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Report on the Implementation Evaluation of the National School Nutrition Programme

FULL REPORT

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Contact: Jabu Mathe (Mr)
East Wing, Union Buildings, Pretoria, 0001, South Africa
Tel: +27 12 312 0158
Email: [jabu@ dpme.gov.za](mailto:jabu@dpme.gov.za)
Web: www.dpme.gov.za

This report has been independently prepared by JET Education Services.

Submitted by:

Ms Eleanor Hazell

Executive Manager: Monitoring and Evaluation

JET Education Services

6 Blackwood Avenue

Parktown

Johannesburg

Tel: +27 87 803 0178

Email: ehazell@jet.org.za

Fax: +27 86 743 4389

Submitted to:

Mr Jabu Mathe

Director: Evaluation and Research

Dept of Planning, Monitoring and Evaluation

Union Buildings

Government Avenue

Pretoria, 0001, South Africa

Tel: +27 12 312 0158

The Evaluation Steering Committee comprises the Presidency: Department of Planning, Monitoring and Evaluation in the Presidency, The Department of Basic Education, representatives from selected Provincial Education Departments, the National Treasury and peer reviewers. The Steering Committee oversaw the operation of the evaluation, commented, and approved the reports.

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Ms Nhlengethwa	Mpumalanga DoE	NSNP Co-ordinator

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Acronyms and Abbreviations

Acronym	Description
ANA	Annual National Assessments
CAADP	Comprehensive African Agriculture Development Programme
CBSF	Community Based School Feeding
CCBR	Centre for Community Based Research
CCHIP	Community Childhood Hunger Identification Project
CGF	Conditional Grant Framework
CMC	Computer Machine Corporation
CPI	Consumer Price Index
CSTL	Care and Support for Teaching and Learning
DAC	Development Assistance Committee
DBE	Department of Basic Education
DoA	Department of Agriculture
DoE	Department of Education
DoH	Department of Health
DoRA	Division of Revenue Act
DoSD	Department of Social Development
DPME	Department of Planning, Monitoring and Evaluation
DPW	Department of Public Works
EC	Eastern Cape
ECD	Early Childhood Development
EMIS	Education Management Information System
EPRI	Economic Policy Research Institute
EPWP	Expanded Public Works Programme
ETDP SETA	Education Training and Development Practices Sector Education Training Authority
FAO	Food and Agriculture Organisation
FBDG	Food-Based Dietary Guidelines
FP	Foundation Phase
FFE	Food For Education
FS	Free State
GP	Gauteng
GT	Gauteng
HGSF	Home-Grown School Feeding
HSRC	Human Sciences Research Council
HST	Health Systems Trust
INP	Integrated Nutrition Programme
IP	Intermediate Phase
ISHP	Integrated School Health Programme
JET	JET Education Services
KPI	Key Performance Indicator
KZN	KwaZulu-Natal
LED	Local Economic Development
LP	Limpopo
LTSM	Learning and Teaching Support Materials
M&E	Monitoring and Evaluation
MD	Ministerial Determination
MP	Mpumalanga

Acronym	Description
MRC	Medical Research Council
MRR	Monitor, Respond, Report
MTEF	Medium Term Expenditure Framework
MTSF	Medium-term strategic framework
NC	Northern Cape
NDP	National Development Plan
NEIMS	National Education Infrastructure Management Information System
NEP	National Evaluation Plan
NEPAD	New Partnership for African Development
NFCS	National Food Consumption Survey
NGO	Non-Governmental Organisation
NNW	National Nutrition Week
NPC	National Planning Commission
NSNP	National School Nutrition Programme
NW	North West
OECD	Organisation for Economic Cooperation and Development
OVC	Orphaned and Vulnerable Children
PCA	Principal Component Analysis
PDT	Poverty Distribution Table
PED	Provincial Education Department
PFMA	Public Finance Management Act
PPPFA	Preferential Procurement Policy Framework Act
PPS	Probability Proportional to Size
PSC	Public Services Commission
PSNP	Primary School Nutrition Programme
RDA	Recommended Daily Allowance
RDP	Reconstruction and Development Programme
SANHANES	South African Health and Nutrition Examination Survey
SASA	South African Schools Act
SGB	School Governing Body
SLA	Service Level Agreement
SMME	Small, Medium and Micro Enterprise
SMT	School Management Team
SP	Service provider
TBF	Tiger Brands Foundation
ToC	Theory of Change
TVP	Textured Vegetable Protein
UHT	ultra-high temperature
UNICEF	United Nations Children's Fund
VFH	Volunteer Food Handler
WC	Western Cape
WFP	World Food Programme
WHO	World Health Organisation

Executive Summary

1. Introduction and background

The National School Nutrition Programme (NSNP) aims to enhance learning capacity and improve access to education by providing a nutritious meal daily to learners at school (DBE and DPME, 2014). The programme is of great strategic importance: it relies on a range of stakeholders, involves a large financial commitment from government (R5.3 billion), and reaches 9,131,836 learners (DBE, 2015). Given this, an implementation evaluation was included in the National Evaluation Plan (NEP) for 2014-2015. The evaluation aims to assess whether the NSNP is being implemented in a way that is *likely* to result in significant health and educational benefits for learners. The key evaluation questions to be answered were:

1. Is the programme being implemented as planned?
2. Are procedures effective for timely delivery?
3. Are learners receiving quality meals and services?
4. What are the variations in implementation?
5. Is the programme reaching intended beneficiaries?
6. Is there evidence that NSNP enhances learning behaviour (likely impact of the programme)?
7. Should it be upscaled? How can it be improved?
8. Are there other spinoffs of the NSNP?

2. Overview of the NSNP

The overall purpose of the NSNP is to improve the health and nutritional status of the poorest learners. The programme's **objectives** are (DBE and DPME, 2014):

1. To contribute to enhanced learning through school feeding;
2. To strengthen nutrition education in schools in order to promote healthy lifestyles;
3. To promote sustainable food production initiatives in schools; and
4. To develop partnerships to enhance the programme.

Two implementation models are followed. In the **centralised** model, Provincial Education Departments (PEDs) appoint service providers and enter into service level agreements (SLAs) to procure and deliver food to schools, the PEDs transfer funds to schools to purchase fuel and pay Volunteer Food Handlers (VFHs) stipends. The decentralised model operates in the Eastern Cape, Free State, North West, and Northern Cape and reaches 3.0 million learners. In the **decentralised** model, PEDs transfer money to schools and schools appoint service providers and enter into SLAs with them. This model is used in Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, and the Western Cape and reaches 6.1 million learners (DBE, 2015).

3. Methodology

The implementation evaluation, which was overseen by a steering committee, employed a mixed methods design. It is important to bear in mind that this was not an impact evaluation, an economic evaluation, or an audit of the NSNP. The following data collection methods were used:

- A document and literature review;
- Refinement of the NSNP's theory of change (ToC)¹ and development of a logframe;
- Interviews with 44 key stakeholders at national, provincial and district level;
- Surveys with principals, NSNP Co-ordinators, VFHs, school governing body (SGB) members and learners and observations in a representative sample² of 267 primary and special schools³;
- Survey interviews with a sample of 26 NSNP service providers from across all provinces;
- Analysis of cost and output data.

4. Literature review

A literature review was conducted to ensure a sound contextual basis for the study. Previous NSNP evaluations were reviewed and national and international literature covering the health and nutritional status of school-age children and issues affecting the implementation, outcomes and cost of school nutrition programmes were investigated. Stemming from this, key contextual factors and characteristics that determine the effectiveness of school nutrition programmes were identified.

5. Key evaluation findings

5.1. Programme relevance and design - Is the programme reaching intended beneficiaries?

The **rationale** for the NSNP is sound: in light of the prevalence of child poverty and hunger in South Africa, there is a need for a school nutrition programme in all provinces.

The programme targets all learners in quintile 1-3 public schools, which are the 60% poorest schools in South Africa. In targeting all learners in schools with an NSNP, the programme avoids stigmatising learners who eat the NSNP meals. The majority of learners (72.7%) ate the NSNP meal on the day of fieldwork. 47.4% said they "always" and a further 47.6% said they "sometimes" eat the meal. Thus a high proportion of learners eat the NSNP meals regularly. However, in Gauteng and the Western Cape, in some schools, a proportion of learners are "opting out" of the NSNP.

The intended beneficiaries, learners from low socio-economic backgrounds, are receiving NSNP meals, but other unintended beneficiaries, including VFHs, educators, and other school stakeholders, also receive the meals. The DBE encourages teachers and VFHs to eat with the learners, to avoid stigma being attached to eating the meals. However, the Conditional Grant funding does not make provision

¹ The ToC which was developed to guide the evaluation can be found in Chapter 2 of the summary and main reports.

² 270 schools were sampled and fieldwork was successfully completed in 267. Sampling 270 schools out of a sampling frame of 15,404 schools gives a margin of error of 6% with a 95% confidence level. Care should be taken when interpreting the results at provincial level as the margin of error is much higher than for the national sample.

³ Secondary schools were excluded due to budgetary constraints.

for this and the concern is that, unless provisioned for, this practice will reduce the available food for meals for learners.

5.2. Programme effectiveness - Are learners receiving quality meals and services?

Serving a nutritious meal on time, every day is the key output of the NSNP, which 96% of Conditional Grant funding is channelled towards. Learners are mostly receiving NSNP meals regularly, but there is room for improvement regarding the composition of the meals (number of food groups and quantity of food prepared) and the time they are served.

In half (50.2%) of the schools visited for fieldwork, learners receive balanced meals comprising three food groups (starch, protein and vegetables); 42.4% of schools served only two food groups. The food group most often not served was vegetables.

Schools tend to prepare higher quantities of starch and lower quantities of vegetables and protein than they should, for the number of learners approved⁴ for the NSNP, meaning that learners are receiving less than the recommended daily amount of certain food groups. There are provincial variations in this regard as indicated below.

Table 1: Quantity of starch and vegetables prepared in relation to the number of NSNP-approved learners, source: key performance (KPI) instrument

Province	Starch					Vegetables/fruit				
	<50%	51%-80%	81%-100%	>100	No data*	<50%	51%-80%	81%-100%	>100	No data*
GT	18.1%	29.7%	19.9%	30.5%	1.7%	30.0%	19.1%	7.3%	3.5%	3.8%
KZN	4.4%	5.9%	25.4%	59.4%	4.8%	11.0%	19.5%	12.7%	44.4%	6.8%
LP	10.1%	12.5%	6.6%	68.9%	1.9%	16.9%	24.9%	41.7%	11.1%	1.7%
MP	2.4%	39.0%	24.6%	32.3%	1.7%	24.2%	26.4%	22.4%	45.3%	1.7%
WC	26.4%	19.3%	38.5%	13.8%	2.1%	21.7%	15.6%	44.5%	17.5%	1.9%
EC	0.9%	7.1%	15.9%	60.9%	15.3%	20.9%	22.1%	14.9%	24.6%	33.5%
FS	0.0%	2.6%	11.2%	83.1%	3.2%	3.9%	5.9%	2.8%	73.5%	5.9%
NC	2.9%	4.4%	10.3%	25.8%	56.6%	4.0%	12.0%	13.5%	44.3%	20.2%
NW	0.0%	5.2%	18.6%	76.2%	0.0%	17.5%	16.3%	49.4%	10.4%	3.1%
Total	5.0%	11.4%	18.2%	57.7%	7.7%	17.1%	20.3%	21.4%	29.9%	13.0%

*no data can result for several reasons: quantities served on the day were not available, the number of NSNP-approved learners was not available or the food group was not served on the day.

Feeding should be completed by 10:00 am if the meals are to boost learners' concentration. However, the last learner was fed by 10:00 am in only 18.1% of schools which serve one meal per day⁵. Only in Limpopo did the majority of schools complete feeding by 10:00 am as recommended.

⁴ NSNP-approved refers to the number of learners approved for NSNP feeding using the conditional grant funding. This is based on enrolment at the school during the previous school year.

⁵ In provinces which serve breakfast as well as lunch (Gauteng and the Western Cape) the main meal should be served by 12:30pm. Data on serving times in these schools can be found in the summary and main reports.

Table 2: Time by which feeding of the main meal is completed, from observation (excluding Gauteng and Western Cape), source: KPI instrument and observation

Province	By 10:00am	10:01-11:00am	After 11am or no meal	No data	Median	Mean	SD	Min	Max
KZN	0.0%	71.1%	24.1%	4.8%	10:30	10:47	00:29	10:04	11:56
LP	52.5%	41.8%	0.0%	5.6%	10:03	10:14	00:23	09:51	11:50
MP	35.1%	57.9%	2.8%	4.2%	10:19	10:22	00:21	09:37	11:30
EC	11.6%	58.5%	18.0%	11.9%	10:55	11:08	00:47	10:00	13:50
FS	0.0%	88.9%	8.9%	2.2%	10:40	10:44	00:29	10:05	14:46
NC	40.0%	41.3%	3.8%	15.0%	10:15	10:14	00:38	09:00	11:50
NW	17.9%	75.0%	6.2%	0.8%	10:23	10:34	00:26	09:40	11:55
Total	18.1%	61.6%	13.4%	7.0%	10:38	10:43	00:40	09:00	14:46

Of the 267 schools visited for fieldwork, the main meal was served at 255 schools (96.2%). School stakeholders confirmed that there are days when feeding does not take place, mainly because of funds not being received on time, late delivery by suppliers, tender processes not being complete (in KwaZulu-Natal) or a lack of fuel. In the worst cases, days or months were reported to have passed with no NSNP feeding occurring.

Various challenges were found with regards to food preparation and health and safety, including: inadequate space for food storage and preparation (NSNP preparation facilities were rated as “very poor” or “poor” in 23.2% of schools); poor access to water (NSNP Co-ordinators reported that water was “not available” or access was “erratic” in 49.7% of schools); poor cleanliness (linked to challenges with water); and the unsafe storage of gas (only 35.9% of the schools using gas kept the canisters outside, and 66.0% of those canisters that were outside were locked in a cage). These challenges were greatest in KwaZulu-Natal and Limpopo.

The majority of schools had received some training on the NSNP, but there was poor provision of training for VFHs: only 41.9% had been trained. Provincial differences are quite striking: Mpumalanga had the highest proportion of training of VFHs (86.9%), whereas the Free State had trained only 5.2% of its VFHs. These findings are of concern: health and safety in the storage and preparation of food, preparing the right foods in the right quantities, preparing tasty meals and serving meals on time are, to a large extent dependent on VFHs being knowledgeable and skilled. New VFHs should receive training in all of these areas before they commence work.

5.3. Programme fidelity and efficiency - Is the programme being implemented as planned? What are the variations of implementation at different sites or by different provinces? Are operational procedures effective to ensure the timely delivery of food?

The NSNP is implemented via two different models, decentralised and centralised, but considerable variation between provinces means that in effect there are nine implementation variations. Provinces using a decentralised model are implementing several of the business processes⁶ more efficiently;

⁶ The business processes are: planning and budgeting; disbursement of funding; procurement; ordering, delivery and payment; food preparation and serving; and monitoring and reporting.

however, in this model there is a higher administrative burden in schools. Business processes are functioning for the most part, but there is room for improvement, as indicated below.

Disbursement of funding is a challenge including: disbursement from national to provincial Treasury (in the first quarter) and from provincial Treasury to schools (particularly in KwaZulu-Natal, Limpopo and Mpumalanga). Funding not having been received on time is one of the key reasons why some schools were unable to feed on certain days.

The two **procurement** models have strengths and weaknesses: some schools in decentralised provinces have challenges appointing service providers (Eastern Cape, Northern Cape and North West) and not all schools have SLAs in place with their service providers (Northern Cape). In centralised provinces, procurement can be very lengthy, leading to contracts being renewed rather than new providers appointed (KwaZulu-Natal and Limpopo). Tender processes not having been completed was a reason why some schools in KwaZulu-Natal were unable to feed on certain days.

Late **delivery** by service providers is the main reason schools do not always follow the menu and the reason some schools were unable to serve meals on some school days. Delivery seems to work better in the decentralised model, suggesting that schools using this model are better able to hold service providers accountable. Delivery challenges tend to be concentrated in specific provinces, particularly KwaZulu-Natal. Monitoring of deliveries is a weakness and an area for improvement in both models.

Challenges with the timely **payment** of invoices were evident in KwaZulu-Natal and Gauteng, in instances leading to service providers not being able to deliver and meals not being served.

Extensive **monitoring and reporting** is undertaken in accordance with the requirements for Conditional Grant funding. The responsibility falls mainly at district level and district officials fulfil a key role in monitoring and supporting implementation in schools. The number of provincial and district officials assigned to the NSNP varies considerably between provinces and there are no national norms and standards. Capacity issues (shortage of staff and vehicles) impede the provision of support to schools, monitoring and reporting in some provinces and districts.

An **implementation index** constructed to summarise performance in key aspects of implementation found that there was more variation between different provinces using the same model than between models, indicating that province specific factors account for the greatest part of the differences. This confirms the literature review findings that an array of options are possible in terms of school nutrition programme logistics and that no particular model is better because contextual factors matter (Drake et al, 2016).

5.4. Additionality - Are there other spinoffs of the NSNP?

The NSNP provides opportunities to over 50,000 VFHs annually to cook for the NSNP and earn a stipend of R960 per month. This translates into R576 million a year which benefits community members. The stipend is lower than the EPWP social sector minimum wage. However, DBE and Treasury Officials pointed out that the NSNP VFHs are volunteers and do not work fulltime and that therefore the EPWP minimum wage does not apply to the NSNP. However, policy is unclear on this matter (EPRI, 2015).

The NSNP also stimulates economic activity: around R5.1 billion is spent on the meals annually; in provinces where procurement favours SMMEs and co-operatives (KwaZulu-Natal, Gauteng,

Mpumalanga and the Northern Cape), they can benefit as service providers. If SMMEs and co-operatives are delivering food, it is vital for robust procurement, payment and monitoring systems to be in place. These were found to be weak in KwaZulu-Natal, particularly the timeous payment of 2,029 service providers, leading in some instances to learners not being fed.

An area with the potential to benefit schools and communities and stimulate local agriculture is through the local sourcing of vegetables. This may help to address schools concerns regarding the vegetable deliveries (timeous, sufficient, good quality) and provide a regular market for local agricultural produce.

5.5. Likely impact, funding and upscaling - Is there evidence that NSNP enhances learning behaviour (likely impact of the programme)? Should NSNP be up-scaled? How can it be improved?

If the programme is implemented as intended and the change theory presented in the ToC is plausible, impact is more likely.

Challenges relating to: the disbursement of funds to schools; contracting of service providers; timely delivery of the correct and good quality goods; and payment of service providers on time; lead to some schools not being able to serve meals on all schools days. Challenges tend to be province specific and 96.2% of schools did serve an NSNP meal on the day of fieldwork. The *composition* of meals should improve to maximise the nutritional value. Furthermore, meals should be served at the start of the school day, or at least by 10:00 am, for the food to aid concentration.

Literature suggests that school nutrition programmes can lead to increased enrolment and improved attendance and over time, these outcomes can lead to improved retention in the education system. However, evidence is mixed regarding the impact on learner performance. Improvements are only evident in well organised schools with good quality teaching.

International experience demonstrates the need to secure long-term funding and institutionalise school nutrition programmes (Bundy et al, 2009). The NSNP reaches around 75.6% of all public school learners currently; slightly exceeding the target of 75% outlined in Action Plan to 2019.

There are some areas where efficiencies can be tightened within the current framework. Individual targeting should be considered in some schools where not all learners eat the NSNP meals regularly and income and poverty levels are mixed. For example, if NSNP meals were no longer prepared for 10% of learners in Gauteng and the Western Cape, the saving would be R74.5 million over the school year. However, improvements at scale would require additional funding.

6. Recommendations for policy, management, implementation and further research

6.1. Improve relevance and appropriateness by: 1) integrating the NSNP more closely with other health, feeding, and nutrition programmes. Considering that the early years are the most critical for nutrition, there is great need for a nutrition programme linked to ECD centres; 2) introducing individual targeting in some schools where not all learners eat the NSNP meals regularly and income and poverty levels are mixed. Although there are concerns regarding stigmatisation, individual targeting has been successful in countries such as Chile; and 3) specifying in the NSNP

guidelines who the NSNP meals are intended for and how leftover meals and stock should be dealt with, and then monitoring this.

6.2 Improve programme effectiveness by: 4) ensuring food is served by 10:00 am and preferably at the start of the school day. The DBE should introduce a policy that schools start feeding by 09:00 am under teacher supervision. If this is not possible, a snack should be served when children first arrive at school; 5) reducing the frequency of serving soya and introducing more alternatives (e.g. pilchards; legumes such as cow peas, split peas, chick peas, baked beans and kidney beans; and peanut butter) and involving learners in the design of menus; 6) conducting an audit of NSNP infrastructure and equipment related needs in schools and developing action plans to meet these via corporate donor and partner support; 7) developing a planning tool which allows schools to adjust their school specific menus upwards or downwards in line with changes in enrolment, or if learners opt out of the NSNP; 8) emphasising performance monitoring: “% of learners who receive a nutritious meal on time, on every school day” should become the key performance indicator for the NSNP and good performance should be acknowledged and rewarded in a variety of ways, including via the NSNP best school and district awards; 9) reinvigorating the food production component of the NSNP.

6.3 Fidelity and efficiency can be improved by: 10) Developing norms and standards for staffing and resources required for implementation of the NSNP; 11) creating the position of Senior VFH, extending the period of time VFHs can be appointed for and training all VFHs at the start of their service; 12) developing guidelines and monitoring tools for the NSNP business processes. Related to these: a) funding disbursements from provinces to schools must be streamlined to ensure that funds arrive on time; b) guidelines and monitoring tools are required as a matter of urgency for ordering and delivery; c) payment to service providers must be streamlined, particularly in KwaZulu-Natal and Gauteng where this is a major problem. In KwaZulu-Natal, VFHs should be paid by schools, and not service providers; 13) strengthening and streamlining the monitoring system. Automate some of the manual processes and systems. A pilot is recommended before making any changes to the current system.

6.4 Additional benefits could be maximised by: 14) increasing the minimum stipend for VFHs so that it is in line with the minimum stipend for Social Sector EPWP workers; 15) piloting local procurement of fresh produce. The pilot should be reviewed at the end of a year.

6.5 Sustainability can be improved and upscaling is recommended by: 16) Ensuring continued commitment from Government of core funding for the NSNP; 17) fully documenting the cost of NSNP (including the Conditional Grant funding, contributions from provinces’ equitable share grant, contributions from partners and at school and community level); 18) upscaling via a series of pilots, with rigorous monitoring and evaluation including impact evaluation and cost effectiveness analysis. If benefits can be demonstrated over and above those of the NSNP in its current format, roll-out should be considered at scale. The proposed pilots are: a) providing breakfast or a snack at the start of the school day; b) providing NSNP meals to identified learners in quintile 4 and 5 schools; c) increasing the amount of energy provided to be more in line with the internationally recommended 30-45% of the recommended daily allowance if children attend school for half a day; d) introducing nutritional supplements (with support from the Department of Health) to enhance the nutritional value of NSNP meals.

1. Introduction and Background

This report presents an implementation evaluation of the National School Nutrition Programme (NSNP) which was conducted by JET Education Services (JET). The NSNP was established as the Primary School Nutrition Programme (PSNP) in 1994, with the aim of ensuring that hunger is not a barrier to learning (DBE and the DPME, 2014, p. 1). Learners attending quintile 1 to 3 public schools receive a free, nutritious, hot meal daily. The main purpose of the evaluation was to assess whether the NSNP is being *implemented* in a way that is *likely* to result in significant health and educational benefits to primary school learners and establish how to improve programme effectiveness.

This Chapter presents the background to the NSNP and describes the programme; it also provides the background to the evaluation and outlines the approach and methodology which was used to conduct the evaluation.

1.1 Background to the National School Nutrition Programme

1.1.1 Background to school feeding

Large scale school feeding by the state dates back to the early 1940s, when free milk was provided to around 1 million white, coloured, and African school children. Benefits were withdrawn in the 1950s, and school feeding fell to voluntary organisations (Kallaway, 1996). In 1994, school feeding became a state responsibility and was managed by the Department of Health (DoH). A 1997 evaluation of the then PSNP found that school feeding was the focus of the programme and recommended a broader integration of nutrition and school health (HST, 1997, p. vii). Originally, the PSNP was designed to be a short-term measure that would be phased out when other Reconstruction and Development Programme (RDP) initiatives assumed this function. The PSNP's aims included:

- Improving education outcomes by providing an early morning snack which would meet 25% of the recommended daily allowance (RDA) of energy requirements;
- Improving health through micronutrient supplements;
- Improving health through parasite control;
- Improving health through information on nutrition (HST, 1997, p. 2).

Improving local economic development (LED) through the involvement of small, medium, and micro enterprises (SMMEs) (PSC, 2008, p. 4). In 2004, the programme was transferred to the Department of Education (DoE), and the name was changed to the NSNP. The change was a result of several research findings outlining the challenges of the programme; but importantly, it was also felt that the DoE was a more appropriate department to have oversight on such a programme, given that its beneficiaries were school children. Conditions for continuing to receive funding were attached to the NSNP by Cabinet, as defined in the Conditional Grant Framework. These involved standardised nutritious menus based on the food-based dietary guidelines (FBDGs) of the DoH and the introduction of fruit and vegetables (ToC interview respondent 1, 20.02.15). The move to the DoE involved other changes too: there was a focus on education outcomes (attendance, concentration, and well-being) rather than nutrition *per se*, and part of the aim was to educate learners on nutrition, improve their intake of micronutrients, eradicate parasites, and improve the curriculum with regards to nutrition education (PSC, 2008, p. 5).

Under the auspices of both the Departments of Health and Education, the NSNP is aimed at all quintile 1-3 primary schools and the scope of the Programme was extended to quintile 1 high schools beginning in 2009, quintile 2 high schools in April 2010, and quintile 3 high schools in April 2011.

1.1.2 Policy context

South Africa has a plethora of policies and programmes to deal with hunger and the nutrition, health, and welfare of its inhabitants and which fall under and across the auspices of various departments, including: The Integrated Nutrition Programme (INP) under the DoH; the NSNP and Integrated School Health Programme (ISHP) under the Department of Basic Education (DBE); the Orphaned and Vulnerable Children (OVC) policy framework of the Department of Social Development (DoSD); the Integrated Food Security and Nutrition Programme of the Department of Agriculture (DoA); and, more broadly, the National Development Plan (NDP) 2030 (DoH, 2014).

The NSNP is of great strategic importance: it relies on a range of stakeholders and involves a large financial commitment from government (DBE and DPME, 2014, p. 3) of R5.3 billion in the 2013-2014 financial year (DBE, 2015c). Currently, there are at least three national governmental policies relevant to the NSNP. The first is the Delivery Agreement for Government Outcome 1: “Improved quality of basic education” to which the Minister of Basic Education is a principal signatory. The second is the DBE Action Plan to 2019: Towards the Realisation of Schooling 2030 (Specific to Goal 25, Learner well-being), and the third is the NDP 2030. These capture the significance of education and how the DBE, and education sector overall, should enable the provision of quality education for all learners.

In order to ensure ‘a better life for all’, the South African government created an outcomes system that clarifies what is expected to be achieved, how it is to be achieved, and how progress can be tracked in every aspect of government activity. There are 14 broad outcomes agreed to by Cabinet, which, if taken collectively, will ensure the achievement of government’s main strategic priorities. A four-step process was followed in which strategic outcomes were identified, ministerial performance agreements were created, Delivery Agreements with partners defined, and co-ordinating structures established to ensure smooth implementation and monitoring and evaluation (M&E). The Delivery Agreements contain a description of the chains of logic required for achieving the agreed outcomes, and the Department of Planning, Monitoring and Evaluation (DPME) in the Presidency is responsible for supporting the negotiation of Delivery Agreements and their Implementation Forums. Delivery partners provide the Implementation Forum with reports on achievements, budget spend, milestones, and challenges.

The first of the 14 outcomes is: Improved quality of basic education. The Delivery Agreement was signed in October 2010 by the Minister of Basic Education. The first key challenge in the basic education sector, according to the Delivery Agreement is “Improving quality learning outcomes in schools in terms of improved learner performance”. The partners to the Delivery Agreement include a range of national and provincial ministers, other departments, trade unions, non-governmental organisations (NGOs), school governing bodies (SGBs), Umalusi, the Education Training and Development Practices Sector Education and Training Authority (ETDP SETA), and universities.

Education is foundational for developing our economy, realising our democratic rights, and finding meaning as individuals. The NDP describes education in this way:

“Education and training and innovation are central to South Africa’s long-term development. They are core elements in eliminating poverty and reducing inequality, and the foundations of an equal society.

Education empowers people to define their identity, take control of their lives, raise healthy families, take part confidently in developing a just society, and play an effective role in the politics and governance of their communities” (NPC, 2011, p. 261).

In this vision for education, schools are key vehicles for creating engaged, innovative thinkers with excellent skills and knowledge. Schools are also the means by which we can reach almost every young person in the country, offering education, resources, and psychosocial support (NPC, 2011, p.264). Of import, one of the quantifiable education targets for 2030, as defined by the NDP, is to eradicate child-
undernutrition (NPC, 2011, p. 274).

While the NDP focuses on long-term goals for 2030, more immediate goals can be found in the Medium-Term Strategic Framework (MTSF) 2014-2019. Relevant education sector goals for 2019 include 100% enrolment, age-appropriate class groups, testing, and at least a 50% achievement in the Annual National Assessments (ANA) in Grades 3, 6 and 9, and increased numbers of learners qualifying for university entrance (The Presidency, 2014, p. 16). There are a number of initiatives outlined to improve the quality of education in South Africa. These include: strengthening school governance and accountability; investing in infrastructure; supporting teacher training and bursaries; ensuring every child has textbooks; strengthening Grade R and Early Childhood Development (ECD) programmes; improving learner safety and well-being; and using African languages.

In April 2015, the DBE released its key policy driver: Action plan to 2019: Towards the realisation of schooling 2030; this document is fully aligned with the NDP. “The Action Plan has 27 goals. Goals 1 to 13 deal with outputs we want to achieve in relation to learning and enrolments. Goals 14 to 27 deal with how the outputs are to be achieved” (DBE, 2015a, p. 1). Goal 25 is to “Use schools as vehicles for promoting access to a range of public services amongst learners in areas such as health, poverty alleviation, psychosocial support, sport and culture” (DBE, 2015a, p. 2). The indicator for goal 25 is “The percentage of children who enjoy a publicly funded school lunch every school day” (DBE, 2015a, p. 65), although it is recognised that this does not measure everything the goal sets out to achieve. A baseline of 70% was calculated for 2011, drawing on three data sources: the General Household Survey, the School Monitoring Survey of 2011 and official NSNP reports (DBE, 2015a, p. 65). The indicator is to be measured annually as part of the DBE’s reporting on Action plan to 2019.

In addition, the DBE has adopted the Care and Support for Teaching and Learning (CSTL) Programme to address barriers to learning. Hunger and malnutrition are identified as barriers to participation in education; it is commonly understood that effective learning is not possible on an empty stomach, since hungry learners are easily distracted and are unable to concentrate in class. CSTL has identified nutritional support as a key strategy to improve education: “Nutritional support is intended to address barriers to learning associated with hunger and malnutrition” through the provision of a “daily hot, cooked, nutritious meal” (DBE and MiET Africa, 2010, p. 44).

There is a clear link between education, health, and well-being: well-being is a prerequisite for learning, and education can allow children to make healthier choices with regards to prevention of HIV and pregnancy, or dealing with abuse or bullying (DBE, 2011a, p. 157ff). “Much of the focus on learner health and well-being in recent years has fallen on nutrition projects, in particular the National School Nutrition Programme (NSNP)” (DBE, 2011a, p. 158).

Implementation of the NSNP requires compliance with legal requirements set out in the following legislation:

- Constitution of the Republic of South Africa, which states that when spheres of government contract for goods and services, they must do so in a manner that is “fair, equitable, transparent, competitive and cost-effective” (DBE, undated, p. 6);
- Preferential Procurement Policy Framework Act (PPPFA), which provides a framework for preferential procurement towards historically disadvantaged individuals in the provision of goods and services;
- South African Schools Act (SASA), which outlines Section 21 functions that may be allocated to schools so that they may control their own finances;
- Public Finance Management Act (PFMA), which promotes sound financial management practices;
- Division of Revenue Act (DoRA), which is published annually and defines responsibilities of national and provincial departments with regard to conditional grants, notably, submission of business plans and monthly and quarterly reports and compliance with conditions in the CGF;
- Conditional Grant Framework (CGF), which outlines minimum requirements of NSNP implementation and which includes dates on which funds will be disbursed, meal cost per learner per day, menu and feeding requirements, responsibilities of DBE and provinces, and reporting requirements.

1.1.3 NSNP purpose, objectives and model

According to the Request for Proposals released by the DPME, the NSNP was conceptualised primarily as an educational intervention: it aimed to enhance the educational experience of the neediest primary school learners through promoting punctual school attendance, alleviating short term hunger, improving concentration, and contributing to general health development (DBE and DPME, 2014). Alongside these aims are the inculcation of healthy eating habits and food gardening skills. The stated purpose and objectives of the programme (which are primarily educational) are summarised below (DBE and DPME, 2014).

Purpose: To improve the health and nutritional status of the poorest primary and secondary school learners.

Objectives:

1. Contribute to enhanced learning through school feeding;
2. Strengthen nutrition education in schools in order to promote healthy lifestyles;
3. Promote sustainable food production initiatives in schools; and
4. Develop partnerships to enhance the programme.

The Theory of Change (ToC) of the programme, as articulated by Coetzee and van den Berg (2012, p. 13) and the DBE (2013b, p. 188), is that the school meal is an incentive for learners to come to school, thus improving attendance and reducing drop-out. The meal increases learners’ well-being and ability to concentrate in class and will, in time, lead to improved academic performance.

The first objective is the **primary objective** of the NSNP, which accounts for 96% of NSNP funding (National Treasury, 2015). The subsequent objectives are **supporting objectives**: objectives 2 and 3

were jointly allocated a minimum of 0.5% of NSNP funding in 2014/2015 (National Treasury, 2014a) and in 2015/2016 the allocation for nutrition education and food production was shifted to a new focus - deworming (National Treasury, 2015).

The NSNP has two **implementation models** - **centralised** and **decentralised** - which are followed by different provinces to achieve the same goal. The model refers to the method of food procurement. In the centralised model, the Provincial Education Department (PED) appoints service providers for the whole province and enters into service level agreements with them to procure and deliver food to schools. In the decentralised model, schools appoint local service providers, who may be women-owned SMMEs, to procure and deliver food, utensils, and fuel to schools. Thus, in the two models, the disbursement of funds, contracting of service providers and procurement of goods and services are different, but both models are designed to reach the same goal, that is, the provision of nutritious meals to learners in schools.

At the time of the study the centralised model was being followed in Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, and the Western Cape, reaching 6.1 million learners. The decentralised model was followed in the Eastern Cape, Free State, Northern Cape and North West, reaching 3.0 million learners.

However, there are a number of variations within these two models, and several provinces using a centralised model are conducting pilot projects using a decentralised model.⁷ Co-operatives were identified as key to South Africa's LED strategy at the Presidential Growth and Development Summit of July 2003 (Buthelezi, 2010, p. 4) and in the decentralised model, local suppliers can be co-operatives.

1.1.4 Funding

The NSNP is funded through a **Conditional Grant** to PEDs, allocated according to the DoRA. As the name suggests, the Grant is conditional on adherence to rules such as the submission of approved business plans and minimum feeding requirements as outlined below (National Treasury, 2015):

- Provision of nutritious meals to all learners in quintile 1-3 primary and secondary schools and identified special schools on all school days;
- Average cost per meal per learner per day (inclusive of cooking fuel and honorarium) of:
 - R 2. 85 for primary and identified special schools;
 - R 3. 60 for secondary schools;
- Compliance with recommended food specifications and approved menu consisting of meals containing a starch, protein, and fresh vegetable/fruit.

PEDs develop a feeding calendar for the funding period outlining feeding days, school holidays, and public holidays. However, actual feeding plans are tied to the business plans of each province, and days can be adjusted depending on the budgets or the number of children qualifying for feeding, (National Treasury, 2015). In order to receive funds, PEDs must submit a draft business plan to the NSNP

⁷ There are some provincial variations on the "centralised" and "decentralised" models. For example, the Free State uses a decentralised model for township and special schools and a centralised model for farm schools. Limpopo uses a centralised model but decentralised procurement is being piloted in 25 schools (JET, 2015), the Western Cape uses a centralised model but 20 pilot schools are given money to procure fruit and vegetables (WCED Official).

Directorate for comment. Comments are returned to provinces which are required to re-submit their plans timeously for approval by the Director General (ToC interview respondent 2, 20.02.15).

Budget allocations are defined in the CGF according to the following values (National Treasury, 2015):

- School feeding and purchase of cooking utensils should consume a minimum 96% of the budget;
- Administration should consume a maximum of 3.5%;
- Deworming should consume a minimum of 0.5%.

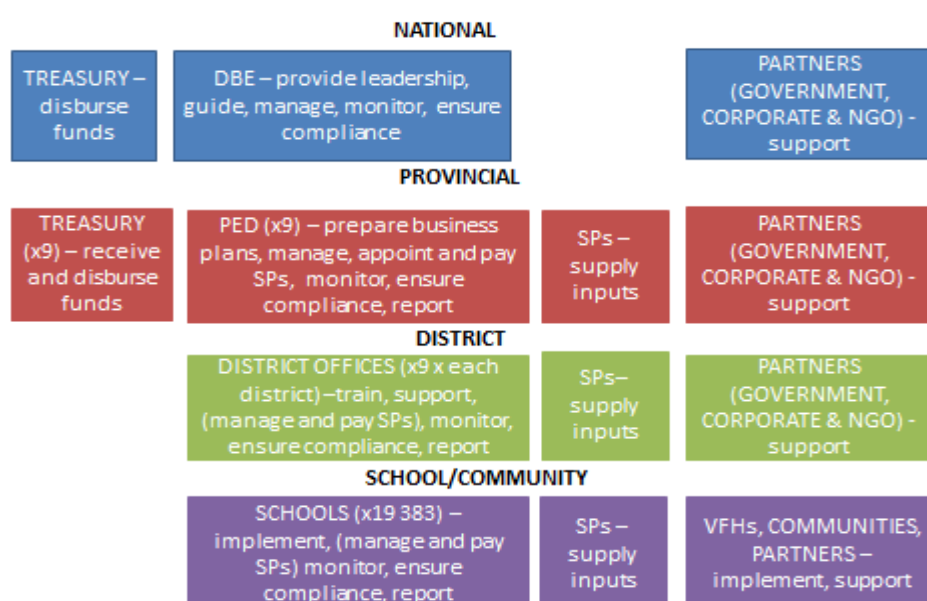
Volunteer Food Handlers (VFHs) should be paid a monthly honorarium of R960.

There are other costs associated with the programme which are not covered by the CGF. For example, funding is not provided for the personnel required to manage and implement the programme; personnel needs vary greatly between provinces. Poswell and Leibbrandt (2006b, p. 56) argue for a costing of the NSNP to be undertaken in each province, covering “management (national and provincial spheres); food acquisition (different menu options); food processing (preparation and cooking); distribution (a number of alternatives that are currently being used); oversight of funds expenditure and food quality”.

1.1.5 Institutional arrangements

The NSNP is a multi-stakeholder programme led by the DBE and PEDs and supported by a range of partners which include other government departments (e.g. Health and Agriculture), corporates and NGOs. The programme operates at four levels: national (the DBE and partners); provincial (PEDs and partners); district (PED district officials and partners); and school (principals, school management teams (SMTs), SGBs, NSNP Co-ordinators, NSNP committees, VFHs, and gardeners). Institutional arrangements for the programme are summarised below:

Figure 1: Institutional arrangements for the NSNP. Source: JET 2015.



SPs= service providers

At the **DBE**, the NSNP has its own Directorate staffed by 21 officials⁸ responsible for implementation, monitoring, and co-ordination of the NSNP nationally. The staff complement in the financial year 2013/2014, included: one Director; seven Deputy Directors; five Assistant Directors; and seven Administration and Support Staff. Key partners nationally include the other DBE Directorates (e.g. Education Management Information Systems (EMIS), National Treasury, Departments of Health and Agriculture, the Tiger Brands Foundation (TBF) and Nestle SA (DBE, 2015c and stakeholder interviews).

The location of the NSNP within **PEDs**, the staffing complement, how it is organised, and the partners involved in supporting the programme vary considerably across the provinces, as outlined below (DBE, 2015c and stakeholder interviews):

- In the Eastern Cape, the NSNP is managed by 16 provincial level and 58 district level officials, including 54 “monitors”. Key partners include the TBF, Kelloggs, the Eastern Cape Department of Rural Development and Agrarian Reform, Expanded Public Works Programme (EPWP), Food and Trees for Africa, and Fort Cox Agricultural College;
- In the Free State, a complement of six provincial and 40 district officials manage the NSNP; the Free State Department of Agriculture and the National Lottery Distribution Trust Fund are key partners;
- The NSNP in Gauteng is managed by 12 provincial and 30 district officials, and key partners include the Gauteng Department of Agriculture and Rural Development and Department of Health;
- In KwaZulu-Natal, the NSNP is managed by a team of 20 provincial and 90 district officials. The main programme partners are Enterprise Ilembe, the KwaZulu-Natal Department of Health, Kelloggs, Game, and the TBF. The NSNP in KwaZulu-Natal is supportive of SMMEs and co-operatives, including women-owned co-operatives;
- Limpopo Province has a large staff complement supporting the NSNP: there are 125 fulltime employees and 755 EPWP-funded school-based monitors. The main partnerships are with FUEL, TBF, the University of Venda, the EPWP, the DoA, and Food and Trees for Africa;
- The NSNP in Mpumalanga is managed by six staff at provincial level and 30 district level officials. The PED’s key partners include the Department of Agriculture, Rural Development and Land Administration, the Department of Economic Development, Environment and Tourism; the Mpumalanga Regional Training Trust, and the EPWP. The Mpumalanga PED also supports the appointment of SMMEs and co-operatives as service providers to the NSNP;
- In the Northern Cape Province, nine provincial and 15 district officials are involved in managing the programme, and a further 18 officials have been contracted to assist with monitoring and administration;
- In the North West Province, five provincial, six district, and 32 circuit level PED officials are tasked with managing the programme. The PED’s partners include the provincial Departments of Health, Social Development, and Transport, and local municipalities;

⁸ Statistics on the number of employees are from the 2013/2014 NSNP annual report – DBE, 2015c.

- The Western Cape PED has three provincial and 14 district officials involved in management and nine officials employed on a contract basis to monitor the programme. The PED's main NSNP partners are the Western Cape Departments of Health and Agriculture.

1.1.6 Inputs, activities, outputs and coverage

In the 2013/2014 financial year, a total of R5.2 billion was spent by the NSNP. The 2013/2014 Annual Report notes that the NSNP exceeded the target which was set of providing daily nutritious meals to 8,700,000 learners in quintile 1-3 primary and secondary schools and identified special schools. It is reported that an average of 9,131,836 learners attending 19,383 schools were provided with a meal on an average of 194 school days. To deliver these meals, 4,417 service providers were appointed and 52,998 VFHs were engaged, receiving an average honorarium of R840 per month (DBE, 2015c). In addition, a total of 445 capacity building workshops were conducted across all provinces, targeting district officials, school principals, NSNP Co-ordinators, VFHs, and gardeners. There were a total of 8,717 vegetable gardens established in schools, and the DBE distributed food tunnels to 16 schools and rainwater harvesting equipment to five schools.

Key NSNP outputs during the 2013/2014 financial year are summarised in the following table.

Table 1: Summary NSNP statistics 2013/2014

Province	Ave # learners fed	# participating schools	Ave feeding days	# VFHs engaged	# service providers	# food gardens
EC	1,646,142	3,968	196	9,437	1,308	2,322
FS	533,252	1,157	191	3,446	218	812
GP	1,262,749	1,445	195	5,622	146	144
KZN	2,044,596	5,051	190	10,257	2,029	1,469
LP	1,536,449	3,287	195	10,368	343	1,709
MP	874,197	1,633	189	5,268	66	835
NC	197,696	456	196	1,526	294	226
NW	613,654	1,438	196	4,222	11	840
WC	423,103	948	198	2,852	2	360
Total	9, 131 ,836	19 ,383	194	52 ,998	4 ,417	8 ,717

EC: Eastern Cape; FS: Free State; GP: Gauteng; KZN: Kwazulu-Natal; LP: Limpopo; MP: Mpumalanga; NC: Northern Cape; NW: North West; WC: Western Cape. Source: DBE, 2015c

Unaudited figures for the 2014/2015 financial year available at the time of writing this report vary. Data in the second quarter report show that 5,016,550 learners from 9,950 schools were fed (although there were no data from the Eastern Cape, Limpopo, and Mpumalanga provinces) (DBE, 2014d, p. 5), while a report to the Portfolio Committee on Education shows that learners in 15,678 schools were fed in the fourth quarter of 2014/2015 (DBE, 2015d, p. 30ff). Later in the second quarter report, the number of schools reached is said to be 13,761 (DBE, 2014d, p. 16).

The National School Monitoring Survey conducted in 2011 found that nationally 86% of South African learners received a nutritious school meal daily. This figure encompasses both the NSNP and other school feeding schemes and includes 66% of quintile 4 and 50% of quintile 5 schools (DBE, 2013b, p. 194). Provincially, the statistics range from 94% in Limpopo to 81% in KwaZulu-Natal and the Western Cape (DBE, 2013b, p. 11). However, not all schools surveyed reported serving starch, protein, and

vegetable/fruit every day: 72% of schools reported feeding learners' protein five times a week, and 54% of schools reported feeding learners fruit and vegetables five times a week (DBE, 2013b, p. 197).

1.1.7 Key findings from previous evaluations

Both the PSNP and the NSNP have been evaluated a number of times previously. Pertinent findings are outlined below.

The 1997 Health Systems Trust (HST) evaluation of the PSNP found that there had been incomplete coverage of schools, the food may have been sub-standard and been given at inappropriate times of the day, and teachers felt the feeding disrupted the school day. In addition, there was no micronutrient supplementation, de-worming, or nutrition education as defined in the aims of the programme (HST, 1997, p. 32), despite the fact that these additions might have made the programme more cost-effective (HST, 1997, p. 66). Indeed, research from a Kenyan de-worming project found that “(w)ith hundreds of millions of children still at risk of worm infection worldwide, providing free school-based deworming treatment is an easy policy ‘win’ for health, education, and development” (J-PAL, 2012, p. 1).

The HST evaluation found that good implementation occurred in provinces with fairly good infrastructure and few rural schools, such as the Western Cape and Gauteng. Poor implementation was associated with poor management capacity and systems (HST, 1997, p. 33). It was noted that one of the short-comings of a school nutrition programme is that children under three are left out, and, as discussed in the literature review, this may lead to cognitive impairment.

In a 2006 report, Poswell and Leibbrandt (2006a, p. 5) argue that the targeting aim of reaching 60% of learners is reasonable (this has since changed to 75% of learners, as per Action plan to 2019), but that the quintiles “act as no more than a rough guide for targeting”. In some provinces, some quintile 4 and 5 schools were provided with meals, despite the fact that this is outside the CGF stipulations, since it is argued that many learners in these schools were very poor. The report argues for assessing poverty of the community in a small area surrounding the school, based on proxy indicators largely related to type and quality of dwellings (Ibid., p. 43). However, it could be that some learners attending quintile 4 and 5 schools did not come from the surrounding area, but from further afield. Where appropriate, it is not the poverty of the area surrounding the school that should be considered, but the socio-economic status of the parents of the children attending the school.

In 2008, two evaluations of the NSNP identified challenges with quality meal provision: there were differences between provinces and between schools in the same provinces with regard to adherence to NSNP guidelines (Coetzee & van den Berg, 2012, p. 8). The main challenges identified by principals, teacher co-ordinators, circuit co-ordinators, and district co-ordinators were delayed deliveries and incomplete deliveries (PSC, 2008, p. 42). In interviews conducted in 2012 for a scoping study for an impact evaluation of the NSNP, it was found that roll-out of the programme had not always been smooth due to lack of capacity, poor delivery by service providers, and late allocation of funding by PEDs to schools (Coetzee & van den Berg, 2012, p. 8).

A 2008 evaluation of the NSNP in the Eastern Cape and Limpopo (PSC, 2008, p. 15ff) found that the majority of beneficiaries came from poor backgrounds and a high percentage of respondents in the research believed that children came to school hungry. This was corroborated by the finding that only 37% of Eastern Cape learners had eaten breakfast at home (PSC, 2008, p. 16). Overall, the level of satisfaction with the meals was high, with the majority of learners reporting that the meals were tasty.

In terms of implementation at school-level, it was found that infrastructure for the NSNP, such as storage areas, kitchens, and fridges, was not adequate, and this made the NSNP difficult to implement. In addition, only 22% of Eastern Cape food handlers who were interviewed stated that they had been trained, and 50% of suppliers that they had been given an orientation (PSC, 2008, p. 23).

Langsford (2012) also found in one Gauteng school that VFHs had last been trained in 2009. The current cohort of VFHs reported learning about nutrition informally while they worked in the kitchen.

Rendall-Mkosi et al. (2013), also found that some VFHs were not trained regularly enough, so appointing new VFHs every year was not feasible and institutional memory was lost. Rendall-Mkosi et al., also found that food storage and preparation was a challenge: few schools were found to have proper storage facilities and kitchens. In Mpumalanga, this led to rat infestations in some schools. With regards to serving food, while the NSNP provided budget for equipment and utensils, Rendall-Mkosi et al. (2013), found that some children did not receive a utensil to eat with.

According to Graham et al. (2015), a number of schools implementing the NSNP in the Eastern Cape did not have adequately equipped kitchens in which to prepare meals.

Beesley and Ballard (2013, p. 252) reported on a number of academic reviews of the NSNP and found that the programme was flawed both in terms of design and implementation. With regards to design, some children were excluded, since not all schools were included. This was worse when the NSNP was confined to only primary schools. With regards to implementation, they found reports of administrative and budgeting problems and large numbers of eligible schools not receiving meals. Since being devolved to provinces and districts, there had been no standardisation in implementation in terms of the procurement process, who the service providers are, how they are contracted, school gardens and the extent to which they are used to augment meals. In the absence of recent evaluations, there are no data on which models are most effective (Beesley and Ballard, 2013, p. 252).

In terms of M&E, the Public Service Commission (PSC) reported that different M&E systems were used by different stakeholders and different provinces. Many of the school personnel involved claimed that monitoring was not done regularly enough to identify late delivery or food shortages timeously. Only 22% of principals and 20% of teacher co-ordinators in Limpopo said they monitored daily deliveries of food (PSC, 2008, p. 32). The food delivered was of variable quality, and poor quality was particularly associated with suppliers who were sub-contractors.

More positively, in 2013, Rendall-Mkosi et al., reported that monitoring was conducted by national, provincial, and district officials using a standardised instrument which required observation of implementation at school level. They also reported that “simple but effective contract management and accountability systems are gradually being introduced from school level to district, provincial and national levels to enable better control and reporting of financial flows” (Rendall-Mkosi et al., 2013, p. 58). Rendall-Mkosi et al., found that regular training took place at provincial, district, school, and community level (although this may not be sufficient in light of other findings above) and this was an important strategy for programme improvement. However, they noted that there was room for improvement in terms of monitoring, particularly in relation to targeting and portion sizes. Rendall-Mkosi et al. also raised concerns that the NSNP-related duties of the NSNP co-ordinators took them away from their core teaching responsibilities.

The findings above give rise to the following recommendations for improving the NSNP:

- Review/revisit targeting based on school quintiles (Poswell and Leibbrandt, 2006a, p. 43; Beesley and Ballard, 2013, p. 252);
- Combine the provision of meals with micronutrient supplements and deworming (HST, 1997, p. 66);
- Improve management capacity and systems in provinces, districts, and schools where this is weak (HST, 1997, p. 33; Beesley and Ballard, 2013, p. 252).
- Improve school-level infrastructure, such as kitchens and fridges (PSC, 2008, p. 45ff; Rendall-Mkosi et al., 2013; Graham et al., 2015);
- Build capacity of VFHs and suppliers to implement effectively (PSC, 2008, p. 45ff; Langsford, 2012; Rendall-Mkosi et al., 2015);
- Improve the consistent supply of food to schools - this requires good monitoring systems so that the DBE is paying suppliers on time and only for quality food delivered (PSC, 2008, p. 45ff);
- Improve monitoring at school level (PSC, 2008; Rendall-Mkosi et al., 2015).

While great strides have been made in providing nutritious school meals for learners in need, there remain challenges. Action plan to 2019 emphasises the need to uphold the quality of food and meals served, ensure the programme is implemented in a way which maximises learning, and enable the preparation and serving of food with minimal disruption of teaching and learning (DBE, 2015a, p. 45). This implementation evaluation sought to investigate which of these challenges are widespread and propose how they might be addressed and the priorities of Action plan to 2019 taken forward.

1.2 Background to the evaluation

Given the strategic importance and cost of the NSNP, it is of primary importance to evaluate the effectiveness of the programme and to establish how to make improvements. An evaluation was therefore included in the National Evaluation Plan approved by Cabinet. Initially, an impact evaluation was envisaged, but a scoping study found that evaluating the impact of the NSNP would prove very difficult due to methodological challenges: baseline data on daily nutrition, energy intake, and learning achievements is not available, and there is no suitable control or comparison group as all quintile 1-3 schools are currently included in the NSNP. Therefore, this evaluation was intended to assess whether the NSNP is being implemented in a way that is *likely* to result in significant health and educational benefits for learners. It interrogated the various steps and processes of both the centralised and decentralised models in order to predict the possibility of programme impact.

The Terms of Reference for this evaluation defined eight questions to be addressed: They are:

1. Is the programme implemented as planned?
2. Are procedures effective for timely delivery?
3. Are learners receiving quality meals and services?
4. What are the variations in implementation?
5. Is the programme reaching intended beneficiaries?
6. Is there evidence that NSNP enhances learning behaviour (likely impact of the programme)?
7. Should it be up-scaled? How can it be improved?
8. Are there other spinoffs of the NSNP?

In order to ensure each evaluation question is adequately answered, JET broke each evaluation question down into a series of sub-questions and developed an analytical framework and an evaluation matrix which linked the evaluation and sub-evaluation questions to data collection methods and instruments. The evaluation matrix can be found in Appendix B.

The Terms of Reference further specified the main themes which the evaluation should cover in order to answer the identified evaluation questions. The themes are indicated in the table below.

Table 2: Themes covered/not covered by the evaluation

Themes/components covered	Themes/components not covered
Procurement processes	Impact of NSNP on health status
Delivery of food	Impact of NSNP on test scores or educational attainment
Storage of food	
Preparation of meals	
Nutritional content of meals	
Existence and use of food gardens	
Monitoring by PEDs and district offices	
School planning and timetabling	
Nutrition education	
Eating of meals (and other food at school)	

Source: DBE & DPME, 2014

The time period under review, as specified in the Terms of Reference, was inception in 1994 to the end of March 2014, with a specific focus on the 2012/13 – 2013/14 financial years. The evaluation was conducted in primary schools only - including special schools. Secondary schools were excluded due to budgetary constraints.

1.3 Evaluation approach and methodology

This section summarises the approach and methodology used to conduct this study. A more detailed description can be found in Appendix B.

1.3.1 Approach and methods

The implementation evaluation of the NSNP was based on the utilisation-focused evaluation approach which is premised on the idea that *“evaluations should be judged by their utility and actual use”* (Patton, 2003).

The evaluation questions and identified sub-questions guided decisions regarding the methods used to collect and analyse data (see Appendix B). The following **methods** were employed:

- A review of relevant legislation, policy, implementation frameworks, guidelines, and reports;
- A national and international literature review of school feeding programmes;
- Refinement of the programme’s ToC and development of a logframe following a document review, stakeholder interviews, and consultation with the Evaluation Steering Committee;
- Interviews with key NSNP stakeholders at national, provincial, and district level;

- Surveys with school-based NSNP stakeholders including: VFHs, NSNP Co-ordinators, principals, SGB members, and learners in a nationally representative sample of 270 schools (30 per province), and NSNP service providers linked to these schools;
- Observation of food preparation, serving and feeding, and other processes at schools relating to the NSNP in 270 schools;
- Analysis of cost and output data pertaining to the NSNP for the period 2009/10 to 2013/14, where data was available.

The Development Assistance Committee (DAC) evaluation criteria provided an appropriate framework for synthesising and consolidating the findings and structuring the evaluation report. The five DAC evaluation criteria are based on the notion that evaluation is an assessment “to determine the relevance and fulfilment (appropriateness) of objectives, developmental efficiency, effectiveness, impact and sustainability” of efforts supported by aid agencies (OECD, 1991). Although not one of the DAC evaluation criteria, “additionality” was added, as one of the key evaluation questions relates to investigating spinoffs of the NSNP. The evaluation criteria are explained briefly below and linked to the evaluation questions.

Table 3: Linking DAC criteria to evaluation questions

DAC Criteria	Related evaluation question(s)
Relevance: the extent to which an intervention is suited to the priorities and policies of the target group, recipient, and funder.	5) Is the programme reaching the intended beneficiaries?
Effectiveness: the extent to which an intervention achieves its intended objectives.	3) Are learners receiving quality meals and services?
Efficiency: measuring programme outputs against programme inputs. It looks at how well a programme is being implemented to achieve its intended objectives.	1) Is the programme being implemented as planned? 2) Are operational procedures effective to ensure the timely delivery of food? 4) What are the variations in implementation at different sites or by different provinces?
Additionality: the extent to which an intervention catalyses activities and benefits that would not have happened without the programme.	8) Are there other spinoffs of the NSNP?
Impact: positive and negative changes produced by an intervention, whether these have been produced directly or indirectly. Impact evaluation assesses the main impacts and effects on local social, economic, and other development indicators.	6) Is there evidence that the NSNP enhances learning behaviour (likely intended impact)?
Sustainability: the extent to which the benefits are likely to continue after the intervention has been withdrawn or as it continues. This includes assessing environmental as well as financial aspects of the programme design and efficiency.	7) Should the NSNP be up-scaled? How can it be strengthened and up-scaled for better impact?

1.3.2 Data collection instruments

The following **data collection instruments** were developed and used for the evaluation:

- Survey interview with the school principal or acting or deputy principal or other member of the SMT if the principal was not present;
- Survey interview with the NSNP Co-ordinator;
- Survey interview with a VFH – there is normally more than one at a school and the longest serving VFH was to be selected;
- Survey interview with an SGB member – this had to be a member who was on a relevant committee (i.e., finance, procurement, and/or NSNP) AND who was a parent, not a staff, SGB member;
- Learner survey – 20 learners were randomly selected from Grade 7 classes (or Grade 6 classes if there were no Grade 7 classes or Grade 7 learners at the school), and the fieldworker guided them through a survey;
- School observation – this instrument - completed by the fieldworker – was used to verify information provided by the principal, NSNP co-ordinator and VFHs. The instrument included a section to be completed by the fieldworker observing the preparation and serving of food (including the type and quantity of food prepared⁹) and supervision of feeding. Documents in the school NSNP file were also checked;
- Survey interview with NSNP service provider – this instrument was used to interview service providers linked to the schools where fieldwork was conducted;
- Interview with NSNP national partner – this semi-structured instrument was used to interview national partner organisations supporting the NSNP, such as corporate sponsors and other government departments;
- Interview with NSNP national official - this semi-structured instrument was used to interview DBE officials involved in administration, co-ordination, and management of the NSNP;
- Interview with NSNP partner - this semi-structured instrument was used to interview representatives of NSNP national partner organisations, such as FUEL and Massmart;
- Interview with PED NSNP co-ordinator - this semi-structured instrument was used to interview PED officials responsible for the NSNP in a province;
- Interview with NSNP District Co-ordinator - this semi-structured instrument was used to interview district officials responsible for the NSNP in a district.

A number of identical questions appear on the principal, NSNP Co-ordinator, VFH, and service provider survey instruments. This allowed for triangulation of the information provided by different stakeholders.

1.3.3 Sampling

A key component of the evaluation was a survey conducted in a nationally representative sample of 270 schools (30 per province). At a meeting of the Evaluation Steering Committee, it was decided that Dr Stephen Taylor of the DBE would provide JET with an appropriate sample of schools. The instruction was to draw a representative sample (through probability sampling) of 270 primary schools from quintiles 1 to 3. There were to be no exclusions of small schools or special needs centres. This section explains the procedure that was followed to arrive at that sample.

⁹ This section of the instrument – the Key Performance Indicator (KPI) section was developed by FUEL for NSNP monitoring. FUEL gave JET permission to use its instrument and methodology to calculate whether the correct type and amount of food was being prepared for the number of learners approved for the NSNP.

Two datasets were used to derive the sampling frame.¹⁰ The NSNP Directorate provided a list of 21,650 primary and secondary schools that participate in the NSNP. This was an excel file with nine separate sheets, one per province. The SNAP Survey for Ordinary Schools dataset for 2014 (obtained from EMIS) was also used to obtain the numbers of learners that were enrolled, by grade.

For the purposes of establishing schools eligible to be in the sampling frame, primary schools were defined as schools that had enrolments in any of grades R to 7. This meant that middle schools or schools that combined primary school with secondary school grades were included; and it meant that schools did not have to offer all of grades R to 7 to be included. The 2014 SNAP data was used to identify primary schools on this basis.

The next step was to combine all nine sheets of NSNP data into one file. This involved some data cleaning, since the sheets did not conform to the same data capturing criteria. A particular problem was posed by the Western Cape NSNP data because this sheet did not include the schools' EMIS numbers. A school's EMIS number is usually used to uniquely identify a school and match it across datasets. Dr Taylor therefore had to match NSNP data for the Western Cape to the 2014 SNAP dataset using schools' names.

There were several incidences of duplicate rows with the same school name. To avoid matching the wrong schools, these few instances were, therefore, dropped. In some cases, the school name, which was a string (text) variable, was identically captured in both the NSNP and the SNAP datasets so that a match could be made. Instead of giving up on all schools that could not be matched because of the school name being written slightly differently, a matching algorithm was developed to identify more matches. For the unmatched schools in both datasets, four new variables were created, each a three character long substring of the school name. For example, variable 1 contained the first three characters of the school name variable; variable 2 contained the fourth to the sixth characters of the school name variable etc. Then, using STATA's "reclink" command, schools were matched based on there being a high degree of correspondence between these four variables across the datasets. In the end, 918 out of the NSNP's list of 1,026 Western Cape schools were matched with SNAP information. Dr Taylor was confident that the matching was done conservatively, so that the number of false positives was negligible. This means that 128 Western Cape schools were lost to the sampling frame. However, these 128 schools included some secondary schools, and so the loss to the sampling frame was even smaller.

After appending all nine provincial NSNP lists of schools into one dataset, this NSNP dataset was merged with the SNAP dataset using the school EMIS number as the unique identifier. This left 16,359 schools successfully matched. All schools which according to the NSNP data were not classified as quintile 1, 2 or 3 were then excluded. This dropped 928 schools. A further 28 schools which according to 2014 SNAP data were not classified as quintile 1, 2 or 3 were also dropped. This left a sampling frame population of 15,403 primary schools.

Schools were sampled with Probability Proportional to Size (PPS). This meant that larger schools had a greater probability of being selected than smaller schools, and the exact probability was proportional to the total numbers enrolled in grades R to 7.

¹⁰ A sampling frame is a list of the population from which a sample is selected.

There were several advantages to sampling using PPS. Firstly, it meant that the sample would be “self-weighting” in that it would be representative of the number of learners in the population without having to apply a learner weight variable. Secondly, small schools could be included in the sampling frame without worrying that too many small schools would be selected for the sample. This had the additional benefit that, by design, not too many deep rural schools would be selected, thus saving fieldwork costs.

Despite the fact that PPS would have offered protection from many tiny schools being selected, it was decided to exclude schools with a total enrolment of fewer than 8 learners. This was done partly in case of some data error. This decision dropped 99 schools and, in all probability, had a negligible effect on the sample because those 99 schools, being so small, would have had a very low probability of being selected.

The dataset of 15,404 schools was then expanded by assigning extra rows to each school, with the number of rows allocated being in proportion to the school’s total enrolment. Consequently, a school with 600 learners would have occupied twice as many rows in the dataset as a school with 300 learners.

A variable consisting of randomly generated numbers was then generated, so that each row in the dataset was assigned a unique random number. Within province ‘X’, the row with the highest random number was identified and the school represented by this row was selected. All rows allocated to that school were then removed, and the process was repeated until 30 schools had been selected. Through this process, schools with more rows (i.e., larger schools) would have had a greater chance of being given the highest random number and hence would have had a higher probability of inclusion in the sample.

After having removed the 270 selected schools (30 per province) from the remainder of the sampling frame, a similar process was conducted to select five replacement schools per province and then again to select five schools per province for piloting.

Sampling 270 schools out of a total sampling frame of 15,404 schools gives a margin of error of 6% with a 95% confidence level. At the level of the implementation model (i.e., centralised or decentralised), with the same confidence level, the margin of error is 8% for centralised and 9% for decentralised provinces. The margin of error and confidence level of the sample at province level was not calculated (this would require information on the number of schools per province in the sampling frame). However, a sample of 30 schools per province would have a much higher margin of error and a lower confidence level than the national sample. Therefore, care should be taken when interpreting the results at provincial level and generalisations cannot be made. The bounds for individual questions are included in the tables, where appropriate, in Chapter 4.

For details on weighting used post-survey, see the detailed evaluation methodology in Appendix B.

At each sampled school, the appropriate respondents were identified as described in Section 1.3.2. For the learner survey, 20 **learners** were randomly selected from Grade 7 classes (or Grade 6 classes if there were no Grade 7 classes or Grade 7 learners at the school).

Service providers were selected for survey interviews via purposive or random selection, depending on the delivery model operational in the province. In provinces in which the NSNP is implemented via the

centralised model and there are a few service providers, up to three (the main service providers) were identified by the NSNP provincial official for that province to be interviewed by JET. In provinces in which the NSNP is implemented via the decentralised model and in provinces using the centralised model, but where the NSNP has many service providers, three schools which were part of the fieldwork sample were randomly selected, and the service providers linked to these schools¹¹ were interviewed.

National and **provincial** level **interviewees** were purposively selected by the Evaluation Steering Committee (i.e., key persons involved in the management and implementation of the NSNP and key programme partners). **District officials** to be interviewed were randomly selected from a list of district NSNP Co-ordinators supplied by the DBE. Two district officials were randomly selected per province.

1.3.4 Piloting

The qualitative interview and survey data collection instruments were piloted prior to being finalised to ascertain:

- Whether the research activities planned for the school fieldwork visits were achievable in the time allowed (one researcher, one school, one day) and whether the qualitative interview instruments could be administered in one sitting;
- Whether the instruments were practical, user-friendly, and would generate useful information which would enable the evaluation team to answer the evaluation questions.

Six schools were used for piloting in two provinces; the table below refers. Two different methodologies were followed: in three schools the fieldwork visit was confirmed in advance, and in the other three the fieldwork team arrived unannounced at the schools. The aim was to ascertain which methodology would enable the fieldwork team to gather the most accurate and complete information (i.e. data on a *typical* day of feeding and not a day *staged* by the school in anticipation of the fieldwork visit), whilst taking into consideration that unannounced visits may have resulted in challenges, such as researchers being turned away or respondents being unavailable, which would impact the completeness of the data.

Table 4: Schools visited for the pilot

Province	School	Methodology
Limpopo	1. Pipa Primary	Notified
	2. Maelebe Primary	Not notified
	3. Rev. M.P. Malatjie Primary	Notified
Gauteng	1. Iphutheng Primary	Notified
	2. Klopperpark Primary	Not Notified
	3. Mogobeng Primary	Not notified

Source: Fieldwork report

¹¹ Information on which service providers were linked to the schools was collected via the school survey instruments. Follow-up phone calls were made, if necessary, to obtain further information.

The matter was discussed by the Evaluation Steering Committee and the following process was agreed to:

- All schools would be notified (via PEDs and districts) about the evaluation;
- JET would contact the sampled schools to inform them that they would be visited *at some point* within the fieldwork period (13 March – 18 May 2015), but not the specific day.

1.3.5 Fieldwork

Fieldwork was conducted in 267 out of a target of 270 **schools**, as summarised in the table below. Initially 270 schools were sampled for the NSNP survey, 30 per province. During the process of data collection, 10 schools were omitted for various reasons as documented in the fieldwork report and approved by the Steering Committee. Seven of those schools were replaced. The seven replacement schools must be regarded as purposively sampled as opposed to using probability sampling. The reasons for fieldwork not being conducted in three schools were: the school was having a sports day with a neighbouring school and only one teacher was present; the school had been closed/rationalised during the Easter holidays; and the school refused entry to the researcher. The table below shows the target and actual number of schools visited in each province.

Table 5: Total Number of schools visited

Province	Target number of schools	Actual number of schools visited
Eastern Cape	30	29
Free State	30	29
Gauteng	30	30
KwaZulu-Natal	30	30
Limpopo	30	30
Mpumalanga	30	30
North West	30	30
Northern Cape	30	29
Western Cape	30	30
Total	270	267

Source: Fieldwork report

The table below shows the number of survey instruments completed per province. The key performance indicator (KPI) breakfast instrument only applies to the two provinces which serve breakfast – Gauteng and the Western Cape. Instances of the KPI instruments not being completed were due to feeding not occurring on the day of fieldwork. Learner surveys were not collected in 10 schools. This was either because the Grade 6 or 7 learners were not present on the day of fieldwork, or because the schools were Foundation Phase schools only and did not have any Grade 6 or 7 learners present.

The SGB survey was challenging to complete. Schools had just elected new SGB members and in some schools the new members had little knowledge of the NSNP. In such cases, the researchers asked to speak to previous SGB members who had been involved in the NSNP. Researchers often found that SGB members could not come to the school as the visit was not pre-planned to take place on a specific date. These surveys were therefore conducted telephonically, as agreed with the Steering Committee.

Where principal surveys are missing, this is because the principal was not at school on the day of the fieldwork and there was no other person who could answer questions about the NSNP. The same

reason applies to the missing NSNP co-ordinator surveys. In the case of missing VFH surveys, schools had recently appointed new VFHs who were not knowledgeable enough about the NSNP to answer the questions. The researchers did attempt, wherever possible, to contact previous VFHs, but were not always successful.

Table 6: Total number of instruments collected per province

Province	Principal	NSNP Co-ordinator	VFH	SGB	KPI Breakfast	KPI Main Meal	School Observation	Learner Survey
Eastern Cape	29	29	28	27	NA	26	29	457
Free State	29	29	29	29	NA	28	28	560
Gauteng	30	29	30	28	30	30	30	557
KwaZulu-Natal	30	30	30	30	NA	28	30	555
Limpopo	30	30	30	30	NA	29	30	590
Mpumalanga	30	30	30	29	NA	29	30	596
Northern Cape	28	28	29	20	NA	27	29	522
North West	30	30	30	29	NA	30	30	568
Western Cape	30	29	30	24	30	30	30	594
Total	266	264	266	247	60	257	266	4999

Survey interviews with the selected **service providers** were conducted telephonically and via Skype, due to the service providers being dispersed throughout the country. Three service provider surveys were conducted per province, except in the Western Cape which only has two service providers, both of whom were interviewed.

The majority of **district** and **provincial interviews** were conducted via Skype, as the fieldwork budget did not allow for researchers to travel to each district and province to conduct face-to-face interviews. In instances where face-to-face interviews were possible (i.e., in KwaZulu-Natal and the Western Cape, as members of the research team were based there), this was encouraged. All of the national interviews were conducted face-to-face. The number of qualitative interviews conducted is summarised in the table below.

Table 7: Service provider surveys and qualitative interviews per province and interview type

Province	Surveys	Interviews		Number of people interviewed	
		Provincial interviews	District interviews	Provincial interviewees	District interviewees
Eastern Cape	3	1	2	1	2
Free State	3	1	2	1	2
Gauteng	3	1	2	1	2
KwaZulu-Natal	3	1	2	1	3
Limpopo	3	1	2	1	2
Mpumalanga	3	1	2	1	2
North West	3	1	2	1	2
Northern Cape	3	1	2	1	2
Western Cape	2	1	2	1	2

Province	Surveys	Interviews		Number of people interviewed	
		DBE interviews*	Partner interviews*	DBE interviewees	Partner interviewees
National	N/A	5	4	6	7
Total	26	36		41	

* Includes interviews conducted as part of the ToC development process

1.3.6 Cost analysis

A **cost analysis** was planned to link NSNP programme costs to specific outputs and to contribute to evaluating the efficiency of the NSNP. The main sources of data used were NSNP quarterly reports covering the period 2009/10 - 2013/14 and business plans for the 2012/13 financial year which were provided by the DBE.

The **provincial business plans** provided detailed budget data broken down into different expenditure categories. However, the plans were primarily forward-looking, mostly outlining performance targets rather than outputs and costs. While baseline indicators in the business plans represented actual outcomes (and not targets), there were inconsistencies across provinces, and for certain indicators, baseline figures were not provided. Comparability was also limited in that the description of certain indicators differed across provinces. The business plans which were provided only covered the 2012/13 financial year, precluding a comparative analysis of programme costs and associated outputs over time.

The **quarterly reports** contained information on programme expenditure by province and provincial performance against a common framework of indicators. The quarterly reports were available for several years, allowing for a comparative analysis from 2009/10 to 2013/14. However, the reports lacked detailed information on expenditure and costs by specific categories or items, being confined to aggregate information on funding allocations and expenditure along with key outputs for each quarter.

Using the available information, programme cost and output data was used to assess whether expenditure had occurred in line with the conditions specified in the CGF. The analysis also considered differences across provinces and between the two implementation models (centralised and decentralised) to establish the extent of variation in implementation across provinces, models, and over time.

1.3.7 Data analysis

An evaluation matrix and analytical framework were developed to guide the analysis (see Appendix B) and writing-up of the survey and interview data in order to answer the evaluation questions. The ToC which was developed for the evaluation (see Chapter 2) and which made explicit the intervention logic and change theory of the NSNP also guided the design of data collection instruments and subsequent data analysis: key links in the outcome chains were investigated, particularly inputs, activities, and outputs, as this was an implementation evaluation.

All survey data cleaning was undertaken in R language version 3.2.1. The survey data was analysed in R and Stata version 14 and tables generated which presented the results overall and disaggregated by key variables (usually province and model – centralised or decentralised). Graphs were generated in Microsoft Excel and Stata. Open-ended questions were analysed, and, where possible, the open ended responses were coded. Questions that had a large number of “other” responses were investigated and

the open ended responses analysed. Fieldwork notes - compiled by fieldworkers who visited the schools - were also reviewed and coded.

All interviews were recorded and transcribed, and the completed transcripts were coded using a qualitative codebook which detailed key areas and the themes which developed based on the evaluation questions, feedback from the interviewers, and the document and literature reviews.

Following an initial round of data analysis, an implementation index which summarises performance in the key aspects of implementation measured via the school surveys was created. The index spans three of Bundy et al's (2009) six core design and implementation components of successful school nutrition programmes (see Section 3.6); these are the three most relevant for this evaluation of the NSNP and are: food modalities and basket; procurement and logistics arrangements; and monitoring and evaluation systems.

The methodology used to create the index follows that of Green, Ellis and Lee (2005). Indicators were identified in the surveys that were believed to be most closely aligned with the core components of a successful school nutrition programme and, specifically, with successful implementation of the NSNP. These indicators were then converted into a scale ranging between 0 and 1. A score of 1 indicates best performance, while a score of zero indicates worst performance. In total, 19 such variables covering the three categories were identified. We ran principal component analysis (PCA)¹² on the 19 indicator variables to check the extent to which the variables were related. The first component accounted for 15% of the variation which indicates that the chosen variables were not very correlated (or that there were not measuring the same thing). This is what we were expecting, since we were aiming to obtain an indication of the overall system. The NSNP implementation index was created by summing up all the 19 individual indicator variables for each school. A school with a score of 19 indicates a high functionality of NSNP implementation, while a school scoring under five indicates very low functionality. Mean indices were calculated for each province as well as per model (centralised /decentralised).

Additionally, statistical tests were conducted to check the relationships between categorical variables. Specifically, the Chi-Square test was performed on a number of variables. The tests were run in Stata. As we were working with weighted data, we used the design-based F-statistic and the p-value to perform hypothesis tests. In each null hypothesis, we assumed independence between the two categorical variables. In almost all the hypothesis tests we conducted, we failed to reject the null hypothesis. Thus, those variables were considered to be statistically independent on the basis of available evidence. The statistical investigations focused on the following variables:

- Starch quantities served on the day of fieldwork;
- Protein quantities served on the day of fieldwork;
- Vegetable/fruit quantities served on the day of fieldwork;
- The proportion of learners reporting that they ate the main meal on the day of fieldwork;
- Whether or not there was leftover food;

¹² PCA is a statistical dimension reduction technique which transforms a set of variables into components measuring the variation between the variables. The principal components are usually orthogonal. The first component accounts for the most variation, second component second most variation, and so on.

- Whether or not VFHs had received training;
- Whether or not vegetables from the food garden had been used to supplement the NSNP.

1.3.8 Limitations

There are several limitations in terms of the evaluation's scope and the primary and secondary data collected and provided which must be kept in mind:

This was not an impact evaluation, an economic evaluation, or an audit of the NSNP. A scoping study had established that it would not be possible to conduct an impact evaluation of the NSNP. The cost analysis reviewed cost and aggregate output data and concluded it was not possible to relate this data to the outcomes of the programme since information was not available regarding the outcomes the programme generated. Additionally, lack of availability of cost and expenditure data at a sufficiently disaggregated level meant it was not possible to undertake an in-depth cost analysis.

There is a great deal of interest in the extent - or not - of corruption in the NSNP due to the considerable sums of money and number of stakeholders involved in the programme. This evaluation did not review the NSNP accounts at school or any other level. With this in mind, the evaluation reports on *perceived* corrupt practices, where these were alluded to by interviewees at all levels, and *possible* corrupt practices identified by fieldworkers in schools.

The Terms of Reference stated that the evaluation should investigate the nutritional content of meals. This was assessed by examining the extent to which schools prepared and served the correct number of food groups (quality) and the correct amount of starch, protein, and fruit/vegetables for the number of learners who were approved for NSNP feeding using the CGF (quantity). The quantity calculations are accurate provided the school was preparing NSNP meals for the number of learners approved for the NSNP. However, the number of learners approved for the NSNP is based on enrolment in the previous school year and it became apparent during fieldwork that some schools were feeding fewer and some schools were feeding more than the number of approved learners. (This is discussed further in Section 4.3).

The survey was intended to be carried out in 270 schools - 30 in each province - and was successfully carried out in 267 schools. The limited number of schools surveyed due to budgetary constraints means that the confidence intervals are wider than would have been preferred, especially when disaggregating by province. Care must be taken when interpreting the results, and the findings per province cannot be generalised. However, the schools in the survey were randomly selected and were weighted so that the findings are generalisable to the sampling frame, keeping the confidence intervals in mind.

With the exception of food preparation and serving, it was not possible to observe the NSNP business processes first-hand. Rather, stakeholders at national, provincial, district and school level were interviewed/surveyed and asked to recount their experiences and perceptions with a focus on effectiveness and efficiency. As such, there is a risk of recall bias.

The NSNP implementation index presented in Section 4.3 is tentative and requires further refinement and validation. This could be taken forward by the DBE. The index developed by Green et al. (2005) - whose methodology we followed - was refined over a period of 10 years.

A more detailed account of the evaluation approach and methodology is included as Appendix B of this report.

2. Theory of Change and Logframe

This Chapter describes the ToC which was developed by the evaluation team for the NSNP implementation evaluation and refers to the logframe which can be found in Appendix A. At the end of the Chapter, a revised ToC, which takes the literature review and evaluation findings into consideration, is presented. It is proposed that this ToC be used to guide programme planning, implementation, monitoring and evaluation in future. The ToC should be seen as dynamic and should be reviewed regularly and revised when there are changes to the programme design, inputs, processes, and outputs, or when new information comes to light regarding assumptions which underpin the programmes and extent to which the changes (outcomes) which are expected to occur actually do.

2.1 Approach and methods

According to DPME documentation, a ToC explains “the causal mechanism of how activities and outputs (such as nutritious meals prepared and provided to children in schools) will result in the anticipated outcomes (e.g. short-term hunger alleviated and concentration improved), and impact (e.g. improved retention in the school system) and the assumptions involved” (DPME, 2013, p. 6).

However, Rossi, Lipsey and Freeman (2004) distinguish between programme impact and programme process theory. Programme impact theory describes a ‘cause-and-effect sequence’ from activities to benefits, whereas programme process theory describes how a programme is organised, administered and accessed. Both of these are included in the TOC, which articulates what the NSNP does and what changes are expected to occur.

The NSNP ToC and logframe were developed in the following manner: The DBE’s draft ToC for the NSNP, which was developed in April 2014 and is included as Appendix A to this report (DBE, 2014f), was refined, based on DBE and DPME documentation and findings from the literature review (discussed in Chapter 3). In addition, three interviews were conducted in February 2015 to inform the ToC with key informants from the DBE and the DoH. The ToC developed by the evaluation team was then workshopped with the evaluation steering committee, refined following this meeting, and approved for use to guide the evaluation. The changes made to the draft ToC mainly included:

- Aligning of terminology with terms provided in the DPME's Evaluation Guideline (2013, p. 9): inputs, activities, outputs, outcomes, and impact. The revised ToC now contains terminology which is aligned with these terms.
- Refining inputs, processes, outputs and outcomes, including aligning these with the literature, for example, effective nutrition education does not lead directly to improved health as the DBE’s draft ToC specified.

The ToC and logframe informed the design of data collection instruments which were designed in such a way as to be able to ascertain whether the assumptions underpinning the programme held true and the programme was being implemented in the manner outlined in the process theory.

After completion of the evaluation fieldwork, the ToC was reviewed and updated again in light of additional literature which was consulted on the implementation of school nutrition programmes

internationally (included in Chapter 3) and the findings regarding whether the programme was being implemented as planned and in a manner which was likely to lead to impact.

Both the ToC which was used for the evaluation and the updated ToC are discussed below.

2.2 Overview of the theory of change and logframe developed for the evaluation

The 2006 evaluation of the NSNP conducted by the Development Policy Research Unit at the University of Cape Town states that the objectives of the NSNP were “slightly blurred” over the first 10 years of its implementation and suggests a need for clarification of the NSNP objectives. In the evaluation report, Poswell and Leibbrandt (2006b, p. 18) argue that a distinction needed to be made between long-term nutrition (as measured by height and weight) and short-term nutrition (defined as intake of micro- and macronutrients and hunger), and how these relate to each other. They argue that while feeding alleviates short-term hunger, the NSNP is not only a feeding programme, and thus includes longer-term aims of nutrition education and parasite control. They also suggest that clarity is required on the objectives of the NSNP over the short and longer term: attendance and punctuality vs. concentration and capacity to learn vs. educational outcomes. The ToC which was developed for the evaluation encompasses both intermediate and longer-term outcomes.

The ToC for the NSNP is based on four outcomes chains that lead to the goal for the programme, which is to enhance learning capacity and improve access to education.

The outcomes are:

1. To provide nutritious meals to learners in schools every day, to enable learners to concentrate while at school, increase engaged learning time, and encourage learners to attend regularly;
2. To establish school food gardens, to raise awareness in school communities about food gardening, teach learners gardening skills, and instil an interest in food gardening;
3. To teach learners about healthy eating and encourage learners to make healthy choices through nutrition education;
4. To administer and monitor implementation of the NSNP, to maximise efficiency.

The **primary outcomes chain** is related to providing nutritious meals in schools on time, every school day. For this to be implemented successfully, PEDs must prepare business plans which are reviewed and approved by the DBE; the DBE then compiles a national business plan. Treasury must release funds to the DBE, and the DBE must release funds to PEDs. PEDs develop menus that are culturally acceptable and affordable based on the FBDGs of the DoH. The centralised and decentralised models start to differ at this point. In the centralised model, PEDs release menus and delivery schedules to schools. In the decentralised model, PEDs release menus and funds to schools.

Each school must create a nutrition committee and appoint an NSNP co-ordinator from among the teachers and administrators at the school. The NSNP committee must synchronise its timetable to ensure food is served prior to 10:00 am daily. School specific menus - which specify the specific quantities of ingredients to be prepared daily based on the size of the school and number of learners approved for feeding - are developed by the province with the assistance of an NGO. In provinces using the decentralised model, the NSNP committee may develop a school-specific menu that is culturally

acceptable and affordable. Each school also needs to engage handlers (VFHs, and a garden manager (if the school has a garden).

PEDs need to ensure that schools receive adequate funds to either pay service providers to procure and deliver food, fuel, and utensils (decentralised model) or to procure food, fuel, and utensil supplies themselves (centralised model) and to pay VFHs. In both models, the schools are expected to liaise with districts to ensure the training of the VFHs, the NSNP co-ordinator, the garden manager, and other relevant nominated persons.

Dry and fresh food, utensils, and fuel arrive at the school on time and in correct amounts. The supplies are stored safely and kept in a safe environment: food should be rotated and stored off the floor in locked storerooms; gas bottles should be kept outside the kitchen in a locked container; and fire extinguishers should be kept in the kitchen. Delivery notes are checked against orders and against actual goods received. Any inconsistencies are noted and shared with the PED (centralised model) or the local supplier (decentralised model). On the basis of correct delivery, service providers are paid either by the PED (centralised model) or by the school (decentralised model). This creates a feedback loop so that either the PED or the school can re-order food, and the service provider will deliver it on time and in correct amounts.

The above steps result in nutritious food being safely prepared and cooked and served to learners by VFHs on time every day. Learners eat the food, teachers supervise learners' eating, and VFHs record the number of children fed. The learners eat the food regularly, and this begins to generate the short-term outcomes specified for the programme: learners' improved concentration in class and staying at school the whole day.

Over time, these activities, outputs, and short-term outcomes lead to longer-term outcomes which include improved school attendance, increased school enrolment, and learners spending more time in the education system; this in turn contributes to the programme goal of enhanced learning capacity and improved access to education. The underlying assumption for this to occur is that the provision of nutritious school meals is a motivation for learners to attend school regularly and for parents to enrol their children in schools. Learners' nutritional status is improved through the fact that they receive and eat nutritious meals regularly and also learn about food production and healthy food choices through working in the school food garden (the second outcomes chain) and nutrition education classes (the third outcomes chain). It is also assumed that school meals do not replace meals which learners eat at home.

The **second outcomes chain** is related to school food gardens. Funds for food gardens are released by the DBE to PEDs as part of the NSNP Conditional Grant. As minimal funding is available for food gardens, support from the provincial Department of Agriculture and NGOs can assist schools with tools and other inputs such as seeds and water. Tools and inputs are ordered and delivered, and the garden is prepared, planted, and watered. The trained garden manager, who may be a staff member or be engaged from the surrounding community, is critical to this, and technical assistance may be provided by the Department of Agriculture and NGOs. Learners participate in planting and maintaining the garden, and thus their knowledge of food production is enhanced; some learners may establish food gardens at home. Food from the gardens may be used to supplement the school meals or distributed to vulnerable children in the schools, but the primary objective is to stimulate interest, raise awareness, and impart gardening skills. The critical assumption underpinning this outcomes chain is that land and

water are available to establish a food garden, and that there is a way to secure the food garden against stray animals and pilfering. PEDs arrange competitions to showcase successful school gardens.

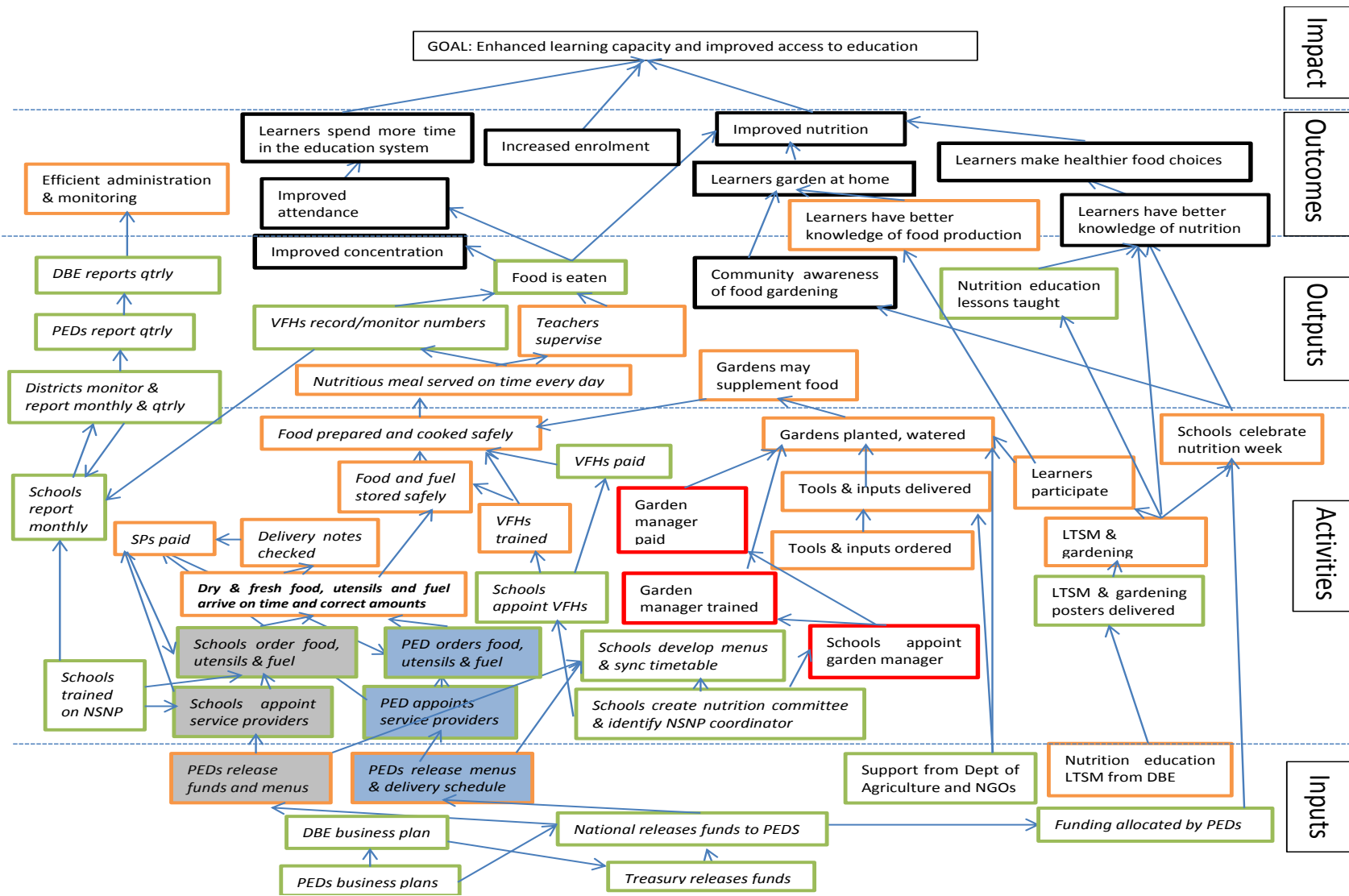
The **third outcomes chain** is related to nutrition education. In this chain, learning and teaching support materials (LTSM) aligned with the curriculum are created by the NSNP Directorate in the DBE. The materials include leaflets, posters about food groups, and posters about gardening and garden pests that schools can display on classroom walls. The NSNP Directorate develops lesson plans that teachers can use as support aids (ToC interview respondent 2, 20.02.15). These LTSM are delivered to schools and used by teachers to teach nutrition education classes during Life Orientation, and children's knowledge of nutrition is improved. PEDs allocate funding for school nutrition week and schools are encouraged to celebrate this. Over the longer term, children who have better knowledge of nutrition and food production are likely to make healthier food choices and have an improved nutritional status.

The **fourth outcomes chain** relates to administration and monitoring of the NSNP. For this to occur, PEDs need to prepare and submit annual business plans which the DBE reviews and approves. On the basis of these, the DBE prepares a consolidated annual national business plan which is submitted to Treasury for approval. Schools are trained (by districts) on the NSNP implementation guidelines to which they adhere. Schools report monthly to the circuit or district office and keep copies of their reports on file. The school reports contain information on the number of learners fed each day as detailed in the VFHs' records. Districts monitor and support schools and prepare monthly and quarterly financial (if in a decentralised province) and narrative reports for the PED. PEDs prepare quarterly financial and performance reports which include a reconciliation of funds transferred and expenditure on the NSNP. The DBE consolidates the reports of the PEDs and prepares a national financial and performance report for Treasury on a quarterly basis.

The ToC is depicted graphically in Figure 2. The ToC also highlights in italics the core business processes of **planning** and **budgeting; disbursement of funding; procurement; ordering, delivery and payment; food preparation and serving; and monitoring**. The two models (centralised and decentralised) are differentiated by light grey blocks denoting the decentralised model and light blue blocks representing the centralised model. White blocks are used for components which relate to both models. There are several differences in these business processes between models and also some variation between provinces utilising the same model (see Section 4.3.2). The ToC also highlights stakeholder responsibilities regarding inputs, activities, and outputs by specifying the stakeholder responsible for these various aspects of implementation.

The arrows linking the components in the ToC represent communication between national, province, school, service providers, and other agencies. The ToC has also been marked to show areas that are working well (green), areas that have mixed results (orange), and areas that are not working well (red). Areas in which the evaluation could not measure the results are marked in black. The links between outputs and intermediate and longer term outcomes could not – for the most part – be evaluated and thus are marked in black outline. The various components in the ToC are also outlined in a logframe, presented in Appendix B, which also articulates the assumptions which underpin the programme.

Figure 2: NSNP ToC used to guide the evaluation



2.3 Proposed changes to the ToC in the light of the evaluation

The main goals of the programme are improve access to education – particularly for learners from poor socioeconomic backgrounds – and enhance retention in the education system – particularly for the same target group. The NSNP also aims to *contribute* towards improving and enhancing the nutritional status of learners – particularly those from poor socioeconomic backgrounds.

The objectives are:

1. To provide nutritious meals in the right quantities to learners in schools by 10am on every school day;
2. To establish and maintain school food gardens, to supplement the NSNP and teach learners gardening skills;
3. To teach learners about healthy eating through nutrition education to encourage learners to make healthy food choices;
4. To effectively implement, monitor and report on the NSNP, to support accountability, efficiency and programme improvements.

The primary outcomes chain is related to providing nutritious meals in schools on time, every school day. For this to be implemented successfully, PEDs must prepare business plans which are reviewed and approved by the DBE. National Treasury must release Conditional Grant funds to Provincial Treasury. In the centralised model, Provincial Treasury releases funds for NSNP meals to schools, and in the decentralised model Provincial Treasury releases funds for fuel and VFH stipends to schools.

Schools create NSNP committees and appoint an NSNP co-ordinator from amongst the teachers and administrators at the school. The NSNP committee appoints VFHs, including a senior VFH who is appointed for a period of three years.

PEDs develop menus – with support from the DoH – which are aligned with the FBDGs and aim to provide 25-30% of the RDA of energy for primary school learners. In provinces using the the decentralised model, schools may develop their own menus, which are aligned with the FBDGs and are approved by PEDs.

Schools must synchronise their timetables to ensure that they make provision for food to be served by 10:00 am daily, and ideally before. School specific menus, which specify the specific quantities of ingredients to be prepared daily based on the size of the school and number of learners approved for feeding, are provided to schools, and schools are supported to adapt the quantities if they feed more or fewer learners on a daily basis.

Districts train schools on various aspects of the NSNP, including procurement and financial management in the decentralised model. Districts and schools ensure that VFHs are trained before they commence work.

The centralised and decentralised models now start to differ. In the centralised model, PEDs appoint service providers for a maximum time period of three years, place orders, and release delivery schedules to schools. In the decentralised model, schools – with support from districts - appoint service

providers, and SLAs are put in place; service providers should be rotated every three to six months. In the decentralised model, schools order directly from service providers.

In both models, deliveries arrive on time, in the correct quantities, are of adequate quality, and are checked and delivery notes signed if the delivery is correct.

PEDs need to ensure that schools receive adequate funds to pay service providers to procure and deliver food, fuel, and utensils and pay VFHs (decentralised model), or procure food, fuel, and utensil supplies themselves and pay VFHs (centralised model). In both models, the schools are expected to liaise with districts to ensure the training of the VFHs, the NSNP Co-ordinator, the garden manager, and other relevant nominated persons.

Dry and fresh food, utensils, and fuel arrive at the school, on time and in correct amounts, and are stored safely and kept in a safe environment. Food should be rotated and stored off the floor in locked storerooms. Gas bottles should be kept outside the kitchen in a locked container, and fire extinguishers should be kept in the kitchen. Delivery notes must be checked against orders and against actual goods received. Any inconsistencies must be noted and shared with the PED (centralised model), or the local supplier (decentralised model). On the basis of correct delivery, service providers are paid, either by the PED (centralised model), or by the school (decentralised model). This creates a feedback loop so that either the PED or the schools can re-order food and the service provider will deliver it on time and in correct amounts.

All of the above results in nutritious food being safely prepared and cooked by VFHs and served to learners by VFHs on time, every day. Learners eat the food, teachers supervise learners eating, and VFHs record the number of children fed. The learners eat the food regularly, and this begins to generate the short-term outcomes specified for the programme: learners' improved concentration in class and staying at school the whole day.

Over time, these activities, outputs, and short-term outcomes lead to longer-term outcomes, including improved school attendance, increased school enrolment, and learners spending more time in the education system, which contribute to the programme goal of enhanced learning capacity and improved access to education. The assumptions for this to occur are that nutritious meals are a motivation for learners to attend school regularly and for parents to enrol their children in schools. Learners' nutritional status is improved through the fact that they receive and eat nutritious meals regularly and also learn about food production and healthy food choices through working in the school food garden (the second outcomes chain) and nutrition education classes (the third outcomes chain). It is also assumed that school meals do not replace meals which learners eat at home.

The second outcomes chain is related to school food gardens. Funds for food gardens are released by the DBE to PEDs as part of the NSNP Conditional Grant. As minimal funding is available for food gardens, support from Departments of Agriculture and NGOs can assist schools with tools and other inputs, such as seeds and water. Tools and inputs are ordered and delivered, and the garden is prepared, planted, and watered. The trained garden manager, who may be a staff member or be engaged from the surrounding community, is critical to this, and technical assistance may be provided by the Department of Agriculture and NGOs. Learners participate in planting and maintaining the garden, and, as such, their knowledge of food production is enhanced; some learners may establish food gardens at home. Food from the garden may be used to supplement the school meals or be

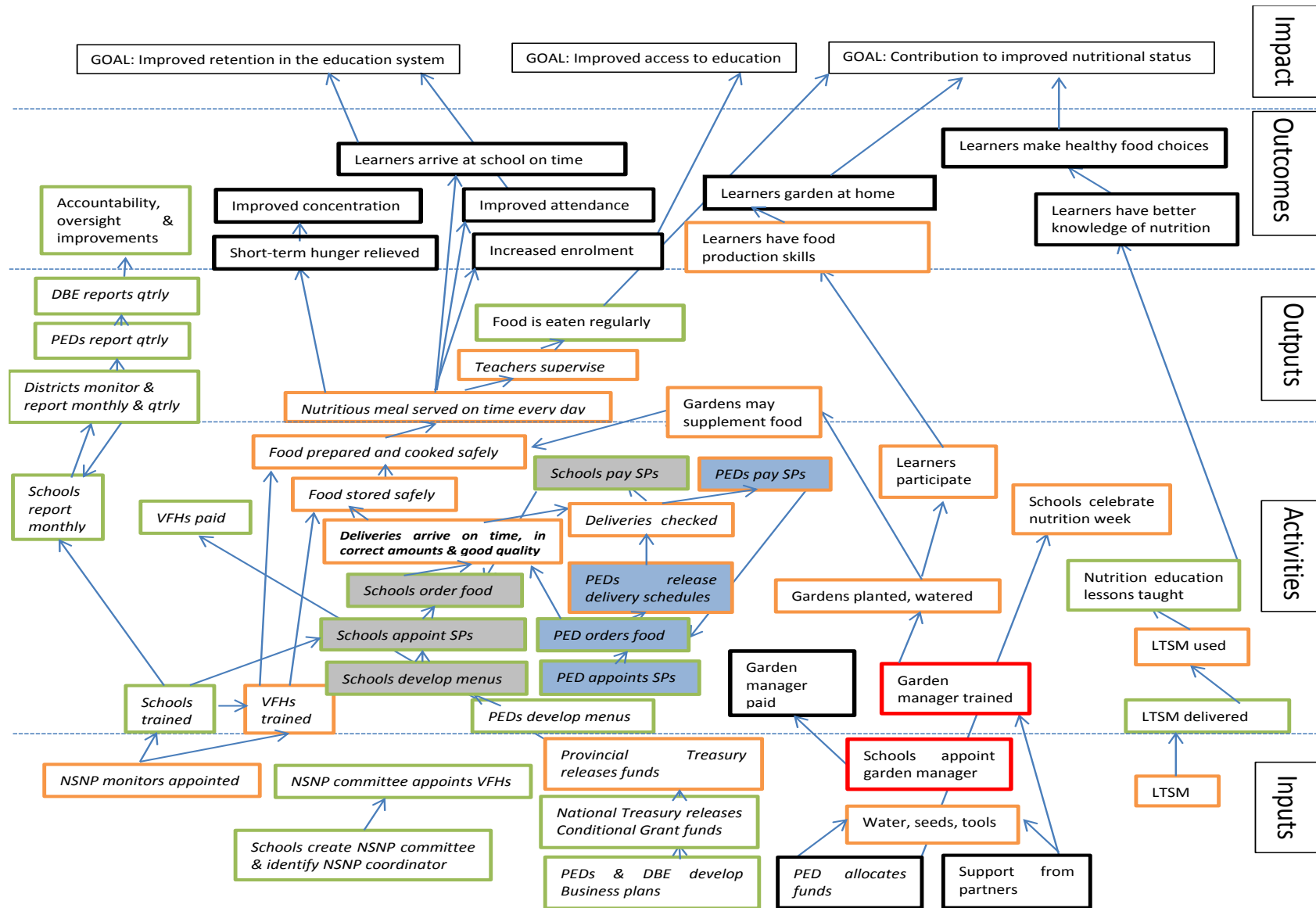
distributed to vulnerable children in the school, but the primary objective is to stimulate interest, raise awareness, and impart gardening skills. The critical assumption underpinning this outcomes chain is that land and water are available to establish a food garden, and that there is a way to secure the food gardens against stray animals and pilfering. PEDs arrange competitions to showcase successful school gardens.

The third outcomes chain is related to nutrition education. In this, LTSM aligned with the curriculum are created by the NSNP Directorate in the DBE. These include leaflets, posters about food groups, and posters about gardening and garden pests that schools can display on classroom walls. The NSNP directorate develops lesson plans that teachers can use as support aids (ToC interview respondent 2, 20.02.15). These LTSM are delivered to schools, and are used by teachers to teach nutrition education classes during Life Orientation, and children's knowledge of nutrition is improved. PEDs allocate funding for school nutrition week, and schools are encouraged to celebrate this. Over the longer term, children who have better knowledge of nutrition and food production are likely to make healthier food choices and have an improved nutritional status.

The fourth outcomes chain relates to administration and monitoring of the NSNP. For this to occur, PEDs need to prepare and submit annual business plans which the DBE reviews and approves. On the basis of these, the DBE prepares a consolidated annual national business plan which is submitted to Treasury for approval. Schools are trained (by districts) on the NSNP implementation guidelines to which they adhere. Schools report monthly to the circuit or district office and keep copies of their reports on file. The school reports contain information on the number of learners fed each day as detailed in the VFHs records. Districts monitor and support schools and prepare monthly and quarterly financial (if in a decentralised province) and narrative reports for the PED. PEDs prepare quarterly financial and performance reports, which include a reconciliation of funds transferred and expenditure on the NSNP. The DBE consolidates the PEDs reports and prepares a national financial and performance report for Treasury on a quarterly basis. All of the above processes contribute towards accountability and effective oversight and findings regarding performance are fed back to programme managers and implementers to make improvements.

An updated ToC diagram for the NSNP is presented overleaf.

Figure 3: Revised ToC for the NSNP, updated at the end of the evaluation



3. Literature Review

This Chapter presents the findings of the review of national and international research regarding the health and nutritional status of school-age children in South Africa and the implementation and outcomes of school feeding programmes. Stemming from the review, key contextual factors and characteristics that typically determine the effectiveness of school nutrition programmes are identified.

3.1 Introduction

The health and nutrition concerns of school-age children in general and specifically in South Africa were reviewed some time ago by Wenhold, Kruger, and Muehlhoff (2007). They found that overall school age is not characterised by major nutritional problems; it is rather younger children that are at risk for these problems. However, in a context of food insecurity and social instability, the nutritional problems of young children typically continue into school-age or may even be exacerbated. The nutritional status of school-age children is primarily described in terms of their growth (anthropometrics) which is a result of dietary intake on the one hand and their specific circumstances (e.g. ill-health) on the other. Dietary intake by school children is influenced by many factors which can be grouped into (i) personal, (ii) interpersonal (social), (iii) community (culture) and the immediate physical environment, and (iv) societal, macro-environmental. Schools and school-age children are often viewed as an ideal audience for health and nutrition promotion, because schools reach many children for many years on a regular basis and at a stage when habits are formed. Furthermore, schools are a setting in which healthy and safe eating, including how to resist social pressure, can be practised and taught by skilled personnel available. Households and communities may be reached through their children, thereby helping to break the inter-generational cycle of malnutrition, poverty, and chronic disease - particularly in the girl child.

3.2 Health and nutritional status of school-age children

Malnutrition is a stark reality for large swathes of the world's population: under-nutrition accounted for 53% of all under-five deaths in the past (Tomlinson, 2007, p. 26), and, while this figure has decreased globally, UNICEF estimates that nearly half of deaths of children under five years are still attributable to under-nutrition (UNICEF, 2015). While the health and nutrition of South Africa's poor children is improving, it still needs to shift radically. In 2012, the Human Sciences Research Council (HSRC) and others conducted the first South African Health and Nutrition Examination Survey (SANHANES-1), which aimed to provide information on non-communicable diseases in South Africa. Much data was gathered on nutrition, malnutrition, and poverty in South African children, as reported below.

3.3 Micronutrient and protein deficiencies

Malnutrition has grave consequences for children. Micronutrient malnutrition is also called the 'hidden hunger'. It is most insidious when it involves a person eating adequate energy (calories/kilojoules), but inadequate micronutrients. "Malnutrition is quieter than famine – in the sense that it does not attract the attention of the media – but it has no less tragic implications for those suffering of this disease" (Zeigler, undated). As reported by Hendricks, Goeiman, and Hawkrigde (2013, p. 44), studies have

shown that there is a correlation between correct height-for-age and cognitive or language ability at age five, school enrolment and grades achieved by adolescents, and formal employment and psychological functioning between the ages of 20 and 22. In addition, under-nutrition in a child and the excess consumption of kilojoules can lead to a susceptibility to obesity in adult life (Scientific Advisory Panel, 2014, p. 26), and obesity carries its own severe health risks. South Africa is characterised by a “double-burden” of nutrition-related health problems, that is, under-nutrition and obesity, often in the same household (Vorster, 2013, p. S3).

The 2013 Child Gauge showed that stunting in children under five years decreased between 1993 and 2008 from 30% to 25% (Hall, Nannan, and Sambu, 2013, p. 100). The SANHANES-1 data found that general undernutrition in children under 10 years decreased between 2005 and 2012 but stunting and severe stunting among the 1-3 year age group increased by 3%. In addition, there was a “slight increase” in stunting in children under five years, but a “clear decrease” in wasting and underweight among children under five (Shisana et al., 2014, p. 211). Indeed, 26% of boys and 25% of girls aged 1-3 years were stunted (DoH, 2014, p. 10).

Graham et al. (2015, p. 8), employed national data between 1994 and 2012 to show that incidence of under-weight and over-weight both decreased, but incidence of stunting remained fairly constant, with 21% of children between the ages of 0 and nine displaying symptoms of stunting in 2012.

There is evidence of micronutrient deficiency in South Africa: 43.6% of children surveyed by SANHANES-1 were vitamin A deficient (Hendricks et al., 2013, p. 44), although this figure had decreased since the 2005 National Food Consumption Survey (NFCS). However, according to World Health Organisation (WHO) guidelines, this figure places vitamin A deficiency in the “severe public health importance category” (Shisana et al., 2014, p. 214). Van Stuijvenberg (2005, p. S214) presents evidence to suggest that micronutrient deficiencies exist despite school feeding. In a survey of KwaZulu-Natal rural school children, all of whom received school meals, 40% of the children had low vitamin A status, 28% were anaemic, 97% were iodine deficient, and 21% had visible or palpable goitres. The author also argued that since relatively few of these children were stunted or underweight, taking height and weight as indicators of micronutrient deficiency is ill-conceived.

Internationally, there is strong evidence that geohelminths (that is, soil-transmitted helminths, or worms such as roundworm, whipworm, and hookworm) can cause severe morbidity, poor cognitive, intellectual, and physical development, and nutritional deficiencies, notably reduced levels of vitamin A and iron, but also of copper, selenium, cobalt, and zinc. There is evidence to suggest that these deficiencies can be reversed by deworming (Rajagopal, Hotez, and Bundy, 2014, p. e2920). Vitamin A deficiency is more effectively decreased by de-worming and vitamin A supplements, while iron deficiency is corrected by de-worming on its own (Rajagopal et al., 2014).

With regards to protein, Steyn et al. (2006,) attempted to quantify the food that young children in South Africa eat and compare that with FBDGs. Data about children’s food came from the 1999 NFCS which asked caregivers what children had eaten in the preceding 24 hours. The researchers found that maize porridge and bread were eaten in abundance, and these foods contributed to energy, protein, carbohydrate, and micronutrient - such as iron, zinc, niacin, and thiamine - intake (Steyn et al., 2006, p. 68). Maize porridge, bread, chicken, and milk were the main contributors to protein intake in children, but intake of animal foods “falls far below that recommended for optimal health” (Ibid., p. 72). An alternative to animal food for protein supply were dry beans, but these did not contribute more than

5% of protein, partly due to the expense of cooking fuel required for their preparation (Ibid., p. 72). The contribution of fresh fruit and vegetables to nutrition was very low (only 440 out of 2,800 children had consumed them in the previous 24 hours), and food variety was also lacking (only 5.5 food items were found from a possible range of 45). “Thus for most micronutrients there are relatively few (and often the same) foods which make significant contributions to nutrient intakes. There is an urgent need to improve the dietary intake of children and adults in this country in line with the FBDGs” (Ibid., p. 74). Given these findings, school nutrition programmes should try to avoid replication of children’s meals at home and instead offer variety, vegetables and fruit every day, beans and legumes regularly, and meat or eggs.

3.4 Food security and poverty

According to Tomlinson (2007, p. 18ff), food security is “the availability and accessibility to food of sufficient quality and quantity in a socially and culturally acceptable manner”. However, the notion of ‘food security’ is a contested one because it ignores the power dynamics that surround food distribution. Thus, nutritional security “acknowledges that gender, education, access to water and sanitation all impact on nutrition status, over and above the simple problem of food availability”, and food sovereignty suggests that securing the right to food includes people’s access to the means of food production, that is, land, fishing resources, seeds, etc.

Using the Community Childhood Hunger Identification Project (CCHIP) eight-point scale to assess hunger, the SANHANES-1 found that 45.6% of South Africans are food secure, 28.3% are at risk of hunger, and 26.0% experience hunger. However, using other survey data, SANHANES-1 found that hunger had decreased from 52.3% in 1999 to 25.9% in 2008 (Shisana et al., 2014, p. 146). The following table disaggregates the data of people who experienced hunger in 2012 by province.

Table 8: Percentage of South Africans who experienced hunger, by province, 2012

Province	2012
Eastern Cape	36.2%
Free State	28.8%
Gauteng	19.2%
KwaZulu-Natal	28.3%
Limpopo	30.8%
Mpumalanga	29.5%
North West	29.5%
Northern Cape	20.7%
Western Cape	16.4%
South Africa	26.0%

Source: Shisana et al., 2014, p. 144

Analysis has been conducted on child hunger by the Children’s Institute, using the Statistics South Africa General Household Survey 2002-2012. In 2012, 2.54 million children (13.7%) lived in households in which child hunger was reported (Hall and Sambu, 2014, unpaginated). While there was a significant decrease in reported child hunger, from 30% in 2002 to 16% in 2006, further gains have not been made since then. This suggests that “despite expansion of social grants, school feeding schemes and other efforts to combat hunger amongst children, there may be targeting issues which continue to leave

households vulnerable to food insecurity” (Hall et al., 2013, p. 98). The following table disaggregates 2002 and 2011 national data to provincial level.

Table 9: Children living in households in which child hunger was reported, 2002 and 2011

Province	2002	2011
Eastern Cape	47.4%	17.9%
Free State	29.2%	15.7%
Gauteng	17.0%	10.0%
KZN	30.9%	16.2%
Limpopo	27.9%	3.8%*
Mpumalanga	33.4%	12.8%
North West	30.5%	13.7%
Northern Cape	25.4%	33.5%
Western Cape	16.3%	15.6%
South Africa	29.7%	13.7%

Source: Hall, Nannan, and Sambu, 2013, p. 98

Children are people aged 0 – 17 years

* This figure seems very low, and no explanation was offered by the authors

3.5 Rationale for school nutrition programmes

School nutrition programmes, school feeding schemes, Food for Education (FFE) programmes, and take-home rations are all responses to poverty and the poor nutritional status of children. There are two main groups of arguments in support of feeding children in schools: the first group is a nutritional one; and the second is an educational one. However, it is difficult to separate the two, since well-nourished children are assumed to perform better at school. School nutrition programmes are purported to support education through two main pathways: 1) increased access to and participation in school - as the programmes act as an incentive to attend school - and 2) increased learning ability – through improved nutritional intake (Kristjansson et al., 2016).

Since so many children attend schools, schools are excellent vehicles for health and education interventions. There are a number of reasons to provide school meals. They include:

- Nutrition: Meals improve the nutritional status of children;
- Micronutrients: School meals can address micro-nutrient deficiencies if they contain the micronutrients children are deficient in (Leatt, Rosa, and Hall, 2005, p. 17). This is important given that SANHANES-1 found the presence of high vitamin A deficiency (Shisana et al., 2014, p. 214);
- Short-term hunger: Meals reduce short-term hunger, which improves concentration in class, and time-on-task usually results in improved learning;
- Attendance: Meals act as incentives for families to send their children to school, which improves attendance and enrolment (particularly of girls) (Vermeersch and Kremer, 2004), and “(r)egular attendance also ensures that the sequence of instruction is maintained” (Grantham-McGregor et al., 1998). Staying in school for longer and attaining higher literacy levels is thought to have a positive effect on other issues such as teen pregnancy and vulnerability to contracting HIV (Tomlinson, 2007, p. 5), as well as (in girls) having fewer children that are spaced further apart and declining infant mortality (Ibid., p. 8);

- Time in school: It is assumed that the presence of school meals encourages learners to spend the whole of the school day in school, although no evidence for this has been found;
- Educational outcomes: This is seen to be a secondary aim of a nutrition programme: primary aims of enrolment, attendance, time in school, and nutrition may lead to improved educational outcomes (McEwan, 2010, p. 1);
- Orphaned and vulnerable children (OVCs): Children infected and affected by HIV and AIDS, and those living in poverty and in child-headed households may rely on the school meal to provide most of their daily intake of food;
- Local economic development (LED): In South Africa, the NSNP is also seen to stimulate the creation and operation of (mainly women's) co-operatives, thus stimulating local economic development (Beesley and Ballard, 2013);
- Agricultural stimulation: Some nutrition programmes have an agricultural stimulation outcome: if the food is sourced from local farmers, this will offer them a sustained market, stable prices, and may encourage better production techniques (Bundy et al., 2009; Korugyendo and Benson, 2011);
- Culture: In Italy, the focus is largely cultural: Italian farming practices, diet, and food culture are encouraged, and most of the food served is locally sourced and organic (Aliyar, Gelli, and Hamdani, 2012, p. 14).

3.6 Implementation of school nutrition programmes

While the literature is replete with studies attempting to understand the nutritional and educational impacts of school feeding (discussed in Section 3.7), there are fewer studies detailing what is required for successful implementation, particularly in developing country contexts. This is due to the fact that most published literature on school nutrition programmes deals with the findings of outcome or impact as opposed to implementation evaluations. What follows is a summary of key findings regarding implementation.

Del Rosso (1999) defines seven steps for developing school feeding programmes that will improve education. In a more contemporary version, Bundy et al. (2009) use six indicators to assess programme design and implementation. These relate to whether the programme has:

1. Appropriate objectives, that is, what problems school feeding will address;
2. Appropriate target groups and targeting criteria, that is, who will be fed;
3. Appropriate food modalities and food basket, that is, menus, meals, number of days food is provided and meal times;
4. Appropriate procurement and logistics arrangements, that is, the management and implementation arrangements - whether the system is centralised or decentralised, transport, storage of food, equipment for preparation, and school infrastructure;
5. Appropriate local sourcing of food, that is, whether local farmers are benefitting from the programme, and the integration of school gardens and nutrition education into school nutrition programmes;
6. Appropriate monitoring and evaluation system in place and functioning. This happens at the level of the education department and the level of the school.

Lessons for implementation and how these relate to the NSNP will be detailed in line with these indicators.

3.6.1 Appropriate objectives

Bundy et al. (2009, p. 30), note that there are social protection and educational benefits of school nutrition programmes. The social protection benefits can be both short and long term: short term in the form of protection from shocks; and longer term providing benefits to children over a period of several years. The educational benefits can include increased enrolment, better attendance, better cognition (provided meals are served at appropriate times), and – over the long term – enhanced educational achievement.

The education sector was found to be an appropriate location for school nutrition programmes, which should be embedded in policy and involve cross-sectoral collaboration (i.e., with health, social development, and other sectors). Importantly, school nutrition programmes should “seek to complement and not compete with nutrition programs for younger children, which remain a clear priority for targeting malnutrition overall” (Bundy et al., 2009, p. 30). The need for nutrition programmes before children reach school is underscored by Graham et al. (2015, p. 8), who argue “that there is a need to intervene in the first three years of a child’s life and to make efforts to focus on nutrition in early childhood development interventions”. Due to the fact that stunting occurs in the first 1,000 days of life, actions to remedy stunting at schools come too late. Indeed, the DoH (2014) also argues for the urgency of nutritional interventions for children under five years old.

School nutrition programmes often have a gender dimension and an objective may be to support girls and enhance girls’ education. Supporting other vulnerable and marginalised groups may also be an objective. As detailed in Section 3.5, school feeding programmes may also have other objectives which could be secondary to the social protection and educational objectives outlined above; for example, stimulating LED - once an objective of the PSNP (see Section 1.1.1).

The NSNP’s current goal and objectives, as outlined in Section 1.1.3, define improved health and nutritional status as the overarching purpose of the programme and enhanced learning as one of four objectives (albeit the objective which receives the majority - 96% - of funding). The goal which guided the evaluation was improved access to education and enhanced learning capacity, and one outcome chain focused on the provision of nutritious meals daily to enable learners to concentrate while at school, increase engaged learning time, and encourage regular attendance. The evaluation team has made suggestions for updating the NSNP’s goal and objectives in line with the findings of the literature review regarding appropriate objectives for school nutrition programmes and the findings of the evaluation.

3.6.2 Appropriate target groups and targeting criteria

Given limited budgets – particularly in developing country contexts – targeting is recommended to ensure that the benefits of school nutrition programmes are maximised.

The two main approaches to targeting are geographic – whereby the programme is offered in particular geographic areas of need and/or particular schools – and individual – whereby children are targeted on the basis of need or vulnerability. Geographic targeting may disadvantage schools and learners in urban areas, which may be wealthier overall, but in which poverty and income disparities are greater.

Individual targeting is more resource and data intensive, and there are few developing countries which use this approach. Chile and Mexico are exceptions in this regard (Bundy et al., 2009; Drake et al., 2016):

“The national program in Chile is considered an example of good practice regarding individual targeting, not least because the targeting mechanisms have been evolving since the 1960s, reflecting a deeper understanding of the drivers of poverty and educational exclusion. Schools are provided free school meal allocations on the basis of a school vulnerability index built on socioeconomic household data of first grade schoolchildren. Teachers are then asked to target free meal allocations to the most vulnerable children in the classroom; other children in the class get meals but at a cost” (Bundy et al., 2009, p. 54).

Kristjansson et al. (2016), report that feeding programmes are most effective when they target the children who are most undernourished. However, Bundy et al. (2009, p. 54), caution that whilst individual targeting may have benefits in terms of cost-savings, it may cause social stigmatisation. Learners receiving free school meals may be targeted or marginalised by their peers who do not. In countries that have successfully introduced individual targeting, it is usually the case that all learners eat the same school meals and targeted children receive them for free whilst others pay.

Self-selection has been reported anecdotally, but not systematically documented. If the meal served at school is unpalatable and learners have other options (e.g. bringing food from home and buying alternative from food vendors) they may opt-out. Another consideration is what happens to leftovers - whether additional servings are provided and, if so, who receives these. This is another aspect of school feeding which is under-researched (Bundy et al., 2009, p. 54).

The NSNP covers all quintile 1-3 schools and all learners attending these schools. However, in some provinces there is feeding in some quintile 4 and 5 schools due to the socioeconomic conditions of parents. Additionally, schools are encouraged to link OVC with relevant support systems in the community, and through the NSNP, the neediest learners can be provided with breakfast, extra lunch or take home rations; however, this is not done systematically (Rendall-Mkosi et al., 2013).

3.6.3 Appropriate food basket and modalities

3.6.3.1 Menus and meals

It is good practice that menus are developed in consultation with nutritionists, taking local preferences, habits, and cultural practices into account (Bundy et al., 2009; Kristjansson et al., 2016).

Bundy et al. (2009, p.55), advise that the recommended energy content of the meals depends on the duration of the school day: if learners are at school for half a day, the meals should provide 30-45% of their energy requirements and if they are at school for a full day the meals should provide 60-75% of daily requirements. They also recommend that the meals include fortified ingredients, as without these, the school meals may not provide adequate micronutrients.

Foodstuffs may be fortified when they are processed and packaged, but unfortified food can be fortified just before use by adding micronutrient powder just before serving. Fortified high-energy biscuits are a suitable snack to serve in addition to a school meal. Biscuits have the benefit of being less time consuming to serve than a cooked meal and thus less disruptive to the school day (Bundy et al.,

2009, p. 56) and may be particularly appropriate for an early morning snack. A World Food Programme (WFP) evaluation of school feeding programmes in Kenya (2010), recommended that the WFP pilot giving children a fortified biscuit for breakfast, since many children came to school hungry.

Adelman, Gilligan, and Lehrer (2008, p. xi), writing about FFE programmes in the global South, note that “because school meals are usually fortified, a child’s micro-nutrient intake can improve even if her total calorie consumption does not”. The benefits of fortified foods and supplements are measured in anthropometric scores, iron and vitamin A status, and reduced prevalence of anaemia (Adelman et al., p. 51ff).

In South Africa, fortification of flour and maize meal has been mandatory, since 2003, in response to a national dietary study which identified severe micronutrient deficiencies (Steyn et al., 2016, p1).

Aliyar et al. (2012), detail nutrient compositions of school feeding menus from Ghana, India, Kenya, Mali, Rwanda, and South Africa and compare them to the WHO recommended daily allowance (R) for children aged 10 to 14 years. According to these figures, South Africa provides the lowest percentage of energy of the six countries, and while iodised salt is supposed to be included in the meals, South Africa only provides 59% of the RDA of iodine. South Africa also only provides 2% of vitamin A requirements. Table 10 shows what percentage of RDA each country’s school meal provides for children.

Table 10: Percentage of RDA provided by school meals in six countries

Country	Daily ration, g/person	Energy kcal	Protein g	Fat g	Calcium mg	Iron mg	Iodine µg	Vit. A µg RE	Thiamine mg	Riboflavin mg	Niacin mg	Vit. C mg
Ghana	225g	30%	33%	26%	4%	16%	2%	68%	21%	7%	71%	18%
India	178g	31%	62%	37%	26%	47%	131%	9%	70%	34%	83%	17%
Kenya	198g	32%	50%	27%	7%	24%	129%	50%	95%	25%	31%	3%
Mali	190g	33%	36%	26%	5%	16%	0%	19%	40%	7%	63%	2%
Rwanda	141g	24%	29%	24%	25%	32%	129%	39%	109%	35%	50%	0%
SA	126g	18%	41%	28%	34%	20%	59%	2%	25%	12%	69%	27%

Source: Aliyar, Gelli, and Hamdani, 2012, p. 38ff.

The NSNP menus are developed by PEDs in consultation with the DoH and approved by the DBE. They are reviewed and updated annually and aim to provide 33% of the RDA of energy requirements for children aged 7-10 years (DBE, 2010b). The menus specify the type and quantity of food that should be prepared daily, and “school-specific menus” indicate the quantities which individual schools should prepare based on the number of learners who have been approved for NSNP meals.

However, an examination of the NSNP menus undertaken by Rendal-Mkosi et al. (2013, p. 19), found that in general, the nutritional value of the meals provided by the NSNP offered learners about 15% RDA of energy and 26% of protein requirements. Recipe books issued by the DBE that contain portions of dry goods to be cooked were not observed to be in use in any schools visited in this study, suggesting that portions may not be accurate. Indeed, it was observed that meal sizes became smaller as serving progressed so that all learners received some food (Rendall-Mkosi et al., 2013).

Ten schools in Bloemfontein were randomly chosen by Nhlapo et al. (2015) and their meals analysed for their nutritional content in relation to the needs of children aged 7-10 and 11-18 years. They report

that “meals did not meet the nutrient standards for carbohydrate and energy contents for either age group. Protein standards were met by 90% of meals for individuals aged 7–10 years, but only 40% for those aged 11–18 years. Only 10% of meals met the standards for calcium and zinc, while 80% and 30% met the iron standards for those aged 7–10 years and 11–18 years, respectively. The lipid and vitamin C contents were within standards” (Nhlapo et al., 2015, p. 1). Analysis for vitamin A and E content “yielded undetectable results for both” (Ibid., p. 5). There was high variation in nutrient content of meals with similar ingredients, and this could be due to long storage periods or exposure to light and oxygen which allow deterioration of foodstuffs (Ibid., p. 6ff).

Section 3.3 presented evidence of micronutrient deficiency amongst children in South Africa (Hendricks et al., 2013, p. 44; Shisana et al., 2014, p. 214), including amongst those receiving school meals (van Stuijvenberg, 2005, p. S214). This suggests that integrating a feeding programme with other complementary interventions such as de-worming and micronutrient fortification or supplementation may hugely increase the value of the NSNP meals eaten by children in South Africa.

3.6.3.2 Timing of meals

The timing of meals provided at school is reported to be more important for learning and cognition than it is for overall nutritional improvement (Adelman et al., 2008, p. 17).

There are advantages to giving children breakfast, particularly if they come to school hungry (as is likely, given the data presented in Section 3.4). Kristjansson et al. (2016, p. 79) advise that skipping breakfast is “*particularly problematic for those children who are the most undernourished*”. Bundy et al. (2009), indicate that if short term hunger is a problem, the school meal should be provided in the morning - ideally when children arrive at school - if the meal is to have a beneficial effect on children’s ability to concentrate and learn.

According to Adelman et al. (2008, p. 13), breakfast creates “short-term metabolic and neurohormonal changes that are associated with the immediate supply of energy and nutrients to the brain... If an overnight fast is extended because a child does not eat breakfast, insulin and glucose levels gradually decline, resulting in a stress response that interferes with different aspects of cognitive function”.

An evaluation of a pilot school breakfast programme in the United States found that learners who missed breakfast performed poorly during the day’s academic tasks (McLaughlin et al., 2002). Similarly, a Canadian study found that learners may be irritable, disinterested in learning, and unable to concentrate (CCBR, 2008, p. 8).

McLaughlin et al. (2002) found that providing breakfast at school meant that children were not given breakfast at home. This would constitute a saving for households: they did not have to provide breakfast for their children but their children would nevertheless eat. However, if for some reason a meal was not provided at school, then children would go hungry. This underscores the importance of school meals being provided consistently at the same time every day.

At the time of this evaluation, two South African provinces (Gauteng and the Western Cape) were providing breakfast as well as lunch at scale. In the other provinces breakfast was provided in some schools, either as an initiative of the school or via external funding from partners, but provision was not consistent.

TBF is one such partner supporting a breakfast programme in South African schools. The TBF nutrition programme delivers breakfast in the form of fortified cooked porridge. In 2014, approximately 41,000 children were served nationally, primarily in quintile 1 and 2 schools (Graham et al., 2015). The programme, which began in 2011, is designed to complement the NSNP and is organised as follows:

- VFHs cook and serve the breakfast; TBF encourages schools to use the same VFHs as for the NSNP. They are paid an extra R300 per month for these services, paid by TBF;
- Breakfast is served between 7:30 am and 8:00 am Each child is provided with one plate and a set of eating utensils;
- Breakfast consists of either a fortified sorghum, maize or oats-based porridge.

An evaluation of the TBF programme found that a factor in its success is that the food provided is sufficient to include school staff who therefore support the programme. This also encourages educators to arrive at school on time. The evaluators found that the breakfast acts as an incentive for children to get to school on time, and school starts on time with most learners present (Graham et al., 2015).

In one Canadian study, some learners did not use the breakfast programme because they could not get to school early enough (CCBR, 2008, p. 15). It is possible that the provision of breakfast in South African schools may similarly disadvantage learners who cannot get to school early enough, for example, those that live far from the schools, in areas without reliable public transport, or have to complete household tasks before they leave home. The latter may prejudice girls more than boys, since girls are more likely to be responsible for household tasks.

The NSNP guidelines advise that learners should be provided with breakfast at 7:30am and lunch at 12:30 pm (DBE, 2010b). In previous years (i.e., up to and including 2012/2013), the CGF specified that NSNP meals should be served by 10:00 am and this is still a requirement in provinces which do not provide breakfast. The above evidence indicates that serving the NSNP meal later than 10:00 am will likely have highly negative effects on learning, and ideally, the meal should be served earlier.

3.6.4 Appropriate procurement and logistics arrangements

Procurement and logistics arrangements specify how the nutrition programme is managed and implemented and how food reaches the school and is stored, prepared, and served.

3.6.4.1 Procurement and logistics internationally

Well-organised and efficient distribution systems are critical in ensuring that food reaches schools and children on time and therefore underpin the effectiveness of a school nutrition programme.

Drake et al. (2016), synthesised lessons learned from school feeding programmes in 14 developing countries. They found that a variety of institutional arrangements can be effective and identified the following key success factors relating to management and implementation: (i) strong national ownership, embeddedness in policy and strategy, and alignment with existing mandates; (ii) building adequate capacity at national and sub-national level to manage and implement; (iii) effective cross-sectoral collaboration (including private sector and civil society) and co-ordination thereof.

Drake et al., have also developed the following typology of school nutrition programme supply chain models (2016, p. 10):

- Centralised insourced: the supply chain is managed and controlled centrally by national government;
- Semi-decentralised insourced: supply chain management is semi-decentralised, for example, to provincial or district government;
- Decentralised insourced: supply chain management is decentralised and takes place at school or local government level;
- Centralised outsourced: the supply chain is managed and controlled centrally, and the function is outsourced to a third party;
- Semi-decentralised outsourced: supply chain management is semi-decentralised, and the function is outsourced to a third party;
- Decentralised outsourced: supply chain management is decentralised to school or local level, and the function is outsourced to a third party.

These models can be combined. For example, dry goods may be procured centrally, whilst perishable goods such as vegetables and fruits are procured locally.

Centralised models may benefit from economies of scale resulting from greater purchasing power and prevent schools in remote rural areas from being disadvantaged by high local prices. Oversight and quality assurance are also more straightforward and can be standardised. Decentralised procurement models are more vulnerable to market effects such as price shocks - the smaller the market, the greater the effect (this may be a concern in deep rural areas). Decentralised procurement has the benefit of shorter transportation distances, but monitoring and food quality control is more challenging; there are concerns about deterioration if foodstuffs are purchased in bulk (e.g. termly), as is common. Decentralised procurement can accommodate greater diversity and responsiveness to local preferences, and the feedback loops are closer between beneficiaries and management (Drake et al., 2016, p. 9-12).

Bundy et al. (2009, p. 68), report that there is a trend internationally – and in Africa – towards decentralisation “there is an increasing trend to rely on school-based management systems for school feeding, as with other aspects of the education sector”. Benefits of decentralisation are cited as being greater responsiveness to local contexts, preferences, technologies, partnerships etc., and promoting community action and ownership. The downside is that decentralisation may result in uneven implementation, as capacity varies. Schools, communities, and regions with greater resources, political support, and stronger social networks will have stronger programmes, and those with the greatest need (but lesser political and social capital) may be disadvantaged.

A key consideration in implementation is whether school feeding takes time away from learning (Adelman et al., 2008, p. 2; Graham et al., 2015, p. 45; WFP, 2010, p. 25). Thus the extent of additional school-feeding related responsibilities and how these are allocated is critical. Decentralisation tends to place a greater burden on school staff in terms of implementation. An Indian case study found that teachers in charge of the school feeding programme spent two to three hours per day on related activities - time which was not spent teaching (Bundy et al., 2009). Another Indian school feeding programme which was documented operates two types of kitchens: centralised (that provide meals for a number of schools) and decentralised (that exist in a school). An advantage of centralised kitchens is that teachers and administrators do not take time out of the classroom to manage preparation, paperwork, and ordering and delivery relating to school feeding (Ali and Akbar, 2015).

Bundy et al. (2009), make a distinction between centralised, decentralised, and community sustained school nutrition programmes, and their typology has four categories, depending on where and how foodstuffs are sourced:

- International – procurement outside the country; mainly in emergency contexts and food insecure countries;
- National – procurement centrally via tender;
- Local – procurement local to specific schools;
- Community sustained – community members provide in-kind or cash contributions to sustain the programme.

Mixed models are also utilised, for example: provision of a basket of staples nationally, complemented by local procurement of perishable goods, supplemented by contributions at community level. Bundy et al. (2009) warn of the following challenges associated with local procurement: a shortage of possible service providers; high transaction costs; high risk of default; difficulties meeting quality standards; and delivery delays. They warn that if procurement takes place at local level mechanisms must be put in place to protect the supply chain and ensure that good quality food reaches schools on time.

Drake et al. (2016), identify similar concerns regarding local procurement. Models which source foodstuffs locally are more vulnerable to risks including: contract default; delivery delays; and delivery of poor quality or contaminated food.

3.6.4.2 Procurement and logistics in the NSNP

South Africa's NSNP utilises a centralised procurement model in some provinces and a decentralised procurement model in others. In the centralised model, provinces award tenders for a three year period, and contract with the service providers. Schools accept deliveries and check quality and quantity, as well as arrange and pay for VFHs and gas (they receive payment quarterly for these costs). Rendall-Mkosi et al. (2013), argue that the centralised model is less taxing on schools, and the tender system can create economies of scale and therefore cheaper prices. However, they found that money was not transferred timeously to PEDs at the beginning of the financial year, and then to schools, and this affected schools' ability to pay VFHs. In addition, there were some cases of VFHs not being paid their full stipend, and this was thought to be due to misappropriation. This was possible because of contracts not being in place between schools and VFHs (Rendall-Mkosi et al., 2013).

In the decentralised model, schools contract service providers and receive payment from the province to pay them. Advantages of the decentralised system include lower transport and storage costs, and greater involvement of community members. However, "interviews revealed that, the programme may excessively burden the district, school principal and educators" (Rendall-Mkosi et al., p. 21). In provinces using the decentralised model, the amount of paperwork required at school level was sometimes overwhelming. Rendall-Mkosi et al. (2013, p. 32), found that the NSNP co-ordinator (who is usually a teacher) was especially vulnerable to losing teaching time due to NSNP duties. They also found that there were no Service Level Agreements (SLAs) between schools and service providers in the Eastern Cape. The NSNP Co-ordinators collected three quotes every three months and chose the supplier based on the lowest price. Dry ingredients were delivered monthly and fresh ingredients weekly. There were reportedly never delays in delivery via this method. A challenge reported by Graham et al. (2015) is that schools have only one bank account and cannot ring-fence money for the

NSNP. It was reported that Principals see money in the bank account and spend it, and as a consequence may run short on NSNP funds later (Graham et al., 2015, p. 45).

3.6.4.3 School infrastructure and equipment

The WFP (2010) found that “the physical and learning environments of the school are critical complements to the school meal. Where these environments are deficient, the health and learning outcomes of school meals are reduced” (WFP, 2010, p. iv). Water is the most crucial element required, since without it cooking sometimes does not happen (WFP, 2010, p. 40). Also without it, there is no washing of hands before eating and after latrine use. This poses a health risk which can cause diarrhoea and parasitic worm infections and thereby undermine the value of a nutrition programme.

In addition to water, adequate space is required for food storage and meal preparation, equipment is required to prepare, cook, and serve meals, and fuel is required for cooking. If these facilities are not available or are inadequate there is a knock-on effect on the provision of school meals. For example, if schools run out of fuel, the staff preparing meals must resort to using wood fires (Adelman et al., 2008; WFP, 2010) which is difficult if it is windy or raining. This delays cooking time, meaning children may get their meals late and the staff preparing meals stay longer at work.

Various challenges relating to school infrastructure and equipment have been documented via previous evaluations of the NSNP (see Section 1.1.7). Rendall-Mkosi et al. (2013), found that in the Eastern Cape parents were expected to collect firewood as a contribution to the NSNP.

3.6.4.4 Community involvement

Parent and community involvement can also be considered part of the “school infrastructure”. “The school meal has inherