time, there is concern that the VGFP may not be effective enough in addressing child nutrition challenges in Botswana; and the MOHW receives no funding specifically

Services provided from one service centre (Ministry of Health and Wellness) can be easily monitored, evaluated for better outcomes.

Shifting all responsibility for VGFP to MOHW will help improve direct accountability in terms of availability of the commodities (food ration). because as it is right now MOHW do not have direct control on the purchasing and availing those food commodities as it's under Ministry of Local Government and Rural Development.

Online survey respondents

assigned for the intensive staff effort that it dedicates to the implementation of the programme at HF level.

The answer, however, is not necessarily to channel all child nutrition efforts through a single ministry. As will be argued in chapter 6 below, the way to achieve a fully effective child nutrition intervention is to combine the efforts of multiple sectors, ministries and agencies across government and society. This poses new efficiency challenges, as numerous actors and activities have to be co-ordinated. But that kind of institutional efficiency should not be beyond Botswana's reach.

5.6.4 Monitoring and evaluation

M&E is a key aspect of efficiency for a programme like the VGFP. Despite the intensive efforts of hard-working staff in the MOHW M&E unit and at CWCs around the country, data quality and coverage on stunting are inadequate. While young children's weight is measured at each monthly visit to the CWC, length/height is measured twice a year, in February and August. Data on both parameters are recorded in children's CWC cards (where they are also plotted on charts that show normal and abnormal ranges of growth), and on nutrition surveillance log book monthly reports and monthly summary sheets (the latter show weight but not length/height). So far, these systems are only partly computerised, with work ongoing to integrate more of the data capture process from HFs to the MOHW Health Information System. As monthly summary sheets do not capture length/height, detailed (and so far mostly manual) analysis of the log books and other sources is necessary to gather information about stunting.

There is concern at higher levels in the MOHW that the length/height (and thus stunting) data collected at HFs are incomplete and inaccurate. Cross-checks undertaken through more detailed surveys have revealed a significant variance, leading to a fear in the MOHW that routine data collection may be understating the true level of stunting.

5.7 The effectiveness of the VGFP

The effectiveness of the VGFP is another central evaluation criterion emphasised by the TOR (section 1.1 above).

The essence of the inferred theory of change for the VGFP (Annex 2) is that stunting is caused by a nutrient gap which is then filled by providing a food ration. As shown in section 5.3 above, the World Bank's 2015 poverty assessment found a positive correlation between stunting and food insecurity and poverty. For those households that are food insecure and therefore arguably where the rationale behind the VGFP holds true, examining the effectiveness of the VGFP is perhaps more of a straightforward exercise. However, as shown in section 5.1, it is likely that there are other drivers of undernutrition besides a nutrient gap, such as poor IYCF practices, poor hygiene practices, poor child-care practices, substance abuse by parents, gender-based violence and childhood disease. This adds a degree of complexity when assessing the effectiveness of the VGFP. While well-nourished children are better able to fight disease, a food-based approach will not address the practices that contribute to undernutrition and that will persist even if the ration is consumed as intended. Lastly, there are those households where the risk of undernutrition is low and even the risk of overnutrition is high. As highlighted above, in these instances a food ration is inappropriate and therefore whether it is effective is irrelevant.

For those households that are food insecure and where a nutrient gap exists, the effectiveness of the VGFP depends on whether the ration provides the required nutrients and whether the target group eats an adequate amount of the ration. As reported in section 5.6.1, the nutritional efficiency of Tsabana and Malutu may not be optimal, compromising the effectiveness of the VGFP even when rations are provided and consumed according to design. Section 5.6.2 showed that the latter condition is not met either. Shortfalls in ration delivery to health facilities, and the fact that often less than half the rations received are consumed by the target children, mean that even if nutritional efficiency were optimal, the effectiveness of the programme would be low.

In addition to the effectiveness of VGFP rations, the quality of IYCF and other nutrition counselling is a major factor in determining levels of stunting and of child nutrition and health overall. As noted in section 5.5, inadequate staffing, skills and related resourcing for nutrition and related health extension work are a serious concern, and are likely to have a significant negative effect on the nutrition of Botswana children. Information, communication and family support measures are not effectively provided in association with the VGFP. Nutrition messaging is provided, but not often or intensively enough, particularly at household level away from HFs themselves. Nutrition extension is arguably not a function of the VGFP, and is therefore not of direct concern in an assessment of the VGFP's effectiveness. But that argument itself illustrates Botswana's current lack of an appropriately constituted and configured child nutrition strategy. The country is trying to tackle stunting through a social protection/food security strategy, rather than a nutrition strategy.

An indirect effect of the VGFP might be that the availability of VGFP rations at HFs would encourage parents to bring their children to Child Welfare Clinics, so improving children's access to health facilities and thus enhancing their general health. There is no evidence of any such direct relationship from available data on ration availability and CWC attendance – in other words, that fewer children are brought to CWCs for their routine checks when rations are not available. MOHW staff interviewed at HFs did say, however, that attendance at CWCs is far from complete. Of those staff interviewed, only 58% thought that parents and carers regularly brought their children to the CWC. The most commonly mentioned reasons for absence were that the parents/carers were away from the area (mentioned by 22% of respondent staff); that there were no VGFP rations available (mentioned by 20%); and that parents were irresponsible (13%).

Section 5.1 at the start of this chapter explains that the current reappraisal of nutrition data from three key surveys is ongoing. Uncertainty about whether stunting has been reduced - from the headline figure of 31% that is most commonly quoted – makes it hard to be conclusive about the effectiveness of the VGFP in this regard. If, as seems likely, there has been some decrease in stunting, it would be hard to attribute that to an effective VGFP, given what a small proportion of the designed intake of Tsabana and Malutu actually happens – due to low deliveries and consumption by other family members. If the current three-point study of the key surveys finds that the stunting rate has not decreased, or has even increased, the conclusion would have to be that the VGFP is ineffective and that alternative strategies should be sought. In either scenario, the VGFP cannot be seen as cost-effective.

While there is no way, with available evidence, to argue that the VGFP is effective in terms of child nutrition, it is likely that the programme has a significant positive effect in terms of social protection. Throughout the country, but especially in western Botswana, there are significant numbers of citizens who depend heavily for their food and livelihood security on social

transfers from the state – notably the Ipelegeng labour-intensive public works programme. There is widespread evidence from informants at all levels that VGFP rations are consumed by many household members because of the need for food. (Of 109 parents and carers interviewed at HFs who said that they gave the target child less than 100% of the ration provided, 74 (68%) reported giving it to other family members in general, with 34 (31%) saying they gave it only to other (non-target) children.) Some richer people may enjoy Tsabana because it tastes good. The majority eat it because they have little or no choice. Despite Botswana's increasing prosperity, the need for an effective social protection strategy remains as strong as the need for an effective child nutrition strategy.

5.8 The impact of the VGFP

Impact is best distinguished from effectiveness in terms of the time horizon: it concerns the long-term effects of an intervention (OECD DAC, 2002: 24). The VGFP has certainly been in operation for long enough to make an assessment of impact appropriate, in theory. But, for the reasons enumerated in section 2.3 above, formal impact evaluation of the VGFP is not possible in practice. In the circumstances, it is not very helpful to distinguish the impact of the VGFP from its effectiveness.

It was explained above that, whether stunting has declined or not, the VGFP cannot be considered effective in nutrition terms. Nor is it reasonable to claim positive nutrition impact for the programme. Again, however, the VGFP is likely to have had positive impact as part of the suite of social transfers that keep large numbers of poor Botswana from food insecurity and deep poverty. Assessing the overall impact and direction of social protection in Botswana would be the subject of a different, and much larger, evaluation.

5.9 The sustainability of the VGFP

The fiscal sustainability of the VGFP cannot be assessed in any detail because the full costs of the programme to the GOB are unknown. But there are clear signals from the Ministry of Finance and Development that Botswana's long history of generous spending on social protection is not indefinitely sustainable, and that stronger justification will be needed for such budgets in future. There is also concern in the MFED that, while social investment is highly appropriate in principle – not least because a healthy nation is a productive nation – such investment should be evidence-based and focused on clear programme objectives. As this evaluation has pointed out, the VGFP has no design document, and over the years its objectives have been inferred and assumed rather than explicitly stated and justified.

From these qualitative perspectives, it is clear that the VGFP is unlikely to be sustainable if it continues to be seen as a nutrition intervention. Botswana faces major questions about alleviating poverty and sustaining adequate social protection on nationally acceptable principles of state and individual responsibilities for social transfers and self-help. Again, those questions would be the subject of a different study. From the nutrition perspective, this study's preliminary development of an investment case for nutrition will show that an appropriately configured national nutrition strategy will be sustainable – indeed, it will pay for itself by achieving a healthier, more capable, more productive nation.

6 Achieving good nutrition for Botswana children

Before presentation of the conclusions of the evaluation, it is useful to explore what an optimal approach to nutrition in Botswana would entail. This chapter sets out the principles guiding the evaluation team's conclusions about the VGFP and how to make nutrition programming in Botswana more effective.

6.1 Building a multisectoral approach

Global evidence shows that nutrition-sensitive actions can have the most impact on reducing undernutrition (section 5.3 above). Case studies around the world have shown that adequate nutrition requires a multi-sectoral effort and that socio-economic status and child nutrition/child stunting are closely related. Brazil, for example, experienced a significant reduction of socio-economic inequalities from 1996 to 2007. Child stunting dropped from 37 percent in 1974 to 7 percent in 2006-2007 (Monteiro *et al.*, 2010; WHO, 2018). This is attributed to a combination of income redistribution and universal access to education, health, water supply and sanitation services. Cambodia similarly experienced rapid socioeconomic development from 1991, and child stunting decreased from 49.3% in 2000 to 39% in 2010. Increased household wealth, increased access to sanitation facilities, improved parental education levels, longer intervals between births and decreased prevalence of maternal tobacco use were the factors contributing most to this decrease (Ikeda *et al.*, 2013; WHO, 2018: 7). Other studies that show a correlation between socio-economic status and child stunting have been conducted in Pakistan and Oman (Mushtaq *et al.*, 2011; Mohamed *et al.*, 2004; WHO, 2018).

Nutrition-sensitive interventions

Nutrition-sensitive programmes draw on complementary sectors such as agriculture, health, social protection, early child development, education, and water and sanitation to affect the underlying determinants of nutrition, including poverty; food insecurity; scarcity of access to adequate care resources; and to health, water, and sanitation services. Key features that make programmes in these sectors potentially nutrition-sensitive are: they address crucial underlying determinants of nutrition; they are often implemented at large scale and can be effective at reaching poor populations who have high malnutrition rates; and they can be leveraged to serve as delivery platforms for nutrition-specific interventions. Nutrition-sensitive programmes might therefore help to accelerate progress in improving nutrition by enhancing the household and community environment in which children develop and grow, and by increasing the effectiveness, coverage, and scale of nutrition-specific interventions.

Nutrition-sensitive programmes can help protect poor populations from the negative consequences of global food security threats and mitigate the effects of financial, weather-related, and man-made shocks (eg, conflicts). Such shocks make poor populations increasingly vulnerable to undernutrition, as shown by food and fuel price crises in the past 6 years, and documented effects of conflicts on morbidity and mortality among affected populations. Climate change and the expected increased frequency of droughts and flooding are likely to reduce food availability and dietary diversity, and increase rates of infectious diseases such as diarrhoea or malaria. Under these circumstances, nutrition-sensitive programmes can help to protect the assets and welfare of poor people and their investments in the health, nutrition, and development of their children.

Nutrition-sensitive programmes are likely to affect nutrition through changes in food and non-food prices and income, and through women's empowerment.

Ruel *et al.*, 2013: 536-537.

Botswana has made some progress towards a multisectoral nutrition approach, for example by joining the SUN Movement, by the emphasis on nutrition-sensitive approaches in the draft National Social Protection Framework, and by the assessment of the possible impact of nutrition-sensitive agriculture by the Ministry of Agriculture. However, these efforts seem so far to have been done in silos, with little traction towards achieving a coherent and co-ordinated multisectoral approach - which is what is needed to address undernutrition in a fully meaningful and evidence-based way.

The current National Nutrition Strategy covers the five years to 2020. There is thus an opportunity to make the next strategy a fully multisectoral one. The process of developing that strategy provides an opportunity for sectors (including social protection, gender, agriculture, education, health) to come together and select priority nutrition-sensitive interventions (see box) which, alongside nutrition-specific measures (see page 25), would be measured through a common results framework – a single set of nutrition indicators agreed by all relevant sectors. Social protection mechanisms need to be effective to meet nutrient needs. An evaluation of how current mechanisms affect nutritional outcomes is needed, showing how to make the sector more nutrition-sensitive and effective in terms of health and livelihood outcomes. This includes a strong and relevant role for the agriculture sector and the Ministry of Agriculture in ensuring appropriate food production and food security strategies (including micronutrients).

However, any nutrition strategy must focus on the double or triple burden of malnutrition, not just undernutrition, and commit to the relevant WHO 'double-duty' actions:

Double-duty actions include interventions, programmes and policies that have the potential to simultaneously reduce the risk or burden of both undernutrition (including wasting, stunting and micronutrient deficiency or insufficiency) and overweight, obesity or diet-related NCDs (including type 2 diabetes, cardiovascular disease and some cancers). Double-duty actions leverage the coexistence of multiple forms of malnutrition and their shared drivers to offer integrated solutions.

WHO, nd: 3.

Nutrition-specific actions have a critical place in a multisectoral approach. The Determinants of Malnutrition study showed that between 2009 and 2013 the average vitamin A coverage was 75%, suggesting there is some room for improvement (although the BFHS 2007 data indicate vitamin A supplementation coverage at only 18.8%). A bottleneck analysis would help to understand what the barriers are to achieving greater coverage.

6.2 Effective social and behaviour change communication

Findings suggest that care practices are a key driver for undernutrition in Botswana, yet the current support for behaviour change activities delivered through the health system is patchy and needs to be strengthened. Arguably any social and behaviour change communication strategy should follow a life-cycle approach, and should therefore include activities that aim to improve adolescent nutrition, maternal nutrition as well as child nutrition should all be part of it.

It is important for the MOHW to determine the optimum channels for reaching these SBCC targets. ANC clinics are one way to counsel mothers on their own nutrition as well as the nutrition of their child, but other channels would be needed to target women pre-conception. This is where structures at community level are particularly important, as they can be leveraged to assist SBCC efforts; while schools and other youth-focused organisations would be a way to reach adolescents. However, it is also important for the MOHW to have its own capacity in place at community level to do household visits and other community engagements effectively. Health Education Assistants are not currently deployed for maximum benefit at the community level. Stronger efforts are required to produce messages and materials that are targeted for the different groups, and monitoring and evaluation are needed to assess the effectiveness of the approach and inform adaptations as required.

1. Engage Community Health Workers 2. Improve wages for Health Education Assistants as a way of motivation. 3. Active community mobilization and sensitization.

1. Provision of adequate and consistent availability of IEC and use of media to spread the message 2. Use of paid trained volunteers in cattle posts and hard to reach areas 3. Provision of a dedicated vehicle for transportation of nutrition officers and clinicians to improve mobile stop coverage

Availability of community health workers will make a difference in reaching out to the communities and interfacing with health facilities for appropriate interventions. the current setup is poor in this aspect.

Continuous nutrition education to mothers and carers daily as well as providing nutrition teaching sessions to expectant mothers so that they are informed to make the right feeding choices.

Online survey respondents

6.3 Focusing on the first 1,000 days

The current scientific consensus on child nutrition is that the period until a child's second birthday is the period during which the effects of stunting are reversible (The Lancet, 2008; The Lancet, 2013). There is emerging evidence that catch-up growth can be achieved after this period, but that this is more challenging (Leroy & Frongillo, 2019). To make a child nutrition strategy for Botswana more efficient and effective, it would be

A child should be given special attention while in utero up to 2 years. Also distribution of rations should be consistent, going along with nutrition education to the community.

If we prioritise nourishing the mother during pregnancy then the baby will be born well nourished, then we concentrate on nourishing the baby immediately after birth till the 2nd birthday by providing nutrition and monitoring the BMI monthly.

Online survey respondents

advisable to restrict it to the period from conception to the second birthday. This would imply retaining – indeed strengthening – nutritional support for pregnant and lactating women.

6.4 The interface between nutrition and social protection

This study has shown that the VGFP, which was conceived as a social protection (drought relief) programme, has continued to function as one, despite the intention to focus its benefits on the nutrition of young children. Because of the dependence of the poor on social transfers, this particular social transfer is used in part, when it is delivered, to nourish older children and adults as well as the young children for whom it is intended.

A recent WHO study explored the interface between nutrition and social protection. It stated that

“Social protection is considered one of the six cross-cutting integrative areas of impact derived from the recommendations of the ICN2 [the 2014 Second International Conference on Nutrition]”. It goes on to discuss conditional cash transfers (Ipelegeng is a Botswana example), which are an element of many countries’ social protection systems. (There are debates in Africa and elsewhere about the merits of conditional and unconditional transfers in social protection (Turner *et al.*, 2010a: 46).)

Door to door campaigns and distribution of IEC material on nutrition All mothers and fathers attending SRH services should be given nutrition education.

Education on one on one basis as they come for monthly appointments rather than in a large group because some people do not concentrate and some do not feel free to ask questions or participate in group sessions

Employing Community Nutritionists or Nutrition Assistants in ALL districts, to work with the office of Health Promotion & Education to regularly educate the caregivers of children.

Giving education in the home setting will assist the parents and the health worker to address real issues in the family.

Online survey respondents

Conditional cash transfers can also increase purchasing power and promote access to nutritional foods (47) and positively impact health outcomes. Conditional cash transfers may also improve children’s nutritional status and development, as well as increasing access to and coverage of hygiene, clean water and several other child health interventions... Evidence on the effectiveness of conditional cash transfers is mixed and positive results have been found mostly in the Latin American subregion... Conditional cash transfers have been shown to reduce poverty, increase the consumption of basic foods and increase dietary diversity. However, to have nutritional benefits they also need to be linked to nutrition goals, actions and service quality. They require decision-making on eligibility procedures, levels of benefit, and conditionality.

Cash transfer programmes in Latin America have been shown to have a positive impact on the nutritional status of children (i.e. a reduction of stunting). Cash transfers may also help to improve access to and use of preventive services and provide a positive impact on health outcomes.

WHO, 2018: 14-15.

Achieving good nutrition for Botswana children requires a clear and synergetic interface between national multisectoral nutrition strategy and national social protection strategy, in which it is the latter that fully assures the food and livelihood security of the population while the former focuses on optimising the nutrition of all Botswana, including children.

Ultimately, a focused feeding programme that delivers rations to young children should not be necessary if the above conditions are met. In a middle-income country like Botswana, all citizens should be capable of ensuring food security (which includes good nutrition) for themselves and their families – either on the basis of their own income generation, or with the support of the state through its social protection system. On those foundations, it should be possible for all citizens to ensure good nutrition for themselves and their families – guided and supported by a multisectoral combination of nutrition-specific and nutrition-sensitive strategies framed by national nutrition policy. Pregnant and lactating women, and their families, should know the paramount importance of good nutrition for them and their children during the first 1,000 days of life. SBCC programmes and strategies should build and sustain awareness among all sectors of the population about appropriate nutrition for all age groups – which they should secure for themselves with their own resources and/or with the support of social protection.

It will take time to achieve the situation just described. The draft National Social Protection Framework has made encouraging initial progress, by recognising the importance of nutrition-sensitive social protection. The challenge now is to build a matching national nutrition strategy for the coming decade, and to adopt a transitional strategy that gradually disentangles nutrition interventions from social protection programming, and makes the latter effective by fully resourcing the 80% of the results that will come from nutrition-sensitive interventions.

7 Conclusions

The evaluation distils conclusions from its findings by two means. First, it reviews the assumptions underpinning the inferred theory of change for the VGFP (Annex 2). Secondly, it offers conclusions on the significance of various factors in determining the performance of the programme.

7.1 Theory of change assumptions

Annex 2 presents the inferred theory of change for the VGFP, developed and approved during the inception phase of the evaluation. A useful way of drawing conclusions about the performance of the programme is to sum up the evaluation's findings with regard to each of the assumptions identified as underpinning the TOC. Table 10 below is structured according to the phases of the causal chain inferred for the VGFP, starting with the links between inputs and activities and concluding with the links between outcomes and impact. Assumption numbers correspond to those shown in blue circles in Figure 13 on page 74. Colour coding in the table below shows the evaluation team's assessment of whether the assumption is found fully correct (green); partly correct (orange); or not correct (red).

Table 10. Theory of change assumptions

Assumption		EQ add-ressed	Evaluation findings	See report section
No.	Summary			
Inputs to activities				
3	Funding for the VGFP is adequate.	3.4 4.1	Yes, overall funding for the VGFP is adequate, at least so far, and at least in terms of funding to MLGRD for the commodities. Current levels of funding may not be sustainable, unless more clearly justified	5.6.2
4	The institutional configuration of roles and resources for the VGFP within the GOB is optimal, in other words, that the respective responsibilities of MLGRD and MOHW make good sense and achieve cost-effective implementation.	2.7 3.3	Although MLGRD and MOHW have found ways to make the VGFP work, the arrangements are institutionally inefficient and do not reflect Botswana's need for a multisectoral nutrition strategy.	5.6.3 6.1 6.4
5	The relevant GOB personnel (for example, at HFs) have the appropriate skills for efficient and effective performance of VGFP activities.	2.9 2.12 3.7	Nutrition training and extension skills and nutrition monitoring skills need to be deepened and nutrition extension activities need to be intensified.	5.5
6	There are enough staff for the various tasks.	2.12 3.5 3.7	Significant increases are needed in the number of Health Education Assistants and other staff concerned with nutrition training and extension.	5.5
7	Parents and carers are fully committed to use VGFP resources as carefully and effectively as they can to promote the target children's growth.	2.11 4.2	Not all parents have the understanding or ability to prepare and provide VGFP rations for their children as advised (and some more affluent ones have little need for them, so do not use them carefully). More significant is the widespread food insecurity that leads to VGFP rations being consumed by other household members.	5.4

Assumption		EQ addressed	Evaluation findings	See report section
No.	Summary			
Activities to outputs				
11	Procurement of the required commodities is efficient and timely.	2.1 3.5	Procurement of food commodities has been a big problem, particularly since the tendering process was moved to an online system in mid-2018, necessitating a number of short-term interim contracts while the new system is made useable. Protracted appeal processes around contested contract awards also impair efficiency.	5.6.2
12	These commodities are distributed to health facilities in the required quantities, on time.	2.2 3.5	Commodities are not consistently distributed on time or in the required quantities. Supplies are erratic and often incomplete. Some are delivered close to their expiry date.	5.6.2
13	Parents and carers fully respect the required (normally monthly) schedule of CWC visits: not doing so clearly jeopardises the intended supplementary feeding of their children.	2.11	This assumption does not hold true in all communities or for all parents and carers. Livelihood strategies in the context of poverty and vulnerability sometimes necessitate household movements which interrupt the cycle of CWC visits. The availability or non-availability of VGFP rations does not have a major influence on CWC attendance.	5.7
16	On the CWC visits, the monthly cycle of growth and health monitoring is efficiently performed by the HF's to which they bring the children.	2.9 2.12 3.6	A system of growth and health checks monitoring and recording is in place, but there are some concerns regarding the efficiency and accuracy of the captured information on stunting.	5.6.4
Outputs to outcomes				
1	The overall strategy of the programme is appropriate: that this blanket approach to a certain level of supplementary feeding to a specified target group (children under 5) is the best way to tackle stunting.	1.1 1.3 1.5 3.1 3.2 4.2	The VGFP is a social protection programme with some social protection benefits. It is not needed universally. It is not appropriately designed as a nutrition intervention.	5.3 6
2	The nutritional composition of the Tsabana and Malutu rations is optimal.	1.2 2.14 3.1	Not optimal – can be improved – a separate study by WFP is under way.	5.6.1
8	Parents and carers are able to provide adequate care to young children.	2.11	This does not hold as a general assumption for parents and carers. There are communities where parents/carers are not able to care for themselves, let alone their children.	5.5
9	Because this is a supplementary feeding strategy, it is assumed that the balance (two thirds) of the target children's diet is satisfactory.	2.6 2.11 4.2	This does not hold true for all communities. Many poverty-stricken households are food-insecure and unable to assure two thirds of a satisfactory diet for their children. These households depend on social transfers for survival. Conversely, the growing number of	3.1 5.5

Assumption		EQ addressed	Evaluation findings	See report section
No.	Summary			
			overweight and obese children also have an unsatisfactory diet.	
10	The production quality by the contracted suppliers is correct.	2.3	The food inspection department of the MOHW regularly inspects the food supplied to the VGFP. Quality normally meets the required standards, but is not uniformly good.	5.4
14	The rations are prepared at home according to the guidelines provided.	2.5 2.11 4.2	In some homes the rations are not prepared according to the guidelines provided.	5.5
15	The target children consume the intended amount of Tsabana or Malutu.	2.6 4.2	This fundamental assumption often proves incorrect in practice, with the target children only consuming part of what the VGFP intends them to receive.	5.4
17	Awareness-raising and nutrition education have been effectively performed.	2.10 2.11	Awareness-raising and nutrition education are regularly performed at and by health facilities, but the content and coverage of these efforts are inadequate, with much more nutrition education needed at community level.	5.5
Outcomes to impact				
18	Stunting is indeed a significant brake on poverty reduction, sustainable livelihoods and a stronger national economy.	2.13 2.15	International experience and global nutrition literature confirm that people do not achieve their full cognitive and livelihood potential if they are stunted. More clarity is needed on the current level of stunting in Botswana.	1.1

7.2 Factors affecting the performance of the VGFP

Evaluation question (EQ) 3 in the evaluation matrix (Annex 3, page 79) asks what factors have affected the results of the VGFP. This section of the report presents the evaluation's conclusions with reference to each of the nine sets of factors to which EQ 3 refers.

Design factors are central in explaining the performance of the VGFP. The VGFP was not originally designed as a nutrition intervention, but it has come to be regarded as one. For various reasons, it continues to fulfil some social protection functions – partially – by helping to address household food insecurity. For the same reasons, its effectiveness in improving the nutrition of young children and preventing stunting is seriously compromised. Botswana needs to design a nutrition strategy and interventions in order to end stunting.

GOB policy and strategic factors are equally central in determining VGFP performance. Botswana's draft National Social Protection Framework points in appropriate directions with regard to nutrition-sensitive social protection and a focus on the first 1,000 days of life. But neither the current National Nutrition Strategy nor the structure or functions of the various potential elements of the required multisectoral approach to approach currently achieve the required combination of roles and actions, despite Botswana's membership of the SUN movement. Policy and strategy need to be reorientated if stunting is to be tackled effectively.

Institutional factors are significant too, reflecting the design, policy and strategic issues identified above. Inefficiencies arise from the split of responsibilities between MLGRD and MOHW. More importantly, as just stated, a different and broader institutional configuration is needed in order to achieve a multisectoral strategy that combines nutrition-specific and nutrition-sensitive interventions in an adjusted relationship with a reinforced social protection strategy.

Funding and budgetary factors are arguably less significant in determining the results of the VGFP to date. Adequate resources have generally been available to MLGRD for the procurement and delivery of programme rations. But these factors will be increasingly significant in the future of the VGFP. First, the availability of GOB funding may be restricted, with the Ministry of Finance and Economic Development increasingly committed to ensuring good value for money. Secondly, the multisectoral nutrition strategy that would be more effective in tackling stunting would require a different budgetary configuration, with a revised distribution of resources across various arms of government.

Management and logistical factors have been increasingly significant in explaining the disappointing recent performance of the VGFP. Old inefficiencies in the purchase and distribution of VGFP rations have been compounded by new ones, as the introduction of a new online procurement system led to major delays. But it is important to understand that a perfectly functioning logistical system in support of the current VGFP would not solve Botswana's stunting problem. Overcoming management and logistical improvements would achieve some increase in the amount of VGFP food that the intended beneficiary children consume, and could improve the regularity of access to that food. Very different factors determine how much of the ration goes to those children rather than to other household members; and more basic design factors determine whether the VGFP approach of supplementary feeding is the best way to tackle stunting.

The accessibility, acceptability and efficiency of CWC services bundle a number of factors of varying importance in determining VGFP performance. CWC staff overcome many challenges (including vacant posts) to achieve a reasonable level of service that is largely acceptable to parents and carers of young children, although not optimally efficient. Access to services is not a major factor in VGFP performance, although staff and transport shortages restrict some mobile services to scattered and remote populations. The principal shortfall in the work of health facilities concerns nutrition training and extension, at CWCs and at household level, in order to achieve the level of social and behaviour change communication that an effective nutrition strategy requires.

GOB staffing factors are thus most significant with regard to nutrition training, extension and related SBCC functions. Significantly larger numbers of better-trained personnel are needed for this work, with stronger direction and supervision from district and headquarters levels to ensure that this vital element of a multisectoral nutrition strategy is implemented as required. It is important to ensure that nutrition remains a focus of the community-level health extension strategy that is currently being developed and implemented.

Livelihood factors are all-important in determining the results of the VGFP. One of the principal reasons why programme rations do not reach the intended beneficiary children in full is that many of their parents and carers live in food-insecure poverty, and substantial proportions of the rations are diverted to other household members. This is how the VGFP performs as a social protection programme, making an important though partial contribution

in that regard. An effective set of nutrition interventions to end stunting should be distinguished from, but carefully interfaced with, an effective social protection system that keeps all Botswana from extreme poverty and food insecurity.

Gender and other social factors have a range of influences on the results of the VGFP. Gender is less significant than the fundamental social challenges facing poor and marginalised Botswana, many of whom have little prospect of sustainable livelihoods and depend heavily on social transfers from the state in order to avoid destitution. The fundamental and so far insuperable challenge of achieving sustainable livelihoods for all able-bodied citizens has multiple demoralising effects in the livelihoods of the poor. Well-intentioned social and community development efforts have not yet succeeded in overcoming these, and the proper care of young children, including the proper use of VGFP support, sometimes suffers as a result. These are challenges of social protection and social development, not directly of nutrition strategy. Until they are overcome, it will be hard to redress their negative effects on the children whom the VGFP tries to help.

The conclusions in this chapter about the inferred VGFP theory of change, and about the factors affecting VGFP performance, underscore the evaluation's overall conclusion: that the VGFP is not the best tool for the job of ending stunting in Botswana and ensuring good nutrition for the nation's young children. A multisectoral set of tools, giving due emphasis to the 80% of effectiveness derived from interventions that are nutrition-sensitive rather than nutrition-specific, implies a major restructuring of the country's nutrition and social protection policies, strategies and programming. There is already some awareness of this in the GOB. Some steps have been taken. The many more steps that are needed cannot be taken overnight. Chapter 8 below recommends the best way forward.

8 Recommendations

8.1 Introduction

The evaluation team leader presented the team's recommendations to the evaluation Technical Working Group on 3 July and to the Steering Committee on 5 July 2019. Comments received on the report and its recommendations following those presentations have been taken into account in preparing this final report.

The recommendations generated by this evaluation of the VGFP are based on the conclusion that the best way to ensure proper nutrition for young children in Botswana is to develop and implement a multisectoral nutrition programme – and to stop trying to achieve nutrition targets through the VGFP, which is effectively a social protection programme grown from drought relief roots.

In the medium term, therefore, the VGFP should be phased out. Its nutrition function should be taken over by an appropriately designed multisectoral nutrition programme (section 6.1) that continues to take a lifecycle approach focusing on mothers, infants, young children and adolescents, implemented in terms of the revised National Nutrition Strategy that should replace the current NNS in 2020. Its social protection function – helping to ensure food security for the poor and vulnerable – should be absorbed into the relevant components of the expanded social protection system that the GOB should develop on the basis of the new National Social Protection Framework, once that has been adopted by Cabinet.

Recommendations for the future of the VGFP and for addressing malnutrition are complicated by the fact that current and future arrangements are intertwined with social protection functions and systems – which must also be adjusted. This is inevitable in the context of the poverty and vulnerability that persist in Botswana. The recommendations are not spatially or socially differentiated. They are based on the premise that a fully functioning social protection system will assure the basic food security of all Botswana; that a fully multisectoral nutrition strategy implemented by the relevant Ministries will ensure good child nutrition in the framework of that general food security; and that the Ministry of Health will continue nutrition-specific measures for children and adults that include both preventative measures (e.g. vitamin A supplementation) and curative ones (for those who are medically determined to be malnourished). Within this overall approach, the social protection system will identify and benefit those who are food insecure (they may be more numerous during drought); and the health system (in addition to supporting preventative measures) will identify and assist the small numbers who, despite the effective multisectoral nutrition strategy, are malnourished due to individual circumstances.

The recommended changes are not small. It will take time to achieve them. The historically slow pace of institutional and policy change in the Government of Botswana is a reminder to be realistic in recommending how the proposed developments might be phased. At the same time, the scale of the problems of poverty, vulnerability and child malnutrition in this middle-income country are a stimulus to minimise delay, overcome inertia and achieve good nutrition for Botswana children as soon as possible.

With this in mind, the recommendations are proposed in three phases. The short term would comprise the remainder of the current financial year and all of the next one, to April 2021. The medium term would be the remainder of the current National Development Plan 11, to April 2023. The long term stretches beyond that. The assumption is that, with the necessary

commitment from all sides, the required changes can all be achieved in the proposed short- to medium-term time frame, with full implementation of revised nutrition and social protection strategies from April 2023.

Needless to say, it is unrealistic to assume that these phases will be timed exactly as proposed here. Many of the recommended steps are contingent on the successful completion of earlier steps, and on ongoing, more rigorous monitoring of children's nutritional status. The responsible authorities will take the required responsible decisions about exactly when to proceed with the programme of change that this evaluation proposes, and the exact sequence and blend of steps will depend on how the situation develops over the coming years.

Recommendations for the three phases are set out in sections 8.2 - 8.4 below. Table 11 (page 61) then provides a summary, with recommendation numbers.

8.2 The short term (to April 2021)

The next one and a half financial years, to April 2021, would be a period of initial adjustment and preparation for developing young child nutrition strategies in the directions proposed.

FRS procurement and delivery systems (recommendations 1 and 2 in Table 11).

There is an urgent need to address the current underperformance of FRS ration procurement, delivery and warehousing. It is unrealistic to expect that perfect performance can be achieved in what will always be a complex set of financial and logistical processes. It is reasonable to expect that performance can be improved to achieve a minimum 80% of planned deliveries to all HFs. This will require additional transport, some warehouse improvements and urgent finalisation and smooth operation of the new FRS online procurement system, as well as ensuring that an adequate, routine monitoring system is in place (UNICEF, 2019b: 17). FRS should draw up plans and budgets for the necessary improvements in time for them to be included in the 2020-21 budget. Many of these improvements would also benefit the national school feeding programme.

Tsabana (recommendations 3, 4). Distribution of Tsabana and oil should continue according to current guidelines during this short-term period. The current study of Tsabana composition should be finalised, taking into account the desirability of altering the flavour and texture of the commodity in order to make it potentially less attractive to adults. Arrangements should be launched with suppliers for manufacture of the reformulated Tsabana. One option for this study is that it identifies an appropriate formulation suitable for all age groups above six months that makes Malutu, as well as the provision of beans and oil, unnecessary.

Malutu (recommendations 7, 9, 10). Distribution of Malutu and associated commodities should continue during this period for children aged 3 – 5 years (or six years if they are not yet enrolled in primary school). It should continue also for pregnant and lactating women, with selection of beneficiaries continuing on the current criteria. However, the MOHW should take urgent steps to review and reinforce these criteria and ensure that all PLW requiring nutritional supplementation receive it, in the interests of optimum nutrition for children in the first 1,000 days of life. The provision of Malutu, beans and oil to TB and leprosy patients should continue according to the current guidelines.

Double rations (recommendations 11, 12). The provision of double VGFP rations in districts declared drought-affected should continue in the short term. The value of this measure for drought-affected districts should be reviewed in the light of past inefficiencies

and the recommendation above to strengthen FRS performance. At present these extra 'drought relief' rations are of limited value, as they are often delivered late. The provision of double rations for severely underweight children should end, as it is not a technically appropriate nutrition strategy for such cases.

Moderately and severe acutely malnourished children (recommendation 13).

Health facility-based measures for addressing moderate and severe acute malnutrition should continue, with renewed efforts to ensure adherence to the national protocol. Current direct feeding arrangements should be reviewed and decisions made about whether they remain necessary.

National Nutrition Strategy (recommendation 14). The current NNS covers the period 2015 – 2020, and should therefore be revised so that a new NNS can take effect next year. This is an opportunity to convene all the relevant sectors to develop a multisectoral nutrition strategy for the country with a common results framework around which all sectors can unite. As argued by this evaluation (chapter 6), the new Strategy should be based on the full multisectoral spectrum of nutrition-sensitive and nutrition-specific approaches and measures, specifying clearly what the responsibilities of the various ministries and other agencies will be and prioritising action to ensure good nutrition of children during the first 1,000 days of life.

The new NNS should thus:

- be fully multisectoral, combining nutrition-specific and nutrition-sensitive measures;
- within that multisectoral approach, commit the GOB to delivering nutrition-sensitive social protection (see below) and specify the roles and actions of each relevant Ministry, including Agriculture;
- have a common results framework with a single set of indicators agreed by all relevant sectors, regularly measured by a strengthened nutrition M&E system;
- take into account a life cycle approach that considers maternal nutrition, adolescent nutrition and child nutrition, with a strong commitment to adequate counselling and education to mothers, fathers and other carers on all aspects of nutrition;
- adopt an equity approach;
- address the triple burden of malnutrition;
- take into account the findings and recommendations of the current formulation study;
- identify an appropriate role for food fortification;
- reconfirm protocols for the treatment of moderate and severe acute child malnutrition by health facilities;
- based on a thorough expert reassessment, specify criteria for the identification of vulnerable adults requiring nutrition interventions by health facilities;
- include a revised approach for ensuring nutrition in times of drought;
- prioritise a micronutrient context analysis to identify (for example, using the Fortification Assessment Coverage Toolkit) the most appropriate measures for closing the micronutrient gap – which might include supplementation, food fortification, biofortification or some combination of these. The study may recommend steps to be

taken during the mid-term planning period described below, as the current VGFP system is withdrawn.

Global evidence and current best practice suggest that a multisectoral approach is the optimal way to address malnutrition (section 6.1 above). Alongside this it is important to support a lifecycle approach and to tackle intergenerational malnutrition. In Botswana, where there is a triple burden of malnutrition (undernutrition, overweight/obesity and micronutrient deficiencies), any nutrition strategy should aim to reduce all forms of malnutrition.

As part of a revised NNS, the GOB should develop an SBCC strategy that covers maternal, adolescent, infant and young child nutrition, care practices and hygiene. As poor child care practices, IYCF and hygiene practices were all identified as drivers of malnutrition, this indicates a need to improve the effectiveness of education and counselling. This strategy needs to be adopted by all relevant stakeholders and should identify the channels through which it can be delivered. It should be integrated with ongoing MOHW efforts to restructure and reinforce community-level support and extension strategies.

The new NNS should specify how nutrition approaches and measures will interface with social protection systems and programmes, with the latter primarily responsible for ensuring the food security of those unable to produce or buy appropriate food for a nutritious diet. It should commit the GOB to meeting the following criteria for nutrition-sensitive social protection:

- *target the nutritionally vulnerable;*
- *incorporate explicit nutrition objectives and indicators;*
- *empower women and make them the recipients of social protection benefits;*
- *promote strategies that enable households to diversify their diets and livelihoods;*
- *strengthen linkages to health and sanitation services;*
- *integrate nutrition education and promotion;*
- *scale up safety nets in times of crisis.*

FAO, 2015: 11-12.

When this has been achieved, the need for supplementary feeding of children in Botswana should fall away. The new NNS should emphasise and specify the SBCC approaches that expanded nutrition extension cadres and programmes would adopt in order to optimise the knowledge and awareness of parents and carers about young child nutrition.

Building on Botswana's existing membership of the SUN Movement, the new NNS should establish a functional multisector co-ordination platform for nutrition. It is important there is strong nutrition governance in Botswana. Key for this are functional co-ordination mechanisms. These would convene relevant stakeholders such as different ministries and their partners, co-ordinate and manage the implementation of activities and take any necessary joint actions based on learning.

Nutrition monitoring and evaluation (recommendation 15). The Botswana nutrition sector needs better data as well as stronger monitoring and evaluation systems. Alongside developing a common results framework to measure the progress of a multisector approach, work should be undertaken to comprehensively review the available data in Botswana, identify

the strengths, weaknesses and gaps and make recommendations on improvements. A strengthened M&E system, driven by and linked to the new NNS, should support a culture of 'adaptive learning' whereby findings and learning lead to programmatic improvements. In the short term, efforts should focus on scoping and planning the M&E system enhancements that are needed.

National Social Protection Framework (recommendation 16). The NSPF has been in final draft for over a year. Within this short-term planning horizon, it should be formally approved as the foundation for the complementary enhanced nutrition and social protection approaches recommended here.

Nutrition extension capacity (recommendation 21). A future, enhanced approach to optimum young child nutrition will depend on expanded, better-skilled nutrition extension cadres: Health Education Assistants and others at HF level, and supervision/co-ordination staff at district level. Building on the work already done to identify staff needs for the 'paradigm shift' to which MOHW is committed, and on MOHW community support and field-level health extension strategies, the Ministry should make more detailed staffing and budget preparations during this short-term period so that the relevant cadres can be expanded from 2021-22 onwards.

8.3 The medium term (April 2021 – April 2023)

Building on the foundations laid in the short term, as set out above, the following recommendations cover the remainder of the transitional period over which the VGFP should be phased out and replaced by complementary multisectoral nutrition and social protection programmes, with the former addressing young child nutrition on the basis of household food security that is underpinned by the latter.

These recommendations are made on the assumption that the recommended foundations have in fact been laid in the short term, as set out above. In particular, the GOB must have produced the new NNS and demonstrated the commitment and resources – across all the relevant Ministries and sectors – to implement the multisectoral strategy (including nutrition-sensitive social protection) that it should specify.

Tsabana (recommendations 5, 6). In keeping with the consensus that the focus of any supplementary feeding should be on the first 1,000 days of life, the reformulated Tsabana (and oil, unless the formulation study has made that unnecessary) should be provided only for children aged 7 – 24 months. In districts declared drought-affected, however, they should be provided up to 36 months.

Malutu (recommendations 7 - 10). During this transitional period, Malutu and associated commodities would no longer be provided to children in normal circumstances, unless drought is declared (see recommendation 11). They would continue to be provided to medically selected PLW (who should also receive intensified counselling and education on maternal nutrition) and to TB and leprosy patients. If the current formulation study identifies an appropriate product suitable for all ages, this product would replace Malutu.

Double rations (recommendations 11, 12). Arrangements for the provision of double rations of Malutu and associated commodities during drought periods would continue.

Moderate and severe acutely malnourished children (recommendation 13). Health facility-based measures for addressing moderate and severe acute malnutrition should continue in strict accordance with the national Integrated Management of Acute Malnutrition (IMAM) guideline.

Nutrition monitoring and evaluation (recommendation 15). The enhancements to M&E approaches and systems that were identified during the initial scoping and planning period should be in place from 2021. The strengthened nutrition M&E system will play a central role in monitoring child nutrition as the recommended mid-term adjustments are made to the VGFP. In particular, following the 'adaptive learning' approach identified above, the nutritional status of children aged 24 – 60 months will be closely observed and assessed in order to check that there is no deterioration when VGFP rations for this age group are withdrawn. Any deterioration should not automatically lead to reinstatement of former VGFP rations. This evaluation has shown that the nutritional effectiveness of those rations for the target group is limited. But any deterioration in the nutritional status of any child age cohort should be promptly identified and reported, leading to prompt and appropriate interventions to remedy it. Those interventions might be nutrition-specific measures by health facilities, nutrition-sensitive measures through the social protection programme or other GOB services, or a combination.

National Nutrition Strategy (recommendation 17). The remainder of the transition period to 2023 should be used for initial implementation of the multisectoral NNS, including co-ordinated action in such areas as agriculture, water, sanitation, hygiene and environmental health.

Social protection system (recommendation 18). To complement the new NNS, it will be necessary to build on the foundations of the NSPF to ensure that the suite of social protection interventions can be strengthened in order to guarantee basic food and livelihood security for all Batswana. This is the foundation for the argument that, in the longer term, supplementary feeding programmes for young Batswana children should no longer be needed in normal circumstances.

Nutrition extension capacity (recommendation 22). Building nutrition extension cadres to the required levels of skill and numbers will take several financial years and budget increments to achieve. This process should be ongoing through the remainder of the transition period.

8.4 The long term (from April 2023)

The recommendations below for the long term (starting just under four years from now) are based on two principles. First, the different roles of social protection and nutrition interventions will have been recognised and achieved, so that the former supports food security while the latter promotes optimum nutrition of young children among a national population whose food security is assured. The recommendations of this evaluation for the long term focus on what nutrition interventions should be achieving following the termination of the VGFP.

Tsabana, Malutu (recommendations 3 - 9). On the basis that food security will, in the long term, be assured through social protection programming (as just explained above), these commodities would no longer be provided through nutrition programming – although there is clearly potential for the highly popular Tsabana to be produced profitably for the commercial

market. By 2023, social protection interventions to assure food security are likely to be increasingly based on cash or vouchers rather than in-kind transfers.

Nutritional provision for specified patients (recommendation 10). The provision of supplementary foodstuffs for selected medical patient categories will remain a responsibility of MOHW.

Drought relief (recommendation 11). The revised social protection system will retain responsibility for drought relief. It will not be a nutrition intervention.

Moderate and severe acutely malnourished children (recommendations 12, 13). Focused nutritional interventions at health facilities for cases of moderate or severe acute malnutrition will continue.

National nutrition and social protection systems (recommendations 19, 20, 23). The revised and expanded multisectoral nutrition and social protection systems and procedures developed during the transitional period should be in full operation from 2023. In the long term, supplementary feeding of the sort that the VGFP has provided should no longer be necessary from a nutrition programme.

Table 11. Short-, medium- and long-term recommendations for the VGFP

Recommendation		Short term (to April 2021)	Mid term (April 2021 – April 2023)	Long term (April 2023 -)
1.	Additional transport, warehouse improvements for FRS			
2.	Other FRS measures to achieve and sustain minimum 80% ration delivery to HF's			
3.	Tsabana, oil: 6 – 36 months			
4.	Finalise reformulation of Tsabana			
5.	Reformulated Tsabana, oil: 6-24 months			
6.	Reformulated Tsabana, oil: 6-36 months: targeted districts			
7.	Malutu, beans, oil: 37-59 or 71 months			
8.	Malutu, beans, oil: 37-59 or 71 months: targeted districts			
9.	Malutu, beans, oil: selected PLW			
10.	Malutu, beans, oil: TB, leprosy patients			
11.	Double rations in districts where drought declared			
12.	Double rations for severely underweight children			
13.	HF-based IMAM measures for moderately and severely malnourished children			
14.	Revise National Nutrition Strategy			
15.	Strengthen nutrition M&E			
16.	Adopt National Social Protection Framework			
17.	Initial implementation of revised NNS			
18.	Revise, expand social protection system			
19.	Full implementation of revised NNS			
20.	Full implementation of expanded social protection system			
21.	Prepare, budget nutrition extension staff expansion			
22.	Implement nutrition extension staff expansion			
23.	Sustain expanded nutrition extension staff cadres			

9 Developing an investment case for nutrition

9.1 Overview

As required by the TOR, the evaluation team has developed a separate 'investment case for nutrition', in order to show decision makers the options for future support to nutrition and help them consider the implications. The TOR (Annex 1) refer to both "an investment case for prevention of stunting" and "the Investment Case for Nutrition". The evaluation team has taken the latter, broader approach, since it is not technically appropriate to focus only on stunting in a nutrition strategy.

The investment case (IC) consists of a brief overview of the situation in Botswana, a high-level analysis of the VGFP, and the presentation of three scenarios for improving the nutritional situation of Botswana children. The three scenarios each contain a different, though in some cases overlapping, set of specifications of what could be done to improve nutrition and decrease the rate of stunting in Botswana. These options take into account the importance of social and political acceptability, as well as economic feasibility and value for money. It is worth noting that there may be some trade-off between these aims, and the options presented in the IC take different positions on prioritising acceptability and ease of implementation versus efficiency and effectiveness of the programme.

9.2 Limitations due to data constraints and the nature of the VGFP

Ideally, a full cost benefit analysis of the current system would have preceded the presentation of the options. Unfortunately, this was not possible due to limited data, and also due to the nature of the VGFP.

The evaluation team received incomplete information on cost data, nutrition indicators and information on the nutritional content of the rations. This impeded the ability to analyse the costs and benefits of the VGFP.

In addition, the nature of the VGFP, being a nationwide programme that has been in place for decades, makes it difficult to assess its benefits, as there is no control group nor meaningful counterfactual (section 2.3 above).

In drafting the IC, the evaluation team has therefore focused on efficiency measures, demonstrable causal chains yielding a high-level analysis of potential costs and benefits of its recommendations.

9.3 Analytical approach

The investment case presents three options, to give policy makers an overview of different methods of tackling stunting in Botswana.

The first option (A) consists in strengthening the current system as it stands, and making it as efficient and effective as possible without initiating any fundamental changes. As such, it is the most conservative and thus likely to be the most widely acceptable; however, it is not the most effective or efficient, nor therefore the best value for money.

The second option (B) considers ways to optimise the current system, by removing some facets, strengthening others and adding further support where appropriate. This is likely to

result in a better use of resources, and to have a greater effect in a more economically efficient manner.

The third option (C) is a more fundamental change to Botswana's approach to malnutrition. It would involve phasing out the current ration system entirely, except for crisis situations, and replacing it with stronger social protection policies, some of which would cover the entire population, and others of which would be targeted at the most vulnerable. This option should be the most effective and efficient, but it may not be practically or politically feasible at this time.

This third option corresponds to the ultimate result of the phased set of recommendations presented in this evaluation report (chapter 8 above). Aspects of options (A) and (B) correspond to the short- and medium-term phases of this report's recommendations. But for analytical purposes, the IC will present options (A) and (B) as stand-alone scenarios that could result from agreed sets of actions by the Government of Botswana.

In the IC document, the costs and benefits of the different options are analysed. This is done at a high level, partly because of lack of detailed data, but also because the costs of many of the recommendations are not easily quantifiable in any meaningful manner. Similarly, the benefits will be given indicatively, since, depending on how changes are implemented, the benefits could be vastly different.

Any attempt to meaningfully quantify long-term economic benefit is inherently questionable. Long-term economic forecasts (and, in many cases, short-term economic forecasts) are notoriously unreliable, dependent as they are on complex sets of events that are essentially unpredictable. Nevertheless, by focusing on causality, on the links between good nutrition at an early age, cognitive development and, eventually, well-paid employment, a strong case will be made for the importance of adequate nutrition, and the urgent need for reform.

Annex 1 Terms of reference

unite for
children



UNICEF BOTSWANA TERMS OF REFERENCE FOR INSTITUTIONAL CONTRACT

Title of assignment:	Evaluation of Vulnerable Groups Feeding Programme in Botswana
Section:	Programme (Health & Nutrition, Social Policy)
Location:	Gaborone, Botswana
Duration:	9 months
Estimated start date:	1 December 2018
Estimated end date:	31 August 2019

1. Background

Botswana is a country with good access to health care and where several interventions to address malnutrition prevention and management are institutionalised. Nevertheless, available data shows that in Botswana, stunting has remained consistently high between 1996 and 2007 (29 and 31 per cent, respectively) clearly showing a public health concern. Furthermore, 20 per cent of children remain chronically malnourished across many districts.

Stunting is associated with low birth weight (most often linked to poor nutritional status of pregnant women), inadequate nutrient intake and repeated infectious diseases. The costs of undernutrition are significant. On average, adults who were stunted as children earn 20 per cent less than their non-stunted counterparts. World Bank estimates show that a 1 per cent loss in adult height due to childhood stunting is associated with a 1.4 per cent loss in economic productivity.

As a mitigation to prevent stunting, the Government of Botswana introduced the Vulnerable Groups Feeding Programme (VGFP) in 1988. The VGFP package flagship product is a sorghum-soya fortified complementary food (*Tsabana/Malutu*), calculated to provide 30 percent of daily nutrient requirements for energy, protein and selected micronutrients of public health importance. In addition, cooking oil and beans are provided and the contents of the take-home rations vary depending on the beneficiary. The monthly rations consist of the complementary food *Tsabana* for children aged 6 to 36 months and *Malutu* for those aged 37 to 60 months. Beans and vegetable oil are also provided to medically selected pregnant and lactating women and to TB and leprosy outpatients.

The programme is being funded, spearheaded and implemented by the Government and distributed through the monthly Child Welfare Clinics (CWC) sessions. An estimated 85 per cent of children under-5 attend CWC, however, provision of the products is inconsistent. The 2014 Determinants of Malnutrition study, which covered 5 districts, revealed that only 63.7 per cent of eligible children who had attended CWC in the previous month had received their ration, with only 50.5 per cent of those attending rural health facilities receiving the ration. Administrative data on

monthly ration coverage is reported at the national level, aggregated by facility. Furthermore, individual beneficiary data on ration received and anthropometry is available on the individual CWC cards, as well as log forms at facility, district and national level.

The Ministry of Local Government and Rural Development (MLGRD) procures the VGFP foods and delivers them to the clinics based on requests from the clinic staff and the previous months' allocations. The Ministry of Health and Wellness (MOHW) develops product specifications, monitors food safety and oversees distribution to individuals and monitors coverage. According to the MOHW, all pregnant or nursing teenagers (up to 18 years old) receive the ration, while in remote areas, all households receive an extra ration.

Despite the universal coverage of the VGFP and substantial investments in feeding programmes, high prevalence of stunting seems to persist. The VGFP has not been evaluated since its inception. An evaluation of the utilization and effectiveness of the products, as well as a cost-effectiveness analysis to measure the relationship between allocated resources and achieved results, will inform policy and programme design for maximum outcomes in stunting prevention.

UNICEF, in support of the Government of Botswana, is seeking to contract the services of an institution to undertake an evaluation of the utilization, acceptability and effectiveness of the programme that will inform policy and programme design to, in turn, maximise social outcomes, including stunting in the country.

2. Scope of Work

The main purpose of the assignment is to evaluate utilization, acceptability and effectiveness of the VGFP to improve optimal delivery of the intervention and utilization at household level, including targeting, awareness and understanding of potential benefits in Botswana. The assignment aims:

- a) To undertake a mixed research approach that will include quantitative and qualitative methods to evaluate the utilization, acceptability and effectiveness of the VGFP, including a knowledge and practices survey for implementers and beneficiaries;
- b) To develop and present an investment case for prevention of stunting based on the results to government and other stakeholders.

A *phased approach* will be adopted to ensure the successful implementation of the study. It is foreseen that the assignment would entail the following broad stages:

- 1) *Inception Report and Endorsement*: Develop an Inception Report that (i) includes literature review on nutrition programming in Botswana; (ii) articulates the theory of change; (iii) recommends an evaluation research design detailing the sampling approach, data collection tools and instruments; and (iv) proposes a detailed timeline and stakeholder consultations.

- 2) *Design and Implementation of Evaluation Research:* Data collection, analysis, report writing and stakeholder engagement by using proposed and approved methodology to investigate the effectiveness of the VGFP as per scope of the TOR. The evaluation sample should be nationally representative and sufficiently powered to allow disaggregation of findings.
- 3) *Developing an Investment Case for Prevention of Stunting:* Develop a Policy Report based on the results of the evaluation research, which includes a set of realistic recommendations for policy and programme adjustments, prioritized investments and proven interventions towards prevention of stunting in the country.

3. Design, approaches and methods

In consultation with the Government and UNICEF teams, and based on the initial desk review, the selected institution will develop the detailed methodological approach to this evaluation, including data collection instruments.

The evaluation will be based on the United Nations Evaluation Group (UNEG) criteria for evaluating development programmes, namely relevance, effectiveness, efficiency, impact and sustainability with a focus on the impact criteria.¹

4. Work Relationships and Reporting

The selected institution will work closely with UNICEF team and the Ministry of Health and Wellness, Ministry of Local Government and Rural Development, Ministry of Finance and Economic Development, in the form of a Steering Committee, to conduct the evaluation and the subsequent intervention research to optimise utilization at household level.

The consultancy will be for the duration of 9 months over the period 1 December 2018 to 31 August 2019. The consultancy will follow the schedule in line with the expected deliverables and timelines will only be negotiated if the delay is due to conditions beyond the control of the incumbent.

#	Deliverables	Duration	Instalments
1.	The Inception Report (desk review, research design, stakeholder validation meetings, relevant ethical	December 2018 – January 2019	20%

¹ Further details on the UNEG criteria can be obtained from: <http://www.unevaluation.org/document/detail/22>.

	clearance as appropriate from the Human Resource Development Council)		
2.	The Evaluation Research (sampling of research tools, data collection, data analysis, presentation of preliminary results to stakeholders, draft report)	February - July 2019	40%
3.	The Investment Case for Nutrition (produced and submitted to the Government and UNICEF teams)	August 2019	40%

5. Payment Schedule

Payment will be upon satisfactory completion of deliverables as outlined in the table above. UNICEF's policy is to pay for the performance of contractual services rendered or to effect payment upon the achievement of specific milestones described in the contract. UNICEF's policy is not to grant advance payments except in unusual situations where the potential contractor, whether an individual consultant, private firm, NGO or a government or other entity, specifies in the bid that there are exceptional circumstances warranting an advance payment.

Payments will be made upon delivery and approval of deliverables by UNICEF. UNICEF reserves the right to withhold all or a portion of payment if performance is unsatisfactory, if outputs are incomplete, not delivered or for failure to meet deadlines.

6. Management and Oversight

The evaluation management team, comprising members from UNICEF and key government stakeholders, will provide technical and management support. A Steering Committee composed of members from the Ministries Health and Wellness, Ministry of Local Government and Rural Development, Ministry of Finance and Economic Development and relevant stakeholders will provide feedback at critical stages in the evaluation process, including inception and report writing stages.

7. Qualification Requirements

UNICEF and the Government seek an institution with team members that have the following qualifications:

- Demonstrable experience in designing and conducting evaluation research studies including cost effectiveness studies;
- Ability to analyse and synthesize information from a broad range of sources;

- Experience in conducting nutrition surveys or evaluating nutrition programmes will be an added advantage;
- Demonstrable experience in spatial stakeholder and nutrition landscape mapping;
- Competence in econometric analysis techniques will be preferred;
- Familiar with social protection and poverty reduction issues including poverty assessment methodologies;
- Able to work in a multicultural environment;
- Excellent spoken and written fluency in English required; the team must also include Setswana capacity; knowledge of other local languages in the area desired;
- Excellent analytical, research and report writing skills;
- Effective communication and relationship-building skills.

The selected institution must provide UNICEF with a Certificate of Incorporation and other documentation that this is a registered company or institution. The institution must possess at least 5 years' experience in evaluation of programmes in health, nutrition, food security, social research with an emphasis on mixed method data collection and analysis.

The institution should come with enough human resources to complete the evaluation within the desired timeframe. At a minimum, the evaluation team should include expertise in the areas of nutrition or food security, statistics and econometrics analysis, public finance management. Up-to-date CVs/resumes of proposed team members should be included in the submission of a technical proposal.

The lead researcher/team leader must have:

- An advanced University degree (master's or PhD) in Public Health, Nutrition, Food Security, Social or Public Policy, Development Economics, Epidemiology, Statistics or other relevant social science with strong experience in evaluation design;
- At least 10 years of relevant experience and proven expertise in conducting evaluations, reviews and/or assessments;
- Experience working with the United Nations, particularly UNICEF, including a strong understanding of UNICEF's policies and programming is an asset;
- Proven skills in research analysis, including quantitative and qualitative data collection and analysis techniques;
- Excellent report writing skills, analytical skills, as well as good computer skills;
- Experience leading teams and team processes;
- Excellent command in written and spoken English.

8. Content of Proposal

The interested institutions are expected to develop the above into a proposal. All proposals should include an introductory note, summary of understanding of the terms of reference, clear outline of

evaluation design and methodology with a detailed breakdown of inception phase proposed scope, data collection methodology and data analysis report writing dissemination plan and timeline including stakeholder consultation and engagement. A draft timeline for completion of assignment, a company profile and CVs of key individuals proposed for assignment should be included in the proposal. The proposal should be in two parts: Part A – Technical; Part B – Financial, of not more than 10 pages. Please note Annexes can be included.

Financial proposals should clearly outline proposed phases of the study. Each phase must be budgeted as progression to each phase will be dependent on available budget. Cost breakdown of consultancy fees, DSA operational costs for field work, air fare and related cost that will be incurred for the assignment.

9. Technical Evaluation Criteria and Relative Points

Item	Technical Evaluation Criteria	Max. Points Obtainable
1	Overall Response (e.g. the understanding of the assignment and the alignment of the proposal to the TOR)	10
1.1	Completeness of response	5
1.2	Overall concord between RFP requirements and proposal	5
2	Company and Key Personnel	30
2.1	Range and depth of Institutional experience and capacity (operational partner/third party agreements, client references, previous results. Clarity on services that are to be obtained from a third party and related cost (if any).	20
2.2	Experience with projects of similar scope and complexity	5
2.3	Key personnel: relevant experience and qualifications of the proposed team for the assignment	5
3	Proposed Methodology and Approach (e.g. Work plan showing detail sampling methods, project implementation plan in line with the project)	30
3.1	Proposed robust plan (such as timelines, steps to set-up, criteria/methodology in management, quality assurance, monitoring tools.) Rationale/methodology is provided.	20
3.2	Technologies used: compatibility with UNICEF (Security/IT systems)	5
3.3	Innovative approach	5
	TOTAL TECHNICAL SCORES	70

Note: Minimum technical required score – 50 points. Technical proposal weight is 70%, while financial proposal's weight equals 30%.

10. Risks

Some activities may be delayed if feedback and inputs from key stakeholders are delayed. The selected institution will work closely with the Government and UNICEF Teams for the respective follow-up.

11. Terms and Conditions

The institution will use their own vehicles equipment, including computers. UNICEF will be under no operational obligation to pay operational costs related to this consultancy, all costs required to operationalise this consultancy shall be borne by the hired institutional firm and should be included into the proposed financial proposal.

12. How to Apply

- A cover letter expressing interest in the work. The cover letter should indicate relevant experience, availability and daily rate;
- Previous work samples that are relevant to this assignment;
- A technical and financial proposal as per TOR;
- Professional curriculum vitae for all team members;
- Three professional references (for the team/company);
- Personal History (P11) form of team members (available at www.unicef.org/employ);
- Company/Team profile (as applicable).

Proposals should be submitted in a sealed envelope clearly labelled: *Evaluation of Vulnerable Groups Feeding Programme in Botswana* and be submitted to:

The Country Representative
United Nations Children's Fund
Plot 27, 2nd Floor Dalale House
Matsitama Road, Gaborone

OR By email to: BTW_procurement@unicef.org.

Submission Date: Proposals should be submitted to the address above no later than 12.00pm Botswana time on the 23 November 2018.

Annex 2 Theory of change

The following discussion of the VGFP TOC is drawn from the evaluation inception report.

Constructing a theory of change has become a standard technique for evaluators seeking to interrogate the design logic of an intervention – and, in particular, to identify the assumptions, explicit or implicit, that were made during design. It is particularly valuable in this evaluation of the VGFP, because no design document or logical framework exists. It is therefore essential to be clear in advance what the purpose and causal mechanisms of the VGFP were intended, or assumed, to be. At the same time, it must be recognised that the VGFP was designed as a food security intervention rather than a nutrition intervention. Unpacking its logic in terms of how it would tackle stunting is therefore an artificial exercise, because this is not what it was specifically intended to do. However, it is necessary, given the current focus on stunting in concern about the effectiveness of the VGFP.

With these qualifications in mind, Figure 13 below shows the evaluation team’s TOC for the programme. Like the rest of the evaluation, it focuses on the main VGFP activity of providing supplementary feeding to children under five years of age (as well as those aged 60 – 72 months who have not yet entered school). It does not refer to the other VGFP support given to medically selected pregnant and lactating women and tuberculosis patients. However, it does identify the basic (though implicit) assumption that the programme’s supplementary feeding strategy is the best way to tackle stunting. This will lead it to explore broader issues concerning the nutrition of pregnant and lactating women.

The TOC shows a number of inputs at the left hand side, including the intangible but important one of programme design, with which is associated determining the technical composition of the Tsabana and Malutu rations. While all the direct funding for the VGFP goes to MLGRD for the procurement and distribution of the commodities, the MOHW budget makes a significant indirect contribution too, by staffing the operations at health facility and higher levels that deliver the rations, and accompanying information, education and communication (IEC), to parents and carers. The staff resources and staff skills that the two ministries deploy are also seen as significant inputs, as are the resources and child care activities contributed by the parents and carers of target children.

The ‘activities’ column is self-explanatory. The outputs are simple and few. The first is the commodity in bulk, positioned at HFs following production and distribution. The second is the rations in the hands of parents and carers at household level. The third output, according to VGFP design, is the ration consumed by the target children. Fourthly, understanding of parents and carers about child nutrition and the preparation and use of the rations is seen as an output, resulting from the IEC activity that the programme should be carrying out.

The intended higher-level outcomes are, first and foremost, that stunting is eradicated. Accompanying beneficial outcomes should be the full physical and cognitive development of the target children. All these benefits are encompassed in the overall outcome of better livelihood potential for Batswana as a result of the VGFP.

These outcomes should, in turn, contribute to the impacts summarised at the right hand side of Figure 13. Food security should be improved; poverty reduced; and livelihoods made more

sustainable in the rural and the urban sectors. Overall, there should be a positive impact on the strength of the economy. Last but not least, a fully nourished population should reduce government expenditure on supplementary feeding, on health care and on social protection more broadly.

The outcomes consequent on the eradication of stunting, and the resultant impacts, are shown in the TOC in order to give the complete picture of why an intervention to eradicate stunting is beneficial. The intervention is obviously not driven by a simple desire that Botswana should be taller. Rather, it is recognised that eradicating stunting has a range of beneficial effects for individuals and for the nation. The evaluation will not assess performance in terms of these broader outcomes and impacts. It will focus on performance at the input, activity and output level, and explain the relationship between this performance and the outcome of interest: the level of stunting among young children across the country.

The most analytically useful part of a TOC is the assumptions that are inferred from the design logic. In Figure 13, these are shown in the blue circles. Their positioning in the TOC is only approximate and the sequencing of numbers unimportant, but some refer more clearly to the relationship between inputs and activities; between activities and outputs; and so on. It is possible to think of many assumptions and many ways to word them, but it is important to keep this exercise within reasonable limits. The intention here is to identify the most important assumptions whose validity the evaluation should test.

There is an obvious assumption (no. 3 in Figure 13) that funding for the VGFP is adequate. More significant, perhaps (4), is the assumption that the institutional configuration of roles and resources for the VGFP within the GOB is optimal – in other words, that the respective responsibilities of MLGRD and MOHW make good sense and achieve cost-effective implementation. Other key assumptions (5) are that the relevant GOB personnel (for example, at HFs) have the appropriate skills for efficient and effective performance of VGFP activities; and (6) that there are enough staff for the various tasks. It is also important to recognise the assumption that parents and carers are fully committed to use VGFP resources as carefully and effectively as they can to promote the target children's growth.

For the activities to achieve the intended outputs, VGFP design obviously assumes (11) that procurement of the required commodities is efficient and timely – an assumption that observations during the inception mission for this evaluation suggested is not met. It also assumes (12) that these commodities are distributed to HFs in the required quantities, on time. Another key assumption (13) is that parents and carers fully respect the required (normally monthly) schedule of CWC visits: not doing so clearly jeopardises the intended supplementary feeding of their children. Linked to this (16) is the assumption that, on these visits, the monthly cycle of growth and health monitoring is efficiently performed by the HFs to which they bring the children.

For the VGFP's outputs to achieve the planned outcomes, it must first be assumed (1) that the overall strategy of the programme is appropriate: that this blanket approach to a certain level of supplementary feeding to a specified target group (children under five) is the best way to tackle stunting. A second obvious assumption (2) is that the nutritional composition of the Tsabana and Malutu rations is optimal for this purpose. Linked to that is the assumption (10) that production quality by the contracted suppliers is correct. Because this is a supplementary feeding strategy, it is assumed (9) that the balance (70%) of the target children's diet is satisfactory. Often referred to during the inception mission were the

assumptions (14) that the rations are prepared at home according to the guidelines provided; and (15) that the target children consume the intended amount of Tsabana or Malutu. In fact, informants say, much of the ration taken to the household may be eaten by other household members. Two other assumptions are at play here: that awareness-raising and nutrition education have been effectively performed (17) and that parents and carers are able to provide adequate care to young children (8), within which framework the VGFP's supplementary feeding can be optimally effective.

Only one assumption is identified at the outcome – impact level. This is (18) that stunting is indeed a significant brake on poverty reduction, sustainable livelihoods and a stronger national economy.

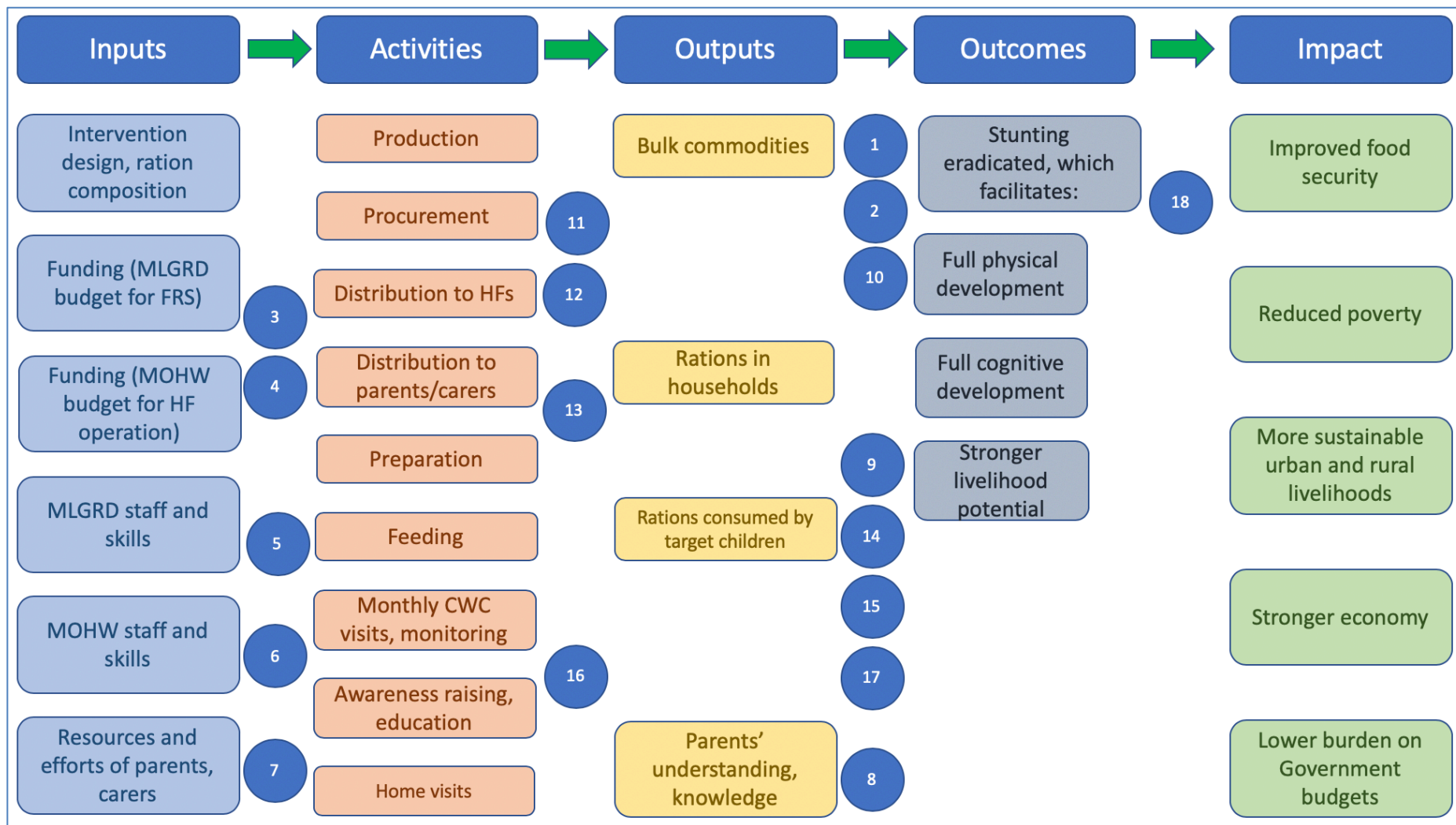


Figure 13. VGFP theory of change

Annex 3 Evaluation matrix

Table 12. Evaluation questions and criteria

Criteria	Evaluation questions and sub questions	Analysis/ judgment criteria	Main tools and principal sources of information
Relevance	EQ1. How appropriate is the VGFP in Botswana?		
Acceptability	1.1 What are the causes of stunting in Botswana?	Analysis of: <ul style="list-style-type: none"> • Nutritional causes • Socio-economic causes 	Review of data: <ul style="list-style-type: none"> • Demography • Health • Budgets and expenditure
	1.2 How technically appropriate is the VGFP's supplementary feeding strategy as a means of reducing stunting (including its two-product approach)?	Analysis of VGFP strategy compared with other nutrition-specific and nutrition-sensitive interventions	Document review
	1.3 How strategically appropriate is the VGFP's supplementary feeding strategy in the context of other relevant national policies and strategies on nutrition, food security, agriculture, education, water, sanitation and hygiene, and social protection, and how nutrition-sensitive are these other relevant areas of GOB effort?	Analysis of VGFP strategy in light of international experience and recommendations regarding effective integrated approaches to ensuring effective nutrition policy and interventions	Interviews: <ul style="list-style-type: none"> • Sector and programme managers • Nutrition specialists • MOHW and MLGRD staff • MFED staff • Parents and carers • Community leaders (e.g. VDC)
	1.4 How gender-sensitive and inclusive is the VGFP supplementary feeding strategy?	Analysis of extent of VGFP strategy's effective compliance with national policy and international standards on gender and inclusion	Focus group discussions <ul style="list-style-type: none"> • Parents and carers • Community leaders (e.g. VDC members)
	1.5 How relevant is the current VGFP blanket approach compared with a targeting strategy?	Analysis of Botswana and international experience with blanket coverage and targeting in supplementary feeding programmes	
		Analysis of socio-economic, health and nutrition data on general and malnourished populations of Botswana children	

Evaluation of the Vulnerable Groups Feeding Programme

Criteria	Evaluation questions and sub questions	Analysis/ judgment criteria	Main tools and principal sources of information
	1.6 To what extent are VGFP interventions coherent and co-ordinated with other nutrition interventions, such as the Botswana School Feeding Programme and SUN?	Analysis of relevant GOB strategic and programme documentation to determine degree of coherence and co-ordination Analysis of VGFP technical and strategic approaches in light of SUN priorities and recommendations	
	1.7 Have the VGFP's interventions and products been acceptable to the households receiving its support? Have these groups been given the opportunity to express their opinions, and have the views of the affected populations been taken into consideration?	Identification of beneficiary households' views on nutrition and social protection priorities and on the relevance of VGFP interventions to these priorities Analysis of programme documentation on monitoring of beneficiary views and concerns	
EQ2. What are the results of the VGFP?			
Efficiency, effectiveness, impact	2.1 How efficient are VGFP procurement and production arrangements?	Analysis of procurement and production procedures to identify efficiency achievements and concerns, including cost overruns, unnecessary expenditures, losses, returns and overall cost-effectiveness	Review of data: <ul style="list-style-type: none"> • Demography • Health • Budgets and expenditure Document review Interviews: <ul style="list-style-type: none"> • Sector and programme managers • Nutrition specialists • MOHW and MLGRD staff
Utilisation, effectiveness	2.2 How efficient are VGFP commodity delivery logistics and storage arrangements?	Analysis of MLGRD and MOHW data to determine: <ul style="list-style-type: none"> • extent of shortfalls and delays in commodity delivery • losses, returns and other inefficiencies arising from storage procedures and/or lack of storage capacity 	
	2.3 To what extent do VGFP rations comply with quality standards?	Analysis of MOHW ration testing records	

Evaluation of the Vulnerable Groups Feeding Programme

Criteria	Evaluation questions and sub questions	Analysis/ judgment criteria	Main tools and principal sources of information
	2.4 How efficiently are VGFP rations distributed to target households?	Analysis of HF data and CWC cards to determine levels of attendance and percentage of rations received	<ul style="list-style-type: none"> • MFED staff • Parents and carers • Community leaders (e.g. VDC members) Focus group discussions <ul style="list-style-type: none"> • Parents and carers • Community leaders (e.g. VDC) Community leadership (e.g. VGFP)
	2.5 To what extent are VGFP rations correctly prepared?	Review of information from parents and carers about ration preparation methods, triangulated by limited observation at households and perceptions of MOHW staff and community leaders	
	2.6 What proportion of VGFP rations are consumed by the children for whom they are provided?	Review of information from parents and carers about proportion of rations received: <ul style="list-style-type: none"> • cooked separately from other HH meals • actually consumed by target children - triangulated by information from MOHW staff and community leaders	
	2.7 How efficient is the disposition of institutional responsibilities for the VGFP?	Review of current allocation of roles and budgets to MOHW and MLGRD compared with potential alternative arrangements	
	2.8 How efficiently and effectively is the VGFP co-ordinated with other relevant strategies and programmes to optimise the nutrition sensitivity of GOB social and economic interventions?	Review of GOB nutrition and related policies, strategies and programmes to identify: <ul style="list-style-type: none"> • quality of commitment and performance with regard to nutrition sensitivity • quality of conceptual and operational integration with VGFP 	
	2.9 How efficiently do health facilities implement the VGFP (including monitoring arrangements)?	Analysis of MOHW performance data and stakeholder opinions to determine: <ul style="list-style-type: none"> • potential shortfalls in programme delivery • extent and quality of programme monitoring at aggregate and individual beneficiary levels 	

Evaluation of the Vulnerable Groups Feeding Programme

Criteria	Evaluation questions and sub questions	Analysis/ judgment criteria	Main tools and principal sources of information
	2.10 How efficient and effective are information, communication and family support measures implemented in association with the VGFP?	<p>Analysis of MOHW performance data and opinions of target households, community leaders and MOHW staff to determine:</p> <ul style="list-style-type: none"> • actual versus model coverage of target populations • quality of I&C and support measures provided • acceptability and adoption of I&C and support measures provided 	
	2.11 How accurately do parents and carers understand child nutrition and the preparation and use of VGFP rations?	Analysis of information provided by parents and carers about key factual aspects of child nutrition and preparation and use of VGFP rations – triangulated with views of MOHW staff and community leaders	
	2.12 Are HFs adequately staffed with personnel sufficiently trained and motivated to implement the VGFP efficiently and effectively?	Analysis of MOHW HR records on staff numbers and training, triangulated with MOHW staff views on training, competence, motivation and effectiveness	
	2.13 How cost-effective is the VGFP?	<p>Analysis of budget and expenditure records</p> <p>Economic analysis of benefits VGFP can reasonably be calculated to be generating, compared with costs incurred</p>	

Evaluation of the Vulnerable Groups Feeding Programme

Criteria	Evaluation questions and sub questions	Analysis/ judgment criteria	Main tools and principal sources of information
	2.14 How nutritionally effective is the VGFP?	Analysis of: <ul style="list-style-type: none"> national nutrition data individual CWC data - triangulated with views of expert informants	
	2.15 What socio-economic impacts has the VGFP achieved?	Contribution analysis of influence (if any) of VGFP on recorded trends in food security, poverty, livelihood sustainability, GOB social protection expenditure and macroeconomic indicators	
	EQ3. What factors have affected the results?		
Relevance, efficiency, effectiveness	3.1 How significant are design factors in determining the performance of the VGFP?	Comparative analysis of the different factors' significance: <ul style="list-style-type: none"> Summarise strengths and weaknesses of each set of performance factors, with reference to relevance, efficiency, effectiveness Compare and rank performance factors in terms of strength of their positive and negative influence on VGFP performance Triangulate conclusions reached on basis of evaluation evidence with views of senior stakeholders 	Evidence on relevance, efficiency and effectiveness assembled by the evaluation Additional review of documentation and data (including budgets and expenditure) Interviews Validation workshop
Acceptability, utilisation, effectiveness	3.2 How significant are GOB policy and strategic factors in determining the performance of the VGFP?		
	3.3 How significant are GOB institutional factors in determining the performance of the VGFP?		
	3.4 How significant are GOB funding and budgetary factors in determining the performance of the VGFP?		
	3.5 How significant are GOB management and logistical factors in determining the performance of the VGFP?		
	3.6 How significant are the accessibility, acceptability and efficiency of CWC services in determining the performance of the VGFP?		
	3.7 How significant are GOB staffing factors in determining the performance of the VGFP?		
	3.8 How significant are livelihood factors in determining the performance of the VGFP?		
	3.9 How significant are gender and other social factors in determining the performance of the VGFP?		

Evaluation of the Vulnerable Groups Feeding Programme

Criteria	Evaluation questions and sub questions	Analysis/ judgment criteria	Main tools and principal sources of information
Sustainability, impact	EQ4. How sustainable is the VGFP?		
	4.1 To what extent is the VGFP sustainable in budgetary terms?	Analysis of: <ul style="list-style-type: none"> • current and forecast demand • current and forecast budget requirements • current and forecast fiscal status • forecast fiscal impact of current and potential alternative VGFP implementation and funding models - triangulated with views of senior GOB stakeholders	Review of data Possible application of Cost of Diet tool Interviews Validation workshop
	4.2 How sustainable is the VGFP in terms of acceptability and utilisation?	Analysis of: <ul style="list-style-type: none"> • views of parents and carers • views of broader community • views of nutrition experts • views of senior GOB sector managers 	Interviews Validation workshop

Annex 4 Data on the nutritional status of Botswana children

Overview

One of the challenges of this assignment has been the paucity of data on the key indicators that we are measuring. Indicative of this is that the TOR for this evaluation quoted a stunting rate taken from 2007, signalling that this was the most recent date for reliable anthropometric data.

Three national surveys have been conducted since then: the Welfare Indicator Survey 2009-2010 (GOB, 2013b); the Multi-Topic Household Survey 2015-16 (GOB, 2018a); and the Botswana Demographic survey 2016-17 (GOB, 2018b). But the nutrition data had not been fully analysed at the start of this evaluation. Further analysis of the data has since been commissioned, but at the time of writing the results have not been received.

Definitions of child malnutrition

The Botswana Ministry of Health describes malnutrition as:

how well or how poorly the nutritional requirements of an individual have been met. Indicators used to determine nutritional status include anthropometric measurements (e.g. weight) or clinical signs (e.g. pitting oedema in the case of kwashiorkor).

GOB, 2013a: vi.

UNICEF definitions of key nutrition indicators are as follows.

Low birthweight - Less than 2,500 grams.

Underweight - Moderate and severe - below minus two standard deviations from median weight for age of reference population; severe - below minus three standard deviations from median weight for age of reference population.

Wasting - Moderate and severe - below minus two standard deviations from median weight for height of reference population.

Stunting - Moderate and severe - below minus two standard deviations from median height for age of reference population.

Overweight - weight for height is above 2 standard deviations from the median of the reference population

UNICEF, 2019a.

The CWC card growth curves (section 5.6.4 above) are based on the WHO Growth Standards (WHO, 2006).

Table 13. Sources of data on malnutrition

Data source	Date(s)	Sample size	Disaggregation	Headline figures	Details
Botswana Family Health Survey	2007	7031 households	Place of residence (City / Village / Rural); gender; age; educational level of carer/mother	Children under 5 years: Stunting: moderate and severe 25.9%, severe 11.0%; underweight moderate and severe 13.5%, severe 3.0%; wasting moderate and severe 7.2% , severe 2.7% (NCHS reference standard) 2007: LBW 13.1%	Children in rural areas more likely to be stunted and underweight; low education level of carer also a factor; boys slightly more likely to be stunted, wasted and underweight than girls; 12-23 months the most undernourished.
Recalculation of BFHS 2007 data in: Child Nutrition Situation in Botswana Observations from the 2000 and 2007 household surveys	Data: 2007 Calc: 2010	As above	As above	Stunting: 31.2%; underweight 11.7%; wasting 8.9%, 7.7% overweight and 7.5% being obese (recalculated according to WHO reference standards)	Recalculation of previous Botswana Family Health Survey results. Quoted in TOR; thought to be the most accurate.
Botswana National Nutrition Surveillance System (BNSS)	2013-2018	National data, aggregated	Percentage levels of moderate and severe underweight and growth failure, given by District on an annual basis. For 2017-2018, data was available broken down by month, clinic and district.	For 2018: underweight: 4.4%; reanalysis indicates underweight 9.1%, stunting 22.6%, wasting 3.6%., overweight 4.3%	Based on health records. There is evidence that this underestimates the prevalence of underweight children.

Evaluation of the Vulnerable Groups Feeding Programme

Data source	Date(s)	Sample size	Disaggregation	Headline figures	Details
ProPAN Assessment Report on Infant and Young Child Feeding Practices in Ghanzi North Sub- District, Botswana.	2015	248 households in Ghanzi North District only		Children under 2 years: Stunting: 28.2%; underweight 22.7%; wasting 9.1% for Ghanzi North District only	Much higher prevalence rate of malnutrition in rural areas: 21% wasting; 45% underweight; 43% stunting, above WHO "critical" level. Note the survey included children under 2 years of age only.
Determinants of Malnutrition among Children under 5 Years of Age in Five Health Districts in Botswana	2015	5 health districts: Francistown, Kgalagadi South, Ghanzi, Selebi Phikwe and Kweneng East; 1,676 children;	Location. Various socio-economic indicators including: household income, education level of primary caregiver, access to tap water/electricity/flushing toilet/refrigerator. Also medical and care information including: birth weight <2.5 kg, infant feeding practices, history of illness.	only 1.1% had any documentation in their <5 health booklet of being malnourished or receiving care for malnutrition. 21% of children were stunted. the prevalence of underweight was 13.1% and the prevalence of wasting was 7.3%. LBW: 12.5%	Factors associated with stunting included: older age of the child, low birth weight, history of hospitalization for either diarrheal illness or respiratory infection, report of food insecurity in the household, lack of access to tap water in the child's household or a standpipe in the yard, and having 5 or more persons in the child's household eating from the same pot (p23)
VGFP evaluation field work	2019	Samples taken in 12 health districts, 200 families	By district, clinic, and by a variety of socio-economic and behavioural factors including: parent/carer livelihood, family size, use of Tsabana and Malutu, understanding of nutrition.	Children under 5 years: Underweight: 14.5%; stunting: 20.3%	As with the BNNSS data, this levels of stunting and underweight are based on Child Welfare Clinic (CWC) cards.

National rates of malnutrition

As Table 13 above illustrates, the data on malnutrition are quite varied. The most reliable figure for stunting is thought to be the recalculation of the 2007 figure, which is given as 31.2%. There are indications that the rate of stunting has since declined; for example, the Determinants of Malnutrition study found a rate of 21.0% in the five districts studied (Powis *et al.*, 2015: 17).

Data routinely reported from health facilities show underweight only. Data from surveys (2007 BFHS, 2010 BNNS, 2015 Determinants of Malnutrition – in orange) and data reported from HFs (blue bars) tell different stories. The national target for underweight is 3%.

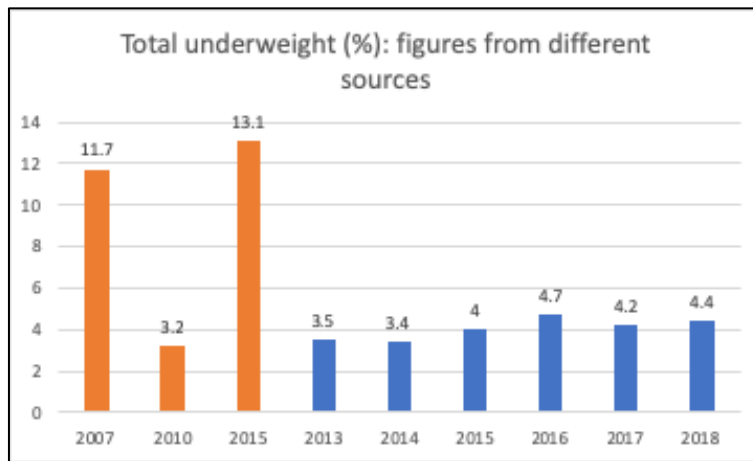


Figure 14. Total underweight, children aged under five: figures from different sources

Wasting data are more patchy still. In the recalculated figure for 2007 the rate shown was 8.6%. In the Determinants of Malnutrition study in 2015 it was given as 7.3%, which suggests some modest improvement.

District-level analysis of malnutrition

The most detailed dataset is provided by the Botswana National Nutrition Surveillance System. Although it is likely that it underestimates underweight to a high degree, as long as it applies the same method across the different districts and over time, it is nevertheless interesting for what it can tell us about the change over time and the differences across Botswana. Figure 15 below, derived from BNNSS data, illustrates the malnutrition trend over the last five years, showing a slight increase in underweight, particularly moderate underweight.

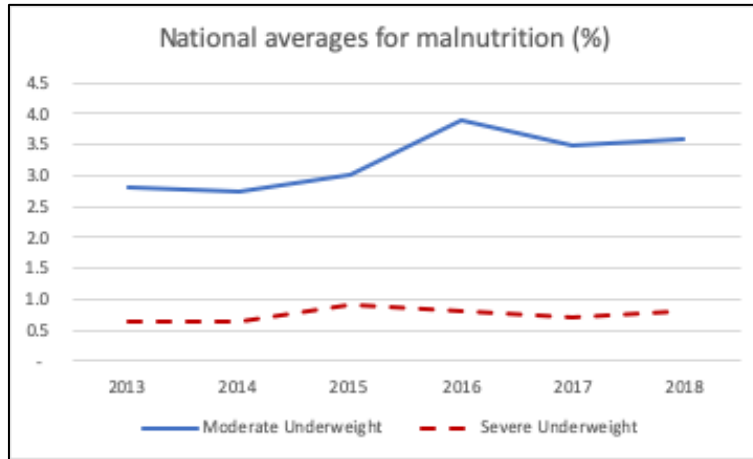


Figure 15. Malnutrition in Botswana, BNNSS data, 2013 – 2018

Source: BNNSS data, 2013 – 2018; Mokoro analysis.

The breakdown by district is shown in the following graph, with figures for 2013 and 2018 only. The districts are ordered by their percentage recorded underweight in 2018.

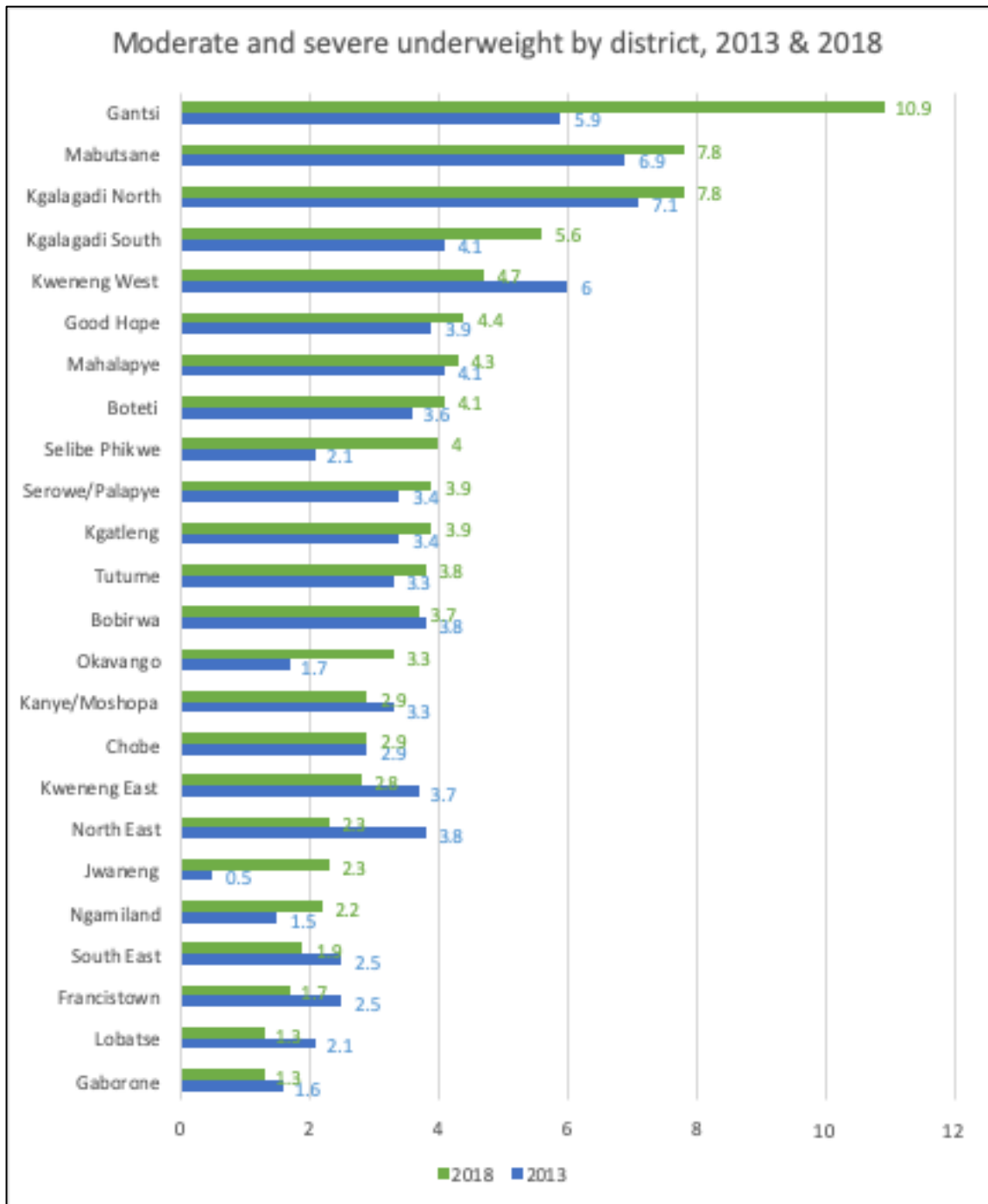


Figure 16. Moderate and severe underweight by district, 2013 and 2018

Source: BNNSS data, 2013 and 2018; Mokoro analysis.

Another way of looking at the same data is presented as follows. Districts are arranged in order according to underweight data, as represented by the blue columns, while the orange line represents cumulative distribution. If all districts were the same, all the columns would be the same height and the orange line would be a straight diagonal line. The more curved, in this case concave, the orange line is, the greater the inequality. It can be seen that while the average rate of underweight has remained approximately the same between 2013 and 2018, the worst districts are in a worse position at the end of the period.

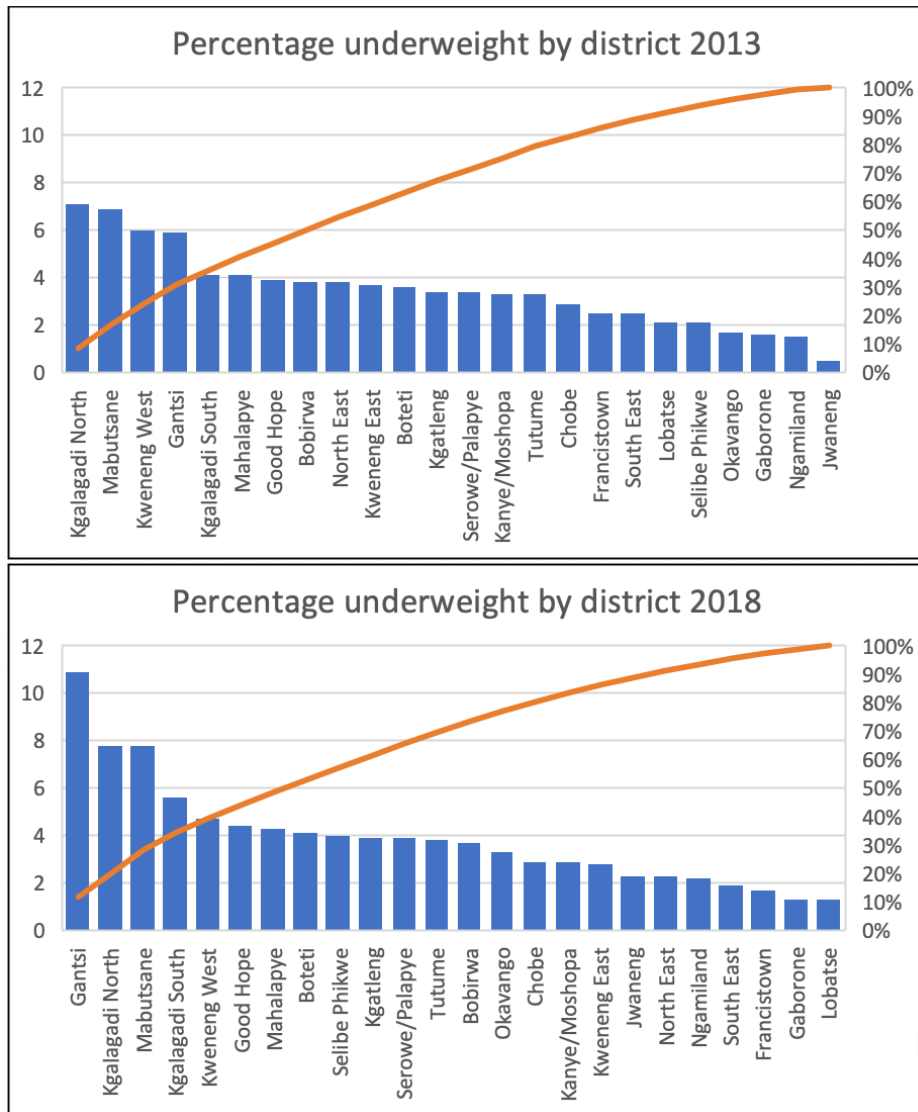


Figure 17. Percentage underweight by district, 2013 and 2018

Source: BNNSS data, 2013 and 2018; Mokoro analysis.

It is notable that the districts with the worst underweight rates are considerably worse in 2018 than in 2013. This raises the question of whether any programme to tackle malnutrition in Botswana needs to be targeted to those who are being left behind nutritionally.

Table 14 below presents the district-level data on underweight prevalence among children aged under five years, as provided to the evaluation team by the MOHW and used in the selection of districts for field work.

Table 14. Underweight prevalence of children under 5, by district (2017) and selection of districts visited

#	District	%Attendance (average)	%Moderate Underweight (average)	%Severe Underweight (average)	%Total Underweight (average)	%Growth Failure (average)	%Ration Received (average)	Districts to be visited
1	Gantsi	75.59	7.40	2.26	9.66	2.46	43.53	x
2	Kgalagadi North	86.31	5.58	1.24	6.82	3.04	59.33	x
3	Mabutsane	103.32	5.55	1.15	6.70	0.93	54.13	x
4	Kgalagadi South	91.36	4.83	0.78	5.61	0.63	50.35	x
5	Kweneng West	83.10	4.38	0.69	5.07	1.06	76.60	x
6	Mahalapye	63.62	4.05	0.72	4.77	1.32	62.19	
7	Good Hope	75.57	3.93	0.50	4.43	0.22	52.08	
8	Chobe	79.19	2.54	1.53	4.08	0.58	49.22	
9	Tutume	142.30	3.07	0.66	3.73	1.20	64.62	x
10	Boteti	81.83	2.92	0.80	3.72	0.75	50.32	x
11	Bobirwa	68.58	3.20	0.45	3.65	0.53	40.30	x
12	Kgatleng	75.60	2.88	0.54	3.43	1.09	44.60	x
13	Serowe/Palapye	119.89	2.93	0.47	3.39	0.87	57.20	
14	Kanye/Moshopa	64.68	2.91	0.36	3.27	0.74	48.56	
15	Kweneng East	67.62	2.56	0.43	2.98	0.55	40.14	
16	North East	79.17	2.00	0.47	2.47	1.30	48.38	
17	Okavango	80.28	1.97	0.48	2.44	0.55	31.93	
18	South East	64.55	2.03	0.24	2.27	0.29	44.98	
19	Ngamiland	75.91	1.66	0.41	2.07	0.33	53.18	
20	Francistown	71.06	1.64	0.21	1.85	0.33	38.77	
21	Jwaneng	83.31	1.65	0.18	1.83	0.98	33.01	
22	Lobatse	86.93	1.33	0.30	1.63	0.58	46.70	x
23	Selebi Phikwe	87.97	1.33	0.17	1.49	0.33	49.08	x
24	Gaborone	47.93	1.03	0.26	1.41	0.27	34.43	x

Source: Annual average for 2017, calculated from monthly data per district provided by the MOHW for 2017.

Annex 5 Other data

VGFP deliveries a decade ago

Table 15 - Table 17 below are drawn from a 2010 UNICEF study and are included to show that many of the delivery challenges currently faced by the VGFP were also significant a decade or more ago.

Table 15. Food deliveries against target, primary schools and health facilities, 4th quarter 2008

Commodity	Primary schools %	Health facilities %
Sorghum grain 50 kg	96	NA
Sorghum meal 25 kg	100	NA
Beans 50 kg	76	62
Samp 25 kg	72	NA
Stewing steak 3.1 kg	89	NA
UHT milk 340 ml	66	NA
Vegetable oil 750 ml	51	30
Tsabana infant formula 2.5 kg	NA	85
Mealie meal 5.5 kg	NA	87

Source: Turner *et al.*, 2010a: 107.

Table 16. Food supplies and deliveries to primary schools and health facilities, 2006 - 2008

Year	Commodity	Primary schools		Health facilities		Beneficiaries			
		Quantity required MT	Quantity supplied MT	Quantity required MT	Quantity supplied MT	Targeted population		Actual no. of beneficiaries fed	
						Primary schools	Health facilities	Primary schools	Health facilities
2006	Sorghum grain 50 kg	2,721.5	2,478.8	NA	NA	271,750	NA	271,750	NA
	Beans 50 kg	3,075.2	2,344.5	2,500.5	1,525.3	271,750	115,801	271,750	88,893
	Samp 25 kg	1,022.6	866.3	NA	NA	271,750	NA	271,750	NA
	Stewed steak 3.1 kg	3,456.4	1,795.0	NA	NA	271,750	NA	271,750	NA
	Vegetable oil 750 ml	572.4	109.3	1,838.3	739.6	271,750	232,536	271,750	137,183
	UHT milk 340 ml	2166.3	1,112.2	NA	NA	271,750	NA	271,750	NA
	Mealie meal 5.5 kg	NA	NA	7,510.8	4,398.2	NA	115,801	NA	72,899
	Tsabana 2.5 kg	NA	NA	7,258.1	3,735.0	NA	116,735	NA	64,284
	Total	13,014.4	8,706.1 (67%)	19,107.7	10,398.1 (54%)				
2007	Sorghum grain 50 kg	2,844.15	2,825.75	NA	NA	236,365	NA	236,365	NA
	Sorghum meal 25 kg	99.28	76.37	NA	NA	12,417	NA	12,417	NA
	Beans 50 kg	3,242.77	1,343.99	2,416.36	958.26	260,507	112,896	260,507	44,771
	Samp 25 kg	2,178.52	698.44	NA	NA	260,507	NA	260,507	NA
	Stewed steak 3.1 kg	1,068.53	1,011.59	NA	NA	260,507	NA	260,507	NA
	Vegetable oil 750 ml	543.49	152.4	1,989.07	288.68	260,507	230,301	260,507	33,424
	UHT milk 340 ml	3,720.90	2,865.25	NA	NA	260,507	NA	200,601	NA
	Mealie meal 5.5 kg	NA	NA	7,653.77	6,311.78	NA	112,896	NA	93,101
	Tsabana 2.5 kg	NA	NA	8,502.25	6,928.88	NA	117,505	NA	95,774
Total	13,697.64	8,973.79 (66%)	20,561.45	14,488.60 (70%)					
2008	Sorghum grain 50 kg	2,729.74	2,534.38	NA	NA	251,075	NA	251,075	NA
	Sorghum meal 25 kg	60.12	53.7	NA	NA	20,849	NA	20,849	NA
	Beans 50 kg	2,878.78	2,206.36	2,579.99	1,466.08	271,924	116,530	271,924	66,218
	Samp 25 kg	2,211.37	1,392.33	NA	NA	271,924	NA	271,924	NA
	Stewed steak 3.1 kg	1,066.17	827.81	NA	NA	271,924	NA	271,924	NA
	Vegetable oil 750 ml	534.99	259.11	2,070.41	612.97	271,924	234,149	271,924	69,320
	UHT milk 340 ml	3,578.11	1,873.66	NA	NA	271,924	NA	271,924	NA
	Mealie meal 5.5 kg	NA	NA	7,608.33	4,380.14	271,924	116,530	271,924	67,087
	Tsabana 2.5 kg	NA	NA	8,484.11	6,368.22	271,924	117,609	271,924	88,278
Total	12,010.30	8,358.53 (70%)	19,216.33	12,015.62 (63%)					

Source: Turner *et al.*, 2010a: 108.

Evaluation of the Vulnerable Groups Feeding Programme

Table 17. Food supplies to clinics, August 2009

6	Maize meal				Tsabana infant formula				Vegetable oil				Beans			
	Target population	Beneficiaries fed	Planned MT	Actual MT	Target population	Beneficiaries fed	Planned MT	Actual MT	Target population	Beneficiaries fed	Planned MT	Actual MT	Target population	Beneficiaries fed	Planned MT	Actual MT
Southern	16,984	6,366	93.99	35.19	15,190	15,176	96.99	96.90	32,174	5,958	24.35	4.50	16,984	16,907	30.75	30.61
South East	2,866	0	15.83	0.00	3,736	2,996	23.29	18.68	6,602	3,751	11.88	6.75	2,866	2,866	5.17	5.17
Kweneng	16,586	1,662	91.41	9.17	18,250	13,568	116.09	86.17	34,836	0	24.11	0.00	16,586	11,411	29.92	20.60
Kgatleng	5,332	5,332	29.49	29.49	5,771	5,771	36.47	36.47	11,013	0	7.70	0.00	5,332	4,779	9.65	8.65
Central	46,031	15,582	254.48	85.62	44,591	42,896	283.50	272.78	90,622	44,566	62.98	30.97	46,031	43,840	83.30	79.33
North East	4,813	0	26.60	0.00	4,644	4,642	29.27	29.26	9,457	9,457	6.59	6.59	4,813	4,813	8.70	8.70
Ngamiland	13,272	11,202	73.08	61.69	12,707	48	50.36	0.30	25,979	0	17.98	0.00	13,272	6,642	23.91	11.98
Chobe	1,228	1,228	6.77	6.77	1,300	1,294	8.18	8.14	2,528	2,528	1.75	1.75	1,228	1,228	2.22	2.22
Gantsi	5,971	4,601	33.22	25.60	4,739	4,013	30.47	25.80	10,710	2,233	8.20	1.71	5,971	5,878	10.87	10.70
Kgalagadi	4,887	3,415	26.96	18.80	3,978	3,978	25.61	25.61	8,966	3,382	6.13	2.33	4,887	4,887	8.80	8.80
Sub-total	117,970	49,388	651.83	272.33	114,906	94,382	700.23	600.11	232,887	71,875	171.67	54.60	117,970	103,251	213.29	186.76
Gaborone	3,711	0	20.60	0.00	5,483	3,156	33.32	19.18	9,194	9,194	6.37	6.37	3,711	3,683	6.73	6.68
Francistown	5,154	0	28.47	0.00	5,620	5,620	36.64	36.64	10,774	0	7.56	0.00	5,154	5,154	9.32	9.32
Selebi-Phikwe	2,434	1,356	13.46	7.50	2,836	2,836	17.92	17.92	5,270	0	3.66	0.00	2,434	2,434	4.40	4.40
Lobatse	1,405	0	7.74	0.00	1,480	1,480	8.99	8.99	2,885	0	2.20	0.00	1,405	1,405	2.53	2.53
Sub-total	12,704	1,356	70.27	7.50	15,419	13,092	96.87	82.73	28,123	9,194	19.79	6.37	12,704	12,676	22.98	22.93
Total	130,674	50,744	722.10	279.83	130,325	107,474	797.10	682.84	261,010	81,069	191.46	60.97	130,674	115,927	236.27	209.69
% of target achieved				39%				86%				32%				89%

Source: Turner *et al.*, 2010a: 110.

Direct feeding, from December 2018

According to data supplied by MOHW, the Implementation of Direct Feeding Initiative targeted 681 moderately and severely underweight children aged 6-59 months attending CWCs in selected health facilities from districts considered hard hit. The nine participating districts are Tutume, Tonota, Mahalapye, Kgalagadi North, Kgalagadi South, Ghanzi, Kanye-Moshupa, Mabutsane and Good Hope. The programme began at various dates between December 2018 and March 2019.

Table 18. MOHW direct feeding initiative, 2019 – 2019

Health facility	Total under 5s visits	Total targeted under 5 beneficiaries with malnutrition
Tutume		
Maitengwe	650	70
Sub total	650	70
Tonota		
Dimotswe	25	5
Makomoto	20	5
Nakalaphofu	15	5
Sub total	60	15
Mahalapye		
Otse	300	50
Sub total	300	50
Kgalagadi North		
Kang	580	60
Hunhukwe	60	6
Sub total	640	66
Kgalagadi South		
Bokspits	100	15
Sub total	100	15
Gantsi		
Groot Laagte	200	70

Evaluation of the Vulnerable Groups Feeding Programme

Health facility	Total under 5s visits	Total targeted under 5 beneficiaries with malnutrition
New Xade	200	40
D'kar	350	50
Qabo	125	15
Bere	100	15
Chobokwane	150	20
Xanagas	80	10
West Hanahai	110	25
Sub total	1,315	245
Kanye-Moshopa		
Kanye Main Clinic	570	55
Sub total	570	55
Mabutsane		
Mahotshwane	250	40
Itholoke	150	40
Keng	200	20
Khakhea	410	40
Sub total	1,010	140
Good Hope		
Metlobo	250	25
Sub total	250	25
Total	4,895	681

Source: MOHW data.

Annex 6 Social protection

Table 19. Social protection programmes identified by draft National Social Protection Framework

Age Group	Program	
INFANTS AND YOUNG CHILDREN	Orphan Care VGFP MOLGRD ECD Services	MOHW ECD Services Social Care
SCHOOL AGE CHILDREN	Orphan Care School Feeding Needy Students/Needy Children	VGFP (pregnant teenagers) Social Care
YOUTH	Needy Children Program National Internship Program Apprentice Program Poverty Eradication Program Sponsorships and Scholarships Youth Empowerment Scheme Youth Development Fund Youth Volunteer Program Ipelegeng Citizens Entrepreneurship Development Agency Community home based care	Gender Development Fund CDD Livelihoods Program CDD Training Remote Area Development Program LMID ISPAAD Job Search Assistance/Labour Observatory Second Chance Education Non-Formal Skills Training
WORKING AGE ADULTS	Destitute Persons Ipelegeng Community Home-Based Care Poverty Eradication Program Gender Development Fund CDD Livelihoods Program CDD Training	Remote Area Development Program LMID ISPAAD Job Search Assistance/Labour Observatory Citizens Entrepreneurship Development Agency Second Chance Education Non-Formal Skills Training
ELDERLY	OAP Public Officers Pension Fund Destitute Persons Social Care	Community Home-Based Care World War II Veterans Pension
Cross-Cutting		
HIV/AIDS	VGFP Social Care	
DISABILITY	Destitute Persons VGFP	Community Home-Based Care Social Care
DISASTER	Disaster Relief VGFP	

Annex 7 Field survey instruments

Guidelines/Questions for in-depth interviews with individual parents/carers at HF

A. Introduction

1. Introduction of team member(s)
2. Purpose of Evaluation
3. Consent of Respondent
4. Confidentiality – no attribution to individuals by name
5. How long have you benefited from the VGFP?
6. (Follow up their answers with respect to their involvement, if at all, and decide whether any of the questions below can be asked.)

B. Questions for individual parent/carer at HF

#	Question/issue
HH background	
1.	What are the three main sources of your household livelihood?
2.	Do you receive any income from the government (e.g. destitute allowance, Ipelegeng)
3.	How many boys aged under 10?
4.	How many girls aged under 10?
5.	How many boys aged under 5?
6.	How many girls aged under 5?
Current use of VGFP rations	
7.	How many children currently receiving Tsabana?
8.	How many children currently receiving Malutu?
9.	Does the mother receive Malutu?
CWC attendance, collection of rations	
10.	Are there some months when you do not come to the CWC?
11.	(If yes) Why?
12.	Are there some months when you go to the CWC but there is no ration available?
13.	Are there some months when you go to the CWC but they give you only part of the ration?
14.	Do you have any problems getting to the CWC?
15.	Would you describe the quality of services at the CWC as very good/good/fair/poor/very poor?
16.	Specific comments on quality of services at CWC?
Preparation of Tsabana and Malutu	
17.	What do you add to the Tsabana when preparing it?
18.	What do you add to the Malutu when preparing it?
19.	What fuel do you use for cooking?
20.	Do you have any problems preparing Tsabana?
21.	Do you have any problems preparing Malutu?
Acceptability, use of rations	
22.	Do your children like Tsabana?
23.	Do your children like Malutu?
24.	Does Tsabana cause any problems for your children?

#	Question/issue
25.	(If yes) What problems?
26.	Does Malutu cause any problems for your children?
27.	(If yes) What problems?
28.	Do you have any concerns about the quality of the Tsabana supplied to you?
29.	(If yes) What concerns?
30.	Do you have any concerns about the quality of the Malutu supplied to you?
31.	(If yes) What concerns?
32.	In the last month how much of the Tsabana or Malutu did your child eat? a) 100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
33.	If you gave your child less than 100% what was the reason?
34.	If you gave your child 100% what was the reason?
35.	For mothers receiving Malutu, in the last month how much of the Malutu did you eat? a) 100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
36.	What was the reason for taking that amount?
37.	How many weeks does one month's ration of Tsabana last in this household?
38.	How many weeks does one month's ration of Malutu last in this household?
39.	Do you ever sell (part of) the ration? Why?
Gender	
40.	Is there any difference in the feeding of Tsabana to boys and to girls?
41.	Is there any difference in the feeding of Malutu to boys and to girls?
Nutrition awareness	
42.	What did your children under 5 eat in the last 24 hours? (prompt: how many times did they eat? What did they eat each time?)
43.	What did the mother (who is receiving Malutu) eat in the last 24 hours?
44.	Do you think your children get adequate food all year round?
45.	(If not) What is lacking in your children's diet?
46.	What do you do when you think your children are lacking food?
47.	How long do you think a child should only have breastmilk?
48.	For each child aged under 10: for how many months was the child exclusively breastfed? Why?
49.	How long do you think a child should continue to be breastfed?
50.	Has anyone ever taught you about or explained child nutrition to you?

Guidelines/Questions for in-depth interviews with individual parents/carers at home

A. Introduction

1. Introduction of team member(s)
2. Purpose of Evaluation
3. Consent of Respondent(s)
4. Confidentiality – no attribution to individuals by name
5. How long have you benefited from the VGFP?
6. (Follow up their answers with respect to their involvement, if at all, and decide whether any of the questions below can be asked.)

B. Questions for individual parent/carer at home

#	Question/issue
HH background	
1.	What are the three main sources of your household livelihood?
2.	How many rooms in the house?
3.	Both heads of household present/ female headed household/ children cared for by grandparent/ children cared for by other person.
4.	Do you receive any income from the government (e.g. destitute allowance, Ipelegeng)
5.	How many boys aged under 10?
6.	How many girls aged under 10?
7.	How many boys aged under 5?
8.	How many girls aged under 5?
Current use of VGFP rations	
9.	How many children currently receiving Tsabana??
10.	How many children currently receiving Malutu?
CWC attendance, collection of rations	
11.	Are there some months when you do not come to the CWC? A
12.	(If yes) Why?
13.	Are there some months when you go to the CWC but there is no ration available?
14.	Are there some months when you go to the CWC but they give you only part of the ration??
15.	Do you have any problems getting to the CWC?
16.	Would you describe the quality of services at the CWC as very good/good/fair/poor/ very poor?
17.	Do you have any specific comments on the quality of services at CWC?
18.	Do you know many mothers who do not take their children regularly to the CWC
19.	(If yes) Why do they not go regularly to the CWC?
20.	Note where/how Tsabana/Malutu is stored in the house.
21.	Note how many cooking pots available; condition, cleanliness.
22.	Note where household drinking and cooking water obtained and stored: condition, cleanliness
Preparation of Tsabana and Malutu	
23.	What do you add to the Tsabana when preparing it?
24.	What do you add to the Malutu when preparing it
25.	What fuel do you use for cooking?

#	Question/issue
26.	Do you have any problems preparing Tsabana?
27.	Do you have any problems preparing Malutu??
28.	How many cooking pots do you have?
29.	Type of fuel used for cooking?
30.	Do you prepare Tsabana/Malutu separately from the rest of the family's food?
31.	Do you have any problems preparing Tsabana/Malutu separately from the rest of the family's food? A
Acceptability, use of rations	
32.	Do your children like Tsabana?
33.	Do your children like Malutu?
34.	Does Tsabana cause any problems for your children?
35.	(If yes) What problems?
36.	Does Malutu cause any problems for your children?
37.	(If yes) What problems?
38.	Do you have any concerns about the quality of the Tsabana supplied to you?
39.	(If yes) What concerns
40.	Do you have any concerns about the quality of the Malutu supplied to you?
41.	(If yes) What concerns
42.	How often do other children (above 5 years) or adults consume Tsabana in your household? (Daily/often/ occasionally/never)
43.	How often do other children (above 5 years) or adults consume Malutu in your household? (Daily/often/ occasionally/never)
44.	How many weeks does one month's ration of Tsabana last in this household
45.	Do you sell Tsabana sometimes?
46.	How many weeks does one month's ration of Malutu last in this household?
47.	Do you sell Malutu sometimes?
Gender	
48.	Is there any difference in the feeding of Tsabana to boys and to girls?
49.	Is there any difference in the feeding of Malutu to boys and to girls
Nutrition awareness	
50.	Can you define stunting?
51.	Do you know what causes stunting/poor growth? Or Do you know why your child is not growing properly?
52.	Do you think your children get adequate food all year round?
53.	If not, what is lacking in your children's diet?
54.	How long do you think a child should only have breastmilk?
55.	How long do you think a child should continue to be breastfed?
56.	Has anyone ever taught you about or explained child nutrition to you? If so, who (family, someone in the community, a health professional

Guidelines/Questions for in-depth interviews with MOHW staff at CWC

C. Introduction

1. Introduction of team member(s)
2. Purpose of Evaluation
3. Consent of Respondents
4. Confidentiality – no attribution to individuals by name
5. How long have you benefited from the VGFP?
6. (Follow up their answers with respect to their involvement, if at all, and decide whether any of the questions below can be asked.)

D. Questions for MOHW staff at CWC

	Question/issue
HH background	
1.	How widespread, how severe is poverty in the community that this CWC serves?
2.	How adequate are government social protection measures for the needs of the community that this CWC serves?
3.	(If not adequate) What else should government do?
Child nutrition	
4.	How common is it for children here to be exclusively breastfed?
5.	What factors determine how long a child is exclusively breastfed?
6.	Is there Infant and Young Child feeding education and counselling here? Who does it, and how often?
7.	Do mothers change behaviour based on what they learnt? If not, why not?
8.	Is there education on the nutrition of the mother here? Who does it, and how often?
9.	Do mothers change behaviour based on what they learnt? If not, why not?
Logistics	
10.	Does this CWC have any problems obtaining Tsabana and Malutu?
11.	(if yes) What problems?
12.	Does this CWC have any problems storing Tsabana and Malutu?
13.	(if yes) What problems?
14.	Does this CWC have any problems with data transfer to and from MOHW?
15.	(if yes) What problems?
16.	Have you had any of the ration go missing?
CWC attendance, collection of rations	
17.	Do all parents/carers of children under 5 attend the CWC regularly?
18.	(If not) Why not?
19.	How regularly are full rations available at the CWC?
20.	How common is it for only partial rations to be provided?
21.	Does this CWC have any problems serving all households in its catchment area?
22.	(If yes) What problems?
23.	Would you describe the quality of services at the CWC as very good/good/fair/poor/very poor?
24.	Specific comments on quality of services at CWC?
25.	Do you know many mothers who do not take their children regularly to the CWC?
26.	(If yes) Why do they not go regularly to the CWC?

Question/issue	
Preparation of Tsabana and Malutu	
27.	How fully do parents and carers here follow the instructions for preparation of Tsabana and Malutu?
28.	(If not) What problems do people face?
Acceptability, use of rations	
29.	Do children like Tsabana?
30.	Do children like Malutu?
31.	Does Tsabana cause any problems for children?
32.	(If yes) What problems?
33.	Does Malutu cause any problems for children?
34.	(If yes) What problems?
35.	Do you have any concerns about the quality of the Tsabana supplied at your CWC?
36.	(If yes) What concerns?
37.	Do you have any concerns about the quality of the Malutu supplied at your CWC?
38.	(If yes) What concerns?
39.	How much of the Tsabana ration do children eat on average a) A) 100% b) approximately 75% c) approximately 50% d) approximately 25% d) none
40.	How much of the Malutu ration do children eat on average a) A) 100% b) approximately 75% c) approximately 50% d) approximately 25% d) none
41.	How much of the ration do mothers eat on average a) A) 100% b) approximately 75% c) approximately 50% d) approximately 25% d) none
42.	How common is it for children aged over five or for adults to eat Tsabana?
43.	How common is it for children aged over five or for adults to eat Malutu?
44.	How common is it for the monthly ration of Tsabana to last less than one month?
45.	How common is it for the monthly ration of Malutu to last less than one month?
Gender	
46.	Is there any difference in the feeding of Tsabana to boys and to girls?
47.	Is there any difference in the feeding of Malutu to boys and to girls?
48.	Do men understand enough and do enough about good nutrition for young children in their families?
49.	(If not) Should anything be done about this?
50.	Are there male carers?
Targeting	
51.	Is it better to provide young children's supplementary feeding to all children, or should children be targeted to receive this support?
52.	(If yes) Should targeting be geographical, or based on level of household income?

Guidelines/Questions for FGDs with parents/carers

E. Introduction

1. Introduction of team member(s)
2. Purpose of Evaluation
3. Consent of Respondent
4. Confidentiality – no attribution to individuals by name
5. How long have you benefited from the VGFP?
6. (Follow up their answers with respect to their involvement, if at all, and decide whether any of the questions below can be asked.)

F. Questions for FGDs of parents and carers

	Question/issue
HH Background	
1.	How widespread, how severe is poverty in this community?
2.	How adequate are government social protection measures for the needs of this community
3.	(If not adequate) What else should government do?
Child Nutrition	
4.	How common is it for children here to be exclusively breastfed?
5.	How do you decide how long your child will only receive breastmilk?
CWC attendance, collection of rations	
6.	How regularly are full rations available at the CWC?
7.	How common is it for only partial rations to be provided?
8.	Do you have any problems getting to the CWC?
9.	Would you describe the quality of services at the CWC as very good/good/fair/poor/ very poor?
10.	Do you have any specific comments on the quality of services at CWC?
11.	Do you know many mothers who do not take their children regularly to the CWC?
12.	(If yes) Why do they not go regularly to the CWC?
Preparation of Tsabana le Malutu	
13.	How fully do parents and carers here follow the instructions for preparation of Tsabana and Malutu?
14.	(If not) What problems do people face?
Acceptability, use of rations	
15.	Do children like Tsabana?
16.	Do children like Malutu
17.	Does Tsabana cause any problems for children?
18.	(If yes) What problems?
19.	Does Malutu cause any problems for children?
20.	(If yes) What problems?
21.	Do you have any concerns about the quality of the Tsabana supplied at your CWC?
22.	(If yes) What concerns?
23.	Do you have any concerns about the quality of the Malutu supplied at your CWC?
24.	(If yes) What concerns?

Question/issue	
25.	How much of the Tsabana ration do children eat on average a) 100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
26.	How much of the Malutu ration do children eat on average a)100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
27.	How much of the ration do mothers who are given Malutu eat on average a) 100% b) approximately 75% c) approximately 50% d) approximately 25% d) none
Gender	
28.	If you have only a bit of Tsabana and you have a girl child and a boy child, who do you give it to?
29.	Do you feed boys or girls more Tsabana?
30.	If you have only a bit of Malutu and you have a girl child and a boy child, who do you give it to?
31.	Do men understand enough and do enough about good nutrition for young children in their families?
32.	(If not) Should anything be done about this?
33.	Are there any male carers?
Nutrition awareness	
34.	Do you consider the nutrition of children in this community to be adequate all year round?
35.	(If not) What is lacking in their diet?
36.	What are the biggest problems for the good nutrition of children in this community?
37.	Are the diets of mothers in this community adequate all year round?
38.	If not, why not?
39.	How long do you think a child should only receive breastmilk?
40.	How long do you think a child should continue to be breastfed?
41.	Has anyone ever taught you about or explained child nutrition to you? If so, who
Targeting	
42.	Is it better to provide young children's supplementary feeding to all children, or should children be targeted to receive this support?
43.	(If yes) Should targeting be geographical, or based on level of household income?

Guidelines/Questions for FGDs with VDCs

A. Introduction

1. Introduction of team member(s)
2. Purpose of Evaluation
3. Consent of Respondents
4. Confidentiality – no attribution to individuals by name
5. How long have you benefited from the VGFP?
6. (Follow up their answers with respect to their involvement, if at all, and decide whether any of the questions below can be asked.)

B. Questions for FGDs with VDCs

	Question/issue
HH background	
1.	How widespread, how severe is poverty in this community?
2.	How adequate are government social protection measures for the needs of this community?
3.	(If not adequate) What else should government do?
CWC attendance, collection of rations	
4.	Do all parents/carers of children under 5 attend the CWC regularly?
5.	(If not) Why not?
6.	How regularly are full rations available at the CWC?
7.	How common is it for only partial rations to be provided?
8.	Would you describe the quality of services at the CWC as very good/good/fair/poor/ very poor?
9.	Specific comments on quality of services at CWC?
10.	Do you know many mothers who do not take their children regularly to the CWC?
11.	(If yes) Why do they not go regularly to the CWC?
Acceptability, use of rations	
12.	Do children like Tsabana?
13.	Do children like Malutu?
14.	Does Tsabana cause any problems for children?
15.	(If yes) What problems?
16.	Does Malutu cause any problems for children?
17.	(If yes) What problems?
18.	Do you have any concerns about the quality of the Tsabana supplied at your CWC?
19.	(If yes) What concerns?
20.	Do you have any concerns about the quality of the Malutu supplied at your CWC?
21.	(If yes) What concerns?
22.	How much of the Tsabana ration do children eat on average a) 100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
23.	How much of the Malutu ration do children eat on average a) 100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
24.	How much of the ration do mothers who are given Malutu eat on average a) 100% b) approximately 75% c) approximately 50% d) approximately 25% e) none
25.	How common is it for the monthly ration of Tsabana to last less than one month?
26.	How common is it for the monthly ration of Malutu to last less than one month?

	Question/issue
Gender	
27.	If you have only a bit of Tsabana and you have a girl child and a boy child, who do you give it to?
28.	Do you feed boys or girls more Tsabana?
29.	If you have only a bit of Malutu and you have a girl child and a boy child, who do you give it to?
30.	Do men understand enough and do enough about good nutrition for young children in their families?
31.	(If not) Should anything be done about this?
32.	Are there any male carers?
Nutrition awareness	
33.	Do you consider the nutrition of children in this community to be adequate all year round?
34.	What are the biggest problems for the good nutrition of children in this community?
35.	How long do you think a child should only receive breastmilk?
36.	How long do you think a child should continue to be breastfed?
37.	Has anyone ever taught you about or explained child nutrition to you? If so, who?
Targeting	
38.	Is it better to provide young children's supplementary feeding to all children, or should children be targeted to receive this support?
39.	(If yes) Should targeting be geographical, or based on level of household income?

Guidance notes for meetings with District Health Management Teams

Introduction

- DHMT chair will make introductory/welcome remarks
- Introduce survey team, ask those present to introduce themselves.
- Circulate attendance list
- Explain the purpose of the team's visit to the district:
 - Refer to the savingram sent by the Deputy Permanent Secretary, MOHW, to the DHMT Head.
 - *The Government of Botswana has been implementing the Vulnerable Groups Feeding Programme for many years. The focus of the programme is the provision of supplementary feeding to young children when their parents or carers bring them to the Child Welfare Clinics at health facilities. Children under two years of age are given Tsabana; children aged 3 – 5 are given Malutu; and those aged 5 – 6 who are not yet in school receive Malutu as well.*
 - *With support from UNICEF, the Ministry of Health and Social Welfare (MOHW) has now commissioned this evaluation of the VGFP. The evaluation is an official exercise of the MOHW.*
 - *The evaluation has been arranged partly because of concern that levels of stunting are still too high among Botswana children. During our field survey work, we aim to learn more about the strengths and weaknesses of the VGFP – the way it is organised, and its effectiveness in improving the nutrition of young children. The evaluation will then recommend what changes the Government of Botswana might make.*
- **Emphasise confidentiality:** we hope for an open, candid discussion. But it is confidential. We will not quote anyone by name.
- Referring to the schedule, summarise where the team plans to go in the district and what interviews and meetings it plans to hold at each place. Explain that some of the details in the schedules attached to the savingram have been changed, and that the MOHW has been in touch with the DHMT about those changes.
- Referring to the schedule, confirm which place has been selected for a meeting with the Village Development Committee.

Discussion points

- The team supervisor should lead a discussion about the VGFP. Be flexible: this is not a rigid guideline. Use your initiative to follow up on interesting points.
- All team members should keep careful notes of the discussion.
- Keep a copy of the guidelines for in-depth interviews with MOHW staff at the CWC with you, to help identify more detailed questions if needed.
- **Nutritional status of children in this district**
 - Overall, how severe are problems of child nutrition in this district? Underweight? Stunting? We are particularly interested in children aged under five years.
 - Are child nutrition problems worse among certain groups in the district, or in certain areas?

- Any difference in the nutrition of girls and boys?

 - **Health and nutritional status of mothers**
 - What proportion of mothers in this district are medically assessed to require provision of Malutu under the VGFP?
 - What is the incidence of low birth weight, and is it increasing or decreasing?
 - What is the incidence of teenage pregnancies? Is it increasing or decreasing?

 - **Parents' knowledge and behaviour**
 - How well do mothers adhere to breastfeeding guidelines?
 - What factors determine how long a child is exclusively breastfed?
 - Is there Infant and Young Child feeding education and counselling in this district? Who does it, and how often?
 - Is there education on the nutrition of mothers in this district?

 - **Logistics**
 - Does this district experience any problems in the supply of Tsabana and Malutu to the health facilities? If so, what kind of problems, and how frequent and severe are they?
 - What are the causes of these problems?
 - How can these problems be solved?
 - Are there any problems with the storage and management of the Tsabana and Malutu at the health facilities? Damage or theft, for example?
 - How are these problems managed?
 - Do you have any recommendations for improved logistics and commodity management?

 - **CWC attendance, collection of rations**
 - How well do parents and carers of young children keep to the required schedule of CWC attendance?
 - If they do not always come, why not?
 - How often are CWCs unable to provide the full ration of Tsabana or Malutu, or any ration?
 - Does the provision or non-provision of rations affect how many parents and carers come to the CWC the following month?

 - **Preparation of Tsabana and Malutu**
 - In this district, how fully do parents and carers follow the preparation instructions for Tsabana and Malutu?
 - If they do not fully follow the instructions, why not?

 - **Acceptability and use of Tsabana and Malutu**
 - Does Tsabana cause any problems for children when they eat it?
-

- Does Malutu cause any problems for children when they eat it?
 - Do you have any concerns about the quality of the Tsabana and Malutu that are supplied to this district?
 - How common is it for Tsabana to be eaten by other family members?
 - Why does this happen?
 - How common is it for Malutu to be eaten by other family members?
 - Why does this happen?
 - How common is it for the monthly ration of Tsabana and/or Malutu to last for less than one month?
 - If it is common for other family members to eat the Tsabana and/or Malutu, what can be done to prevent this?
-
- **Gender**
 - Is there any difference in the feeding of Tsabana to boys and girls?
 - Is there any difference in the feeding of Malutu to boys and girls?
 - Do men understand enough about the proper nutrition of young children?
 - Should anything be done to increase men's understanding and engagement on issues of young child nutrition?
-
- **Strategy**
 - Is it appropriate to give Tsabana and Malutu to all children, as at present?
 - Would some kind of targeting be better, so that only some children would receive this food?
 - If so, what kind of targeting? Based on location, on poverty, or some other factor?
 - What other recommendations do you have for making support to young child nutrition more effective? For example:
 - Keep the existing programme, but make some detailed changes? What changes?
 - Focus support on children aged under two years only?
 - Provide support through cash or smart cards, rather than distributing food?
 - Other ideas?
-
- **Other issues**
 - Are there any other ideas, issues or concerns about the VGFP that the DHMT would like to share with the evaluation team/
-
- **Thank you!**
 - At the end of the meeting, express the team's sincere thanks for the support of the DHMT.

Annex 8 Ethics and informed consent

This annex reproduces the discussion on incorporating gender and human rights perspectives that was presented in the evaluation inception report. It then shows the informed consent form that was used at the start of each meeting and interview in the field.

The gender and human rights approach applied to this evaluation will be shown in two ways: how the evaluation is conducted and what it examines (see UNEG, 2014, UN WOMEN, 2015). First, the evaluation methodology itself will mainstream human rights and gender into the processes and approach for organising this evaluation. Secondly, the evaluation team will review the VGFP's approach to gender and human rights over the evaluation period.

A human-rights and gender-equality responsive evaluation means that the evaluation will be participative and inclusive, showing respect to all stakeholders. We ensure that we consult a wide range of stakeholders as key informants throughout the duration of an assignment. A crucial aspect is the preparation of a stakeholder analysis at the start of an assignment (as discussed above). We ensure that we identify and include to the extent possible those groups/individuals who are most likely to be unable to assert their rights fully, which often includes women and children and disabled persons.

As the UNEG guidelines on integrating human rights and gender equality in evaluations highlight, understanding barriers to participation that may impede certain groups is a critical step towards understanding constraints and challenges that may arise in the process and seeking alternative ways to ensure inclusion (UNEG, 2014: 46). Such barriers may include time, place, accessibility of certain areas, as well as means of fieldwork and suitable ways will be sought to ensure inclusive participation as much as possible. Working with local partners is an asset and where necessary to work with interpreters.

Evaluation team members are culturally sensitive and respect ethical guidelines and ensure a culturally sensitive approach is taken throughout the evaluation, ensuring – in line with the guidelines mentioned in the previous paragraph – that informants suffer no emotional or physical disturbance or inconvenience. In practical terms, this will mean for example, that female informants will not be interviewed one-on-one by a male evaluator. Often social norms prevent women from voicing their thoughts, opinions and concerns in the presence of men from the same culture. The evaluation team will therefore also seek to interview women/girls and men/boys separately as appropriate. Informed consent to be interviewed will be sought from all informants and confidentiality will be guaranteed before any interview or focus group discussion takes place.

Gender equality means that women, men, girls and boys enjoy the same rights, resources, opportunities and protections. In a crucial initial step and as part of a detailed context and situation analysis, the team will review existing gender and human rights-related, including any regulations on persons with disabilities, child protection etc.

The evaluation team will consult GOB gender staff to see how well any gender-related VGFP objectives have been respected and achieved, looking at sex- and age-disaggregated data where possible and seeking views from both women/girls and men/boys to better understand the gender dimensions of VGFP performance.

Informed consent form

This is the English version of the informed consent form that was used in Setswana or English, as appropriate, at the start of each interview or group discussion.

Republic of Botswana
Ministry of Health and Wellness
Evaluation of the Vulnerable Groups Feeding Programme

What you should know about this evaluation:

- We give you this form so that you may understand why we want to talk with you.
- The main goal of this evaluation is to gain knowledge that may help improve the way the Government of Botswana provides food assistance to vulnerable groups.
- There are no risks for you if you participate in this study.
- The discussion will be strictly confidential.
- You will not lose your benefits.
- You have the right to refuse to take part.
- Ask any questions before you make a decision.
- Your choice to participate is voluntary.

The Government of Botswana has been implementing the Vulnerable Groups Feeding Programme for 53 years. Its focus is on supplementary feeding (with Tsabana and Malutu) for children aged under five.

We are talking to people who benefit from or know about this programme to understand what they think about the activity. Your feedback is very important to help us understand how well the Vulnerable Groups Feeding Programme has done and to suggest ways in which it can be improved. Your name will not appear in any report and your responses will not be shared with anyone outside the research team.

Before you sign this form, please ask any questions you have. You may take as much time as necessary to think it over.

CONSENT

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS STUDY. YOUR SIGNATURE INDICATES THAT YOU HAVE READ AND UNDERSTOOD THE INFORMATION PROVIDED ABOVE, HAVE HAD ALL YOUR QUESTIONS ANSWERED, AND HAVE DECIDED TO PARTICIPATE.

<hr/>	<hr/>
Name <i>(please print)</i>	Date & time
<hr/>	<hr/>
Signature	Date & time
<hr/>	<hr/>
Signature of Research Staff	Date & time
<hr/>	<hr/>

Annex 9 Online survey

Vulnerable Groups Feeding Programme Survey

Background information

1. a) Who do you work for? *

- Ministry of Health and Wellness
- Other

b) Which Ministry of Health & Wellness district do you work in? *

- Bobirwa
- Boteti
- Chobe
- Francistown
- Gaborone
- Gantsi
- Good Hope
- Jwaneng
- Kanye/Moshopa
- Kgalagadi North
- Kgalagadi South
- Kgatleng
- Kweneng East
- Kweneng West
- Lobatse
- Mabutsane
- Mahalapye
- Ngamiland
- North East
- Okavango
- Selibe Phikwe
- Serowe/Palapye
- South East
- Tutume
- Not applicable

* indicates a compulsory question.

Malnutrition

2. What is the single most important cause of malnutrition for young children in your district? (Please select one option only.) *

- Food shortages
- Water quality
- Poverty
- Disease
- Poor hygiene
- Child caring practices
- Lack of education
- Other - please state

3. Does the Vulnerable Groups Feeding Programme (VGFP) reduce child malnutrition in your district? *

- Yes, a lot
- Yes, a little
- No, probably not
- No, definitely not
- Not applicable / Don't know

Why do you think the Vulnerable Groups Feeding Programme (VGFP) does not have a larger impact on child nutrition? Please tick all that apply. *

- Full rations are often not available
- People don't attend clinic often
- VGFP is not the right programme
- Most of the rations are not eaten by the child
- Tsabana/Malutu are not correctly prepared
- Other - please state

Vulnerable Groups Feeding Programme: Possible improvements

4. Should the Government continue providing Tsabana and Malutu? *

	Yes	No	Don't know
Continue Tsabana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Continue Malutu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. If the Vulnerable Groups Feeding Programme (VGFP) is continued, what improvements would you suggest? (Please tick up to three options. Click again to remove an option.) *

- Better targeting of malnourished children
- Improve distribution of rations (Tsabana, Malutu, oil and beans)
- Change composition of Tsabana
- Change composition of Malutu
- Prioritise the first 1,000 days (from child's conception to 2nd birthday)
- Improve nutrition education
- Give food to all pregnant and lactating mothers
- Shift all responsibility for VGFP to Ministry of Health and Wellness
- None / Not applicable
- Other - please state below

Please comment on your answer, or give other suggestions.

Other methods to reduce child malnutrition

6. Which of the following options would be best at reducing child malnutrition in your district? (Select one option only) *

- Providing parents and carers with cash to buy food
- Providing parents and carers with a swipe card that can only buy food (not other items)
- Providing cooked meals in the clinic
- Providing more education on nutrition
- Increasing the number of health workers in the community
- None - no change required from current system
- Other - please state

7. a) How effective is the nutrition education of parents and carers in your district? *

Very effective Effective Not very effective Ineffective Don't know / N.A.

Nutrition education

b) What would improve nutrition education in your district?

Supply of Tsabana, Malutu and other rations

8. Over the last 12 months, how often there were problems with the supply of rations (Tsabana, Malutu, beans and oil) in your district? Please give your best estimate. *

	Never	1 month	2 - 3 months	4 - 6 months	7 - 9 months	10 - 12 months	Don't know
No Tsabana and/or Malutu supplied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient Tsabana and/or Malutu supplied (less than 50% of amount required)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No beans and/or oil supplied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient beans and/or oil supplied (less than 50% of amount required)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ration supplied unusable (spoiled or near expiry date)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. What would improve the supply of rations in your district?

Final comments

10. Do you have any further suggestions on how to improve child nutrition in Botswana?

Annex 10 Field survey coverage

Table 20. Field survey coverage

District	Meeting with DHMT	Health facility	Parents/ carers interviewed at HF	Parents/ carers interviewed at home	MOHW staff interviewed at HF	FGDs with parents/ carers	FGDs with VDCs	Other key informant interviews and visits
Bobirwa	1							
		Bobonong P Hospital	5		3	1		
		Borotsi HP	5	3	3	1	1	
		Damuchujenaa HP	4		3	1		
		Molaladau HP	5		3	1		
Sub-total		4	19	3	12	4	1	
Boteti	1							
		Rakops Clinic	5		1	1		Environmental Health Officer
		Mmatshumu Clinic	5		2		1	
		Mosu Clinic	5	3	2			
Sub-total		3	15	3	5	1	1	
Gaborone	1							
		Lesirane Clinic	5	2	1	1		
		Julia Molefe Clinic	5		2	1		
		Phase 2 Clinic	5	2	2	1		
Sub-total		3	15	4	5	3	0	
Gantsi	1							DC, Clinic, FRS Depot
		Bere HP	3	3	3	1	1	

Evaluation of the Vulnerable Groups Feeding Programme

District	Meeting with DHMT	Health facility	Parents/ carers interviewed at HF	Parents/ carers interviewed at home	MOHW staff interviewed at HF	FGDs with parents/ carers	FGDs with VDCs	Other key informant interviews and visits
		New Xade Clinic	5		3	1	1	
		SHHA/Bosele HP	5	3	3	1		
		West Hanahai HP	6	3	3	1	1	
Sub-total		4	19	9	12	4	3	
Kgalagadi North	1							
		Hunhukwe HP	3	3	3	1	1	
		Kang Clinic	6		3	1		
		Tshane HP	3	3	3	1	1	
Sub-total		3	12	6	9	3	2	
Kgalagadi South	1							
		Bogogobo HP	4	3	3	1		
		Kolonkwaneng HP	5	3	3	1	1	
		Maubelo HP	5		2	1	1	
		Struizendam HP				1	1	
		Tsabong Clinic	5		3	1		
Sub-total		5	19	6	11	5	3	
Kgatleng	1							
		Dikwididi Clinic	6		2	1		
		Makgophana Clinic	5		3	1		
		Phaphane Clinic	5	3	3	1	1	
		Sikwane Clinic	5		3	1		
Sub-total		4	21	3	11	4	1	

Evaluation of the Vulnerable Groups Feeding Programme

District	Meeting with DHMT	Health facility	Parents/ carers interviewed at HF	Parents/ carers interviewed at home	MOHW staff interviewed at HF	FGDs with parents/ carers	FGDs with VDCs	Other key informant interviews and visits
Kweneng West	1							
		Letlhakeng P Hospital	5		2	1	1	FRS Depot, Health Promotion Officers, Environmental Health Officers
		Serinane Clinic	5	3	2			
		Khudumelapye Clinic	5		2	1		Peace Corps Nutritionist
		Metsibotlhoko Clinic	5		2			
Sub-total		4	20	3	8	2	1	
Lobatse	1							Health Promotion Officer, Environmental Health Officer
		Athlone Hospital	1	3	3			
		Gopong Clinic/Digawana	6	2	3	1		
		Woodhall	4	2	3		1	
Sub-total		3	11	7	9	1	1	
Selebi Phikwe	1							Deputy District Commissioner, VDC Chair
		Botshabelo Clinic	5	6	2	1	1	
		A.N. Lesole Clinic	4		2	1		
		South East Extension Clinic	6	3	3	1		
		Tapologo Clinic	5		1	1		
Sub-total		4	20	9	8	4	1	
Southern	1							[DHMT Mabutsane]

Evaluation of the Vulnerable Groups Feeding Programme

District	Meeting with DHMT	Health facility	Parents/ carers interviewed at HF	Parents/ carers interviewed at home	MOHW staff interviewed at HF	FGDs with parents/ carers	FGDs with VDCs	Other key informant interviews and visits
	1	Kanye SDA Hospital	5		3			
		Kokong Clinic	5	2	2			
		Mahotshwane Clinic	4		3	1	1	
Sub-total		3	14	2	8	1	1	
Tutume	1							
		Goshwe HP	5	3	3	1	1	
		Selolwane HP	5		3	1		
		Tutume P Hospital	5		3	1		
Sub-total		3	15	3	9	3	1	
Total	13	43	200	58	107	35	16	

Annex 11 Evaluation schedule

11-14 February 2019	Inception mission: Gaborone [with visit to Kgatleng district on 12 February]
5 March	Draft inception report
2-6 April	Evaluation mission: Gaborone
7-17 April	Evaluation mission: field work [see Table 20, Annex 10]
18-24 April	Evaluation mission: Gaborone
7 May	Final inception report
4-17 June	Online survey
26 June	Draft evaluation report
3 July	Presentation of draft evaluation report to Technical Working Group
5 July	Presentation of draft evaluation report to Steering Committee
18 August	Final evaluation report and Investment Case for Nutrition

Annex 12 Persons met

This list does not include the names of participants in focus group discussions held with parents and carers and with Village Development Committees (see Table 20, Annex 10).

Name		Position	Place
T. Baakile	m	Director, Social Statistics, Statistics Botswana	Gaborone
J. Bagopi-Baffoe	f	Nursing Superintendent, DHMT	Kgatleng/ Oodi Clinic
A.K. Baipusi	f	Health Promotion, DHMT	Gaborone
S. Baoleki	f	OCHN, DHMT	Tutume
R.O. Baoka	f	MOHW	Gantsi
M. Baruti	f	DHMT	Gaborone
O. Basebi	m	M&E Officer, DHMT	Bobonong
M. Basheke	m	Nutrition and Food Control, MOHW	Gaborone
M. Batsalelwang	f	Commissioner, Department of Social Protection, MLGRD	Gaborone
B. Bikimane	m	Mental Health, DHMT	Gaborone
W.T. Bodirilwe	m	Health Promotion, DHMT	Gaborone
O.E. Boikanyo	m	Registered Nurse, MOHW	Tsabong
M. Bojase	f	Environmental Health Officer	Lobatse
L. Bolaane	m	Principal Health Officer, NFCD, MOHW	Gaborone
B. Bome	f	Data Clerk, DHMT	Kgatleng
J. Bosele	f	Department of Social and Community Development, Gantsi District Council	Gantsi
D. Botshelo	m	Poverty Eradication Co-ordinator	Gantsi
J. Chalebgwa	m	Nurse in Charge, MOHW	Hunhukwe
T. Chamile	f	Kang Clinic, MOHW	Kang
C. Chembe	m	DHMT	Mabutsane
Y. Chinyanga	f	Principal Health Officer (Nutrition Surveillance), MOHW	Gaborone
M. Dibotelo	m	Dietician, MOHW	Tsabong
S. Dikau	f	Department of Social and Community Development, Gantsi District Council	Gantsi
K. Dikole	m	FRS, MLGRD	Hukuntsi
L. Dintwa	f	Health Education Assistant, MOHW	Sikwane, Kgatleng
H. Dintwe	m	General Nurse, MOHW	Gopong, Lobatse
O. Elias	f	Health Promotion Officer, MOHW	Gaborone
B. Finini	f	Chief Medical Officer, MOHW	Gantsi
G. Gabatshwane	f	NS, DHMT	Lobatse
G. Gaealafewe	f	Principal Health Officer, SRH Division, MOHW	Gaborone
M. Gaetole	f	Chief Registered Nurse, MOHW	Kanye
K. Gake	f	Community Health Nurse, DHMT	Kgatleng
E. Gaosotlege	f	Senior Social Worker, Department of Social Protection, MLGRD	Gaborone
A. Garebakwena	f	Health Promotion, DHMT	Gaborone
B. Gengesha	f	Health Promotion Officer, MOHW	Gaborone
P. Gofhamodimo	f	Midwife, MOHW	Kang
Gouwe	f	Co-ordinator, Poverty Eradication Services, Office of the District Commissioner	Tsabong
R. Hange	f	SUN Technical Focal Point, MOA	Gaborone

Evaluation of the Vulnerable Groups Feeding Programme

Name		Position	Place
M. Ireland	f	Peace Corps, DHMT	Tutume
G.K. Jori	m	Nutritionist, MOHW	Tsabong
I. Kabasia	f	Tuberculosis Co-ordinator, DHMT	Letlhakeng
K. Kaise	m	Nurse in Charge, MOHW	Makhophana, Kgatleng
K. Kefithile	m	HOI, DHMT	Letlhakeng
I.L. Keipidile	f	Matron, DHMT	Bobonong
L. Kelebang	f	PPO, Department of Social Protection, MLGRD	Gaborone
C. Keletshiretse	f	Health Promotion, MOHW	Gantsi
S. Keoagile	f	CPO I, Department of Social Protection, MLGRD	Gaborone
S. Keorapetse	f	Director, Budget Administration, MFED	Gaborone
B. Kerapeletswe	f	Senior Administrative Officer, Food Resources, Kgalagadi District Council	Tsabong
M. Kerileng	f	Nutrition Focal Person, DHMT	Kgatlang
K. Kesianye	f	NS, DHMT	Lobatse
B. Kgasa	f	Registered Nurse, MOHW	Tsabong
L. Kgomoditswe	f	Nutrition Officer, DHMT	Tutume
S.S. Kolane	m	Community Health Adviser, MOHW	Gaborone
M. Kookgale	f	Preventive Nutrition, DHMT	Bobonong
L. Kwape	m	Head of Nutrition, NFTRC	Kanye
M. Landry	f	Peace Corps, MOHW	Gaborone
R. Lebekwe	f	Nurse in Charge, Gantsi Clinic, MOHW	Gantsi
B. Lebinatlou	m	Health Education Assistant, MOHW	Hunhukwe
V. Leburu	f	Chief Health Officer, SRH Division, MOHW	Gaborone
O.D. Lekang	f	M&E Officer, DHMT	Tutume
V.T. Lesele	f	District Community Health Nurse, MOHW	Tsabong
M. Lesetedi	m	District Commissioner	Gantsi
Q. Leteemane	f	Nutrition, DHMT	Gaborone
B. Letsebe	f	Food Ration Officer, MOHW	Phaphang, Kgatleng
J. Lindsey	f	Country Representative, UNICEF	Gaborone
G. Machao	m	Monitoring and Evaluation Officer, UNICEF	Gaborone
T. Mackenzie	f	Chief Nursing Officer, Head, Medical Services, MOHW	Tsabong
M. Maemo	f	Principal District Development Officer	Kgatlang
O.J. Mafala	f	IMCI, DHMT	Gaborone
V. Mafule	f	Assistant Director, Dept. of Local Government Procurement Services, MLGRD	Gaborone
O. Maketso	f	PHO II, MOHW	Kanye
L. Makganya	f	Principal Health Officer, SRH Division, MOHW	Gaborone
M. Makoto	f	Health Promotion Technician, DHMT	Tutume
S. Makwinja	m	PIC, DHMT	Gaborone
J. Malgas	f	PMTC, DHMT	Gaborone
W. Mandlebe	m	Senior Policy Analyst, MFED	Gaborone
E. Marope	f	Health Promotion, DHMT	Gaborone
S. Maruapula	f	Senior Lecturer and Head of Department, University of Botswana	Gaborone
K. Mashini	m	Head of Preventive, DHMT	Bobonong
D. Masilo	m	Deputy Permanent Secretary, MLGRD	Gaborone
Y.G. Matlhape	f	Rehabilitation, DHMT	Bobonong
O.R. Matsapa	f	Nutrition Focal Point, DHMT	Gantsi
E. Mbangwa	f	Community Health Nurse, DHMT	Gaborone
R.N. Mere	f	Principal Nursing Officer II, DHMT	Letlhakeng

Evaluation of the Vulnerable Groups Feeding Programme

Name		Position	Place
K. Meshack	f	Health Promotion, MOHW	Gantsi
B. Mmopi	f	Nursing Officer, DHMT	Gaborone
I. Mmopiemang	f	PN 01 Matron, DHMT	Kgatlang
E. Moalafhi	f	Senior Logistics Officer, Dept. of Local Government Procurement Services, MLGRD	Gaborone
N. Moalafhi	f	Midwife, MOHW	Kang
O. Moaletsane	m	Research Officer Reviewer, MOHW	Gaborone
G. Moalosi	f	Dietician, DHMT	Kgatlang
M. Modiakgotla	f	PSW II, Department of Social Protection, MLGRD	Gaborone
K. Modikwa	f	Social Worker (Child Protection), Dept. of Social Protection, MLGRD	Gaborone
L. Modimakwane	f	Midwife, MOHW	Dikwididi, Kgatlang
T. Modiri	m	Assistant Health Officer, MOHW	Gaborone
L. Modisane	m	Health Educator, MOHW	Gaborone
G. Modukanele	f	MFED	Gaborone
M. Mokgachane	f	DCSB, Department of Social Protection, MLGRD	Gaborone
M. Mogami	m	Acting Head, Statistics and Demography, Statistics Botswana	Gaborone
M. Mogapi	f	Health Promotion, DHMT	Gaborone
G. Moipopo	m	Chief Medical Officer and Acting Head, DHMT	Tsabong
M. Mokanti	f	Community Health Nurse, DHMT	Bobonong
S. Mokgatle	f	Chief Economist, MFED	Gaborone
L. Mokotedi	f	Chief Medical Officer, MOHW	Hukuntsi
M. Mokoto	f	Nutritionist, DHMT	Boteti
M. Molefakgomo	m	M&E Officer, DHMT	Mabutsane
L. Molefe	f	General Duty Assistant, MOHW	Dikwididi, Kgatlang
T. Moletsane	m	SHET, DHMT	Letlhakeng
M. Molosiwa	m	SMC, DHMT	Gaborone
P. Monawame	m	Procurement Assistant, FRS	Tsabong
S. Monosi	f	Community Health Nurse, MOHW	Boseja
T. Montsho	m	Assistant Health Officer (Nutrition Surveillance), MOHW	Gaborone
M. Montshosi	m	Principal Registered Nurse, MOHW	Kanye
P. Monwaketse	f	Health Promotion, DHMT	Gaborone
N. Monyatsi	f	Chief Health Officer (Child Health), MOHW	Gaborone
F. Mooketsane	m	ASA (Nutrition Surveillance), MOHW	Gaborone
V. Mooketsi	f	Health Promotion, DHMT	Gaborone
L. Moremi	f	CHET, DHMT	Lobatse
S. Morrison	f	Chief Medical Officer (Preventive), DHMT	Lobatse
K. Mosekiemang	f	PTO, DHMT	Letlhakeng
E. Mosheti	f	CAO II (FRS), Dept. of Local Government Procurement Services, MLGRD	Gaborone
J. Mosimanewakgosi	f	DHMT	Gaborone
P. Mosupi	m	Health Education Assistant, MOHW	Makhophana, Kgatlang
T. Mosweu	m	Nurse in Charge, MOHW	Phaphang, Kgatlang
K. Motlhoiwa	m	Health and Nutrition Specialist, UNICEF	Gaborone
B. Mothibi	m	AO, DHMT	Letlhakeng
G. Mothibi	f	Julia Molefe Clinic	Gaborone
S. Motselanoka	f	Health Education Assistant, MOHW	Woodhall, Lobatse
G.S. Motswasele	f	Chief Nursing Officer, DHMT	Lobatse
A. Mphande	m	Principal Science Officer (Food Safety), MOHW	Gaborone

Evaluation of the Vulnerable Groups Feeding Programme

Name		Position	Place
M. Mphetolang	f	Manager, Census and Demography, Statistics Botswana	Gaborone
L. Mundwana-Malemane	f	ARU Programme, DHMT	Gaborone
B. Ncaagae	f	Senior Social Worker, Department of Social Protection, MLGRD	Gaborone
M. Nkgari	m	Senior Social Worker (Child Protection), Dept. of Social Protection, MLGRD	Gaborone
S.E. Ng'inja	f	Deputy Representative, UNICEF	Gaborone
T. Nkabe	f	MOHW	Gantsi
B. Nkakelang	m	Principal Registered Nurse, MOHW	Sikwane, Kgatleng
G. Ntlotlang	f	Chief Policy Analyst, MLGRD	Gaborone
O. Ntshebe	f	Acting Chief Nutritionist (Nutrition and Food Control), MOHW	Gaborone
S. Ntsabane	f	Director, Rural Development Council, MLGRD	Gaborone
J.E. Nroyarhuro	m	Health Promotion, MOHW	Gantsi
O. Ogape	f	Head of Finance, MOHW	Gaborone
U. Olimov	m	Social Policy Specialist, UNICEF	Gaborone
F. Otino	m	Principal Medical Officer, DHMT	Kgatlang
R. Palai	m	Health Care Assistant, MOHW	Makhophana, Kgatleng
E. Peloetletse	f	Acting Permanent Secretary, MFED	Gaborone
B. Peter	f	Director, Budget Analysis and Debt Management, MFED	Gaborone
M. Petros	f	Assistant Health Officer (Nutrition Surveillance), MOHW	Gaborone
M. Phegelo	f	Lecturer, University of Botswana	Gaborone
M. Phuswane	f	Warehouse Manager, FRS	Sebele
B. Phuthego	m	Community Health Nurse, DHMT	Letlhakeng
P. Pitsong	f	Senior Environmental Health Officer, Kgalagadi District Council	Tsabong
K. Pulamoeng	f	DHMT	Gaborone
M.G. Pule	f	Chief Finance Officer, MFED	Gaborone
M. Raesima	f	Public Health Specialist, SRH Division, MOHW	Gaborone
T.B. Rakgantswana	f	Former SUN Technical Focal Point, MOA	Gaborone
K.M. Rammipi	f	Principal Health Officer, SRH Division, MOHW	Gaborone
E. Rammonna	f	Acting Chief Health Officer, MOHW	Gaborone
C. Ramodikwana	m	CAO II (FRS), Dept. of Local Government Procurement Services, MLGRD	Gaborone
T. Ramoditlwa	f	Health Education Promotion, DHMT	Tsabong
P. Ramogaladi	f	CHN, DHMT	Lobatse
K. Ramogalema	f	Principal Health Officer I, Child Health Division, MOHW	Gaborone
O. Ramohata	f	Cleaner, DHMT	Letlhakeng
K. Ramokhua	f	Monitoring and Evaluation, MOHW	Gantsi
M.J. Ramontsho	m	PHET, DHMT	Mabutsane
K. Ramoroka	f	Senior Social Worker, Department of Social Protection, MLGRD	Gaborone
B. Rampana	f	PNO II, DHMT	Boteti
E. Rannoba	f	Head of Prevention, DHMT	Kgatlang
S. Rathedi	m	Secretary, Rural Development Council, MLGRD	Gaborone
D. Romero	f	Chief Medical Officer, DHMT	Lobatse
E. Rugara	f	Principal Science Officer (Food Safety), MOHW	Gaborone

Evaluation of the Vulnerable Groups Feeding Programme

Name		Position	Place
B. Rusike	f	Health Officer, MOHW	Gaborone
G. Seboko	m	General Nurse, MOHW	Dikwididi, Kgatleng
P. Sebonego	m	Community Health Adviser, MOHW	Gaborone
J. Segodi	m	Communications for Development Officer, UNICEF	Gaborone
I. Segopotso	f	Senior Health Education Assistant, MOHW	Gopong, Lobatse
D.G. Segosebe	f	School Health, DHMT	Gaborone
G.D. Sehunwe	f	Deputy Director, Community Development, MLGRD	Gaborone
B. Seithamo	f	Orphans and Vulnerable Children, Department of Social Protection, MLGRD	Gaborone
M. Sejabodile	m	Principal Health Education Technician, DHMT, Kgatleng	Mochudi
I. Sekgatsa	m	Senior Pharmacist, DHMT	Mabutsane
B. Sekwati	f	Research Officer, MOHW	Gaborone
S. Seleka	f	FRS	Gantsi
M. Sello	f	Health Care Assistant, MOHW	Sikwane, Kgatleng
K. Senafrick	f	PCV-HEP, DHMT	Letlhakeng
L. Senwelo	m	Senior Science Officer (Food Safety), NFCD, MOHW	Gaborone
S. Sethibang	f	Nursing Management for Clinic, MOHW	Tsabong
O. Setswamorago	m	Principal Health Education Officer, DHMT	Letlhakeng
D. Setumo	f	IMCL Regional Co-ordinator, MOHW	Kanye
E. Sigwedi	m	HOPS – GRN, DHMT	Boteti
E. Sikunyane	m	Deputy Director, Dept. of Local Government Procurement Services, MLGRD	Gaborone
O. Tanjo	m	Nurse in Charge, MOHW	Gopong, Lobatse
L. Tau	f	Principal Registered Nurse, MOHW	Woodhall, Lobatse
J. Taukobong	f	Nursing Superintendent MOHW	Kanye
J. Theophilus	f	Health Promotion, DHMT	Gaborone
V. Thipe	f	Health Promotion Technician, DHMT	Tutume
L. Thuso	f	Nursing Superintendent, MOHW	Kanye
T. Wa Tshibambe	m	Medical Consultant, DHMT	Tsabong
T. Tshogofatso	m	Food Security Officer, MOA	Gaborone
B. Tumaletse	f	SHET (Nutrition), DHMT	Mabutsane
L. Wankie	f	Nurse in Charge, MOHW	Tshane

References

Short reference	Full reference
Agenda for Humanity, 2016a	Agenda for Humanity, 2016. <i>Initiative. Grand Bargain</i> . https://www.agendaforhumanity.org/initiatives/3861 [accessed 18 June 2019]
Agenda for Humanity, 2016b	Agenda for Humanity, 2016. <i>Initiative. New Way of Working</i> . https://www.agendaforhumanity.org/initiatives/5358 [accessed 18 June 2019]
Agenda for Humanity, 2016c	Agenda for Humanity, 2016. <i>World Humanitarian Summit</i> . https://www.agendaforhumanity.org/summit [accessed 18 June 2019]
Bhutta <i>et al.</i> , 2013a	Bhutta, Z., Ahmed, T., Black, R.E., Cousens, S., Dewey, K., Giugliani, E., Haider, B.A., Kirkwood, B., Morris, S.S., Sachdev, S.P.S. and Shekar, M., 2013. What works? Interventions for maternal and child undernutrition and survival. <i>Lancet</i> 371: 417-440.
Bhutta <i>et al.</i> , 2013b	Bhutta, Z., Das, J.K., Rizvi, A., Gaffey, M.F., Walker, N., Horton, S., Webb, P., Lartey, A., Black, R.E., The Lancet Interventions Review Group and the Maternal and Child Nutrition Study Group, 2013. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? <i>The Lancet</i> 382: 452-477.
Buchanan-Smith <i>et al.</i> , 2016	Buchanan-Smith, M., Cosgrave, J. and Warner, A., 2016. <i>Evaluation of humanitarian action guide</i> . London: ALNAP/ODI.
BVAC, 2018	Botswana Vulnerability Assessment Committee, 2018. <i>Drought and household vulnerability assessment and analysis for 2017/18</i> . Gaborone: MLGRD for Rural Development Council.
Davies <i>et al.</i> , 2017	Davies, J., Spear, D., Omari, K., Morchain, D., Urquhart, P. and Zaremba, J., 2017. <i>Background paper on Botswana's drought management strategy</i> . Cape Town: Adaptation at Scale in Semi-Arid Areas
Detle <i>et al.</i> , 2016	Detle, R., Steets, J. and Sagmeister, E., 2016. <i>Technologies for monitoring in insecure environments</i> . SAVE (Secure Access in Volatile Environments).
FAO, 2015	Food and Agriculture Organisation of the United Nations, 2015. <i>Nutrition and social protection</i> . Rome: FAO.
FAO, 2019	Food and Agriculture Organisation of the United Nations, 2019. <i>Nutrition guidelines and standards for school meals. A report from 33 low and middle-income countries</i> . Rome: FAO.
GOB, nd (a)	Government of Botswana, nd. <i>Manpower requirements for operationalisation of MoH&W paradigm shift from curative to prevention at community level</i> . Gaborone: MOHW.

Short reference	Full reference
GOB, nd (b)	Government of Botswana, nd. <i>Botswana community support strategies</i> . Gaborone: MOHW.
GOB, nd (c)	Government of Botswana, nd. <i>Harmonisation of Botswana's Community Health Worker Groups</i> . Gaborone: MOHW.
GOB, 2003	Government of Botswana, 2003. <i>National Strategy for Poverty Reduction</i> . Gaborone: Government Printer.
GOB, 2008	Government of Botswana, 2008. <i>Growth monitoring and promotion and nutrition surveillance: guidelines for health workers</i> . Gaborone: Ministry of Health.
GOB, 2009	Government of Botswana, 2009. <i>2007 Botswana Family Health Survey IV. Draft statistical report</i> . Gaborone: CSO and UNICEF.
GOB, 2013a	Government of Botswana, 2013. <i>Child growth monitoring and promotion and nutrition surveillance: guidelines for health workers: 2013 edition</i> . Gaborone: Nutrition and Food Control Division, Ministry of Health.
GOB, 2013b	Government of Botswana, 2013. <i>Botswana core welfare indicators survey 2009/10. Main report: volume 1</i> . Gaborone: Statistics Botswana
GOB, 2015	Government of Botswana, 2015. <i>Botswana national nutrition strategy 2015 – 2020</i> . Gaborone: Ministry of Health.
GOB, 2017a	Government of Botswana, 2017. <i>National social protection framework</i> . Gaborone: MLGRD. Draft.
GOB, 2017b	Government of Botswana, 2017. <i>Examining the Nutrition-Sensitivity of Strategy Documents for the Ministry of Agricultural Development and Food Security</i> . Gaborone: MADFS.
GOB, 2017c	Government of Botswana, 2017. <i>National Development Plan 11</i> . Gaborone: Government Printer.
GOB, 2018a	Government of Botswana, 2018. <i>Botswana multi-topic household survey 2015/16. Poverty stats brief</i> . Gaborone: Statistics Botswana.
GOB, 2018b	Government of Botswana, 2018. <i>Botswana demographic survey report 2017</i> . Gaborone: Statistics Botswana.
GOB, 2018c	Government of Botswana, 2018. <i>National social protection framework</i> . Gaborone: MLGRD. Draft final.
GOB, 2019a	Government of Botswana, 2019. <i>Overview of the Vulnerable Groups Feeding Programme Botswana</i> . Gaborone: MOHW: PowerPoint presentation for the evaluation team.
GOB, 2019b	Government of Botswana, 2019. <i>Botswana National Vulnerable Groups Feeding Programme. A history – summarised</i> . Gaborone: MOHW.
GOB, 2019c	Government of Botswana, 2019. <i>2019 budget speech</i> . Gaborone: Government Printer.
Ikeda <i>et al.</i> , 2013	Ikeda, N., Irie, Y. and Shibuya, K., 2013. Determinants of reduced child stunting in Cambodia: analysis of pooled data from three Demographic and Health Surveys. <i>Bulletin of the World Health Organisation</i> 91: 341-349.

Short reference	Full reference
The Lancet, 2008	The Lancet, 2008. <i>The Lancet's series on maternal and child undernutrition. Executive summary</i> . London: The Lancet.
The Lancet, 2013	The Lancet, 2013. <i>Maternal and child nutrition. Executive summary of The Lancet Maternal and Child Nutrition series</i> . London: The Lancet.
Leroy & Frongillo, 2019	Leroy, J.L. and Frongillo, E.A., 2019. Perspective: what does stunting really mean? <i>Advances in Nutrition</i> 10: 196-204.
Mohamed <i>et al.</i> , 2004	Mohamed, A.J., Onyango, A.W., de Onis, M., Prakash, N., Mabry, R.M. and Alasfoor, D.H., 2004. Socioeconomic predictors of unconstrained child growth in Muscat, Oman. <i>Eastern Mediterranean Health Journal</i> 10: 295-302.
Monteiro <i>et al.</i> , 2010	Monteiro, C.A., D'Aquino Benicio, M.H., Conde, W.L., Konno, S., Lovadino, A.L., Barros, A.J.D. and Victora, C.G., 2010. Narrowing socioeconomic inequality in child stunting: the Brazilian experience, 1974-2007. <i>Bulletin of the World Health Organisation</i> 88: 305-311.
Mupedziswa & Ntseane, 2013	Mupedziswa, R. and Ntseane, D., 2013. The contribution of non-formal social protection to social development in Botswana. <i>Development Southern Africa</i> 30: 84-97.
Mushtaq <i>et al.</i> , 2011	Mushtaq, M.U., Gull, S., Khurshid, U., Shahid, U., Shad, M.A. and Siddiqui, A.M., 2011. Prevalence and socio-demographic correlates of stunting and thinness among Pakistani primary school children. <i>BMC Public Health</i> 11: 790.
NCD Risk Factor Collaboration, 2016a	NCD Risk Factor Collaboration, 2016. Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19.1 million participants. <i>The Lancet</i> 387: 1377-1396.
NCD Risk Factor Collaboration, 2016b	NCD Risk Factor Collaboration, 2016. Worldwide trends in diabetes since 1980: a pooled analysis of 751 population-based studies with 4.4 million participants. <i>Te Lancet</i> 387: 1513-1530.
Nnyepi <i>et al.</i> , 2011	Nnyepi, M.S., Mogkatlhe, L., Gobotswang, K.S.M. and Maruapula, S.D., 2011. <i>Child nutrition situation in Botswana: observations from the 2000 and 2007 household surveys</i> . Gaborone: UNICEF.
OECD DAC, 2002	Organisation for Economic Co-operation and Development Development Assistance Committee, 2002. Glossary of key terms in evaluation and results based management. Paris: OECD DAC Working Party on Aid Evaluation <i>Evaluation and Effectiveness</i> 6.
Powis <i>et al.</i> , 2015	Powis, K.M., Lei, Q., Chinyanga, Y.T., Khan, N., Tumbare, E., van Widenfelt, E., Makhema, J. and Shapiro, R., 2015. <i>Determinants of malnutrition among children under 5 years of age</i> . Gaborone: MOHW and Botswana-Harvard AIDS Institute Partnership.
RHVP, 2011	Regional Hunger and Vulnerability Programme, 2011. Social protection in Botswana: a model for Africa? <i>Frontiers of Social Protection Brief</i> 9. Johannesburg: RHVP.

Short reference	Full reference
Ruel <i>et al.</i> , 2013	Ruel, M.T., Alderman, H. and the Maternal and Child Nutrition Study Group, 2013. Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? <i>The Lancet</i> 382: 536-551.
Seekings, 2016	Seekings, J., 2016. Drought relief and the origins of a conservative welfare state in Botswana, 1965-1980. University of Cape Town: <i>CSSR Working Paper 378</i> . http://cssr.uct.ac.za/pub/wp/378/ [accessed 18 June 2019]
Seekings, 2017	Seekings, J., 2017. Building a conservative welfare state in Botswana. Helsinki: United Nations University World Institute for Development Economics Research <i>WIDER Working Paper 2017/83</i> .
Statistics Botswana, 2015	Statistics Botswana, 2015. <i>Mapping poverty in Botswana 2010</i> . Gaborone: Statistics Botswana.
Statistics Botswana, 2017	Statistics Botswana, 2017. <i>Botswana Demographic Survey Report 2017</i> . Gaborone: Statistics Botswana.
Stern <i>et al.</i> , 2012	Stern, E., Stame, N., Mayne, J., Forss, K., Davies, R. and Befani, B., 2012. Broadening the range of designs and methods for impact evaluation. London: DFID <i>Working Paper 38</i> .
SUN, 2017	Scaling Up Nutrition, 2017. <i>Annual Progress Report 2017</i> . Geneva: SUN.
SUN, nd	Scaling Up Nutrition, 2019. <i>Botswana</i> . https://scalingupnutrition.org/sun-countries/botswana/ [accessed 18 June 2019]
Turner <i>et al.</i> , 2010a	Turner, S.D., Ellis, F., Ntseane, D., Seleka, T. and White, P., 2010. <i>Preparation of a social development policy: phase I: situation analysis</i> . Gaborone: UNICEF.
Turner <i>et al.</i> , 2010b	Turner, S.D., Ellis, F., Ntseane, D., Seeley, J., Seleka, T. and White, P., 2010. <i>Preparation of a social development policy: phase II: framework and strategy</i> . Gaborone: UNICEF.
Turner <i>et al.</i> , 2011	Turner, S.D., White, P., Devereux, S. and Freeland, N., 2011. A child support grant for Botswana? In Maundeni, T. and Nnyepi, M. (eds.), <i>Thari ea bana: reflections on children in Botswana 2011</i> pp 97-103. Gaborone: UNICEF.
UNAIDS, 2019	UNAIDS, 2019. <i>Country factsheets: Botswana: 2017</i> . http://www.unaids.org/en/regionscountries/countries/botswana [accessed 18 June 2019]
UNDP, 2018a	UNDP, 2018. <i>Human development indices and indicators. 2018 statistical update</i> . New York: UNDP. http://hdr.undp.org/en/2018-update [accessed 18 June 2019]
UNDP, 2018b	UNDP, 2018. <i>Human development indices and indicators: 2018 statistical update. Briefing note for countries on the 2018 statistical update: Botswana</i> . New York: UNDP. http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/BWA.pdf [accessed 18 June 2019]

Short reference	Full reference
UNEG, 2008a	United Nations Evaluation Group, 2008. <i>UNEG code of conduct for evaluation in the UN System</i> . New York: UNEG. http://www.unevaluation.org/document/detail/100 [accessed 18 June 2019]
UNEG, 2008b	United Nations Evaluation Group, 2008. <i>UNEG ethical guidelines for evaluation</i> . New York: UNEG. www.uneval.org/document/download/548 [accessed 18 June 2019]
UNEG, 2011	United Nations Evaluation Group, 2011. <i>Integrating human rights and gender equality in evaluation – towards UNEG guidance</i> . New York: UNEG.
UNEG, 2014	United Nations Evaluation Group, 2014. <i>Integrating human rights and gender equality in evaluations</i> . New York: UNEG.
UNEG, 2016	United Nations Evaluation Group, 2016. <i>Norms and standards for evaluation</i> . New York: UNEG. www.unevaluation.org/document/download/2787 [accessed 18 June 2019]
UNICEF, 1998	UNICEF, 1998. <i>Causes of malnutrition. The state of the world's children, 1998</i> . https://www.unicef.org/sowc98/ [accessed 18 June 2019]
UNICEF, 2002	UNICEF, 2002. Children participating in research, monitoring and evaluation (M&E) – ethics and your responsibilities as a manager. New York: UNICEF Evaluation Office <i>Evaluation Technical Notes</i> . 1.
UNICEF, 2013	UNICEF, 2013. <i>UNICEF annual report 2013 – Botswana</i> . Gaborone: UNICEF.
UNICEF, 2018	UNICEF, 2018. <i>Botswana budget brief 2018</i> . Gaborone: UNICEF.
UNICEF, 2019a	UNICEF, 2019. <i>Definitions: nutrition</i> . New York: UNICEF. https://www.unicef.org/infobycountry/stats_popup2.html [accessed 23 June 2019]
UNICEF, 2019b	UNICEF, 2019. <i>UNICEF assessment of the supply chain for the Vulnerable Group and Primary School Feeding Programmes in Botswana</i> . Gaborone: UNICEF.
UN WOMEN, 2015	UN Women, 2015. <i>How to manage gender-responsive evaluation. Evaluation Handbook</i> . New York: UN WOMEN Independent Evaluation Office.
WHO, nd	World Health Organisation, nd. <i>Double-duty actions for nutrition. Policy brief</i> . Geneva: Department of Nutrition for Health and Development, WHO. https://apps.who.int/iris/bitstream/handle/10665/255414/WHO-NMH-NHD-17.2-eng.pdf?ua=1 [accessed 23 June 2019]
WHO, 2006	World Health Organisation, 2006. <i>WHO child growth standards. Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age. Methods and development</i> . Geneva: WHO.
WHO, 2011	World Health Organisation, 2011. <i>The global prevalence of anaemia in 2011</i> . Geneva: WHO.

Short reference	Full reference
WHO, 2016	World Health Organisation, 2016. <i>WHO recommendations on antenatal care for a positive pregnancy experience</i> . Geneva: WHO.
WHO, 2017	World Health Organisation, 2017. <i>Nutrition in the WHO African Region</i> . Brazzaville: WHO Regional Office for Africa.
WHO, 2018	World Health Organisation, 2018. <i>Reducing stunting in children: equity considerations for achieving the Global Nutrition Targets 2025</i> . Geneva: WHO.
WHO, 2019a	World Health Organisation, 2019. <i>Nutrition Landscape Information System country profile: Botswana</i> . https://apps.who.int/nutrition/landscape/report.aspx?iso=botswana [accessed 19 June 2019]
WHO, 2019b	World Health Organisation, 2019. <i>Global database on child growth and malnutrition. Cut-off points and summary statistics</i> . https://www.who.int/nutgrowthdb/about/introduction/en/index5.html [accessed 19 June 2019]
World Bank, 2015	World Bank, 2015. <i>Botswana poverty assessment</i> . Washington, D.C.: World Bank report no. 88473-BW.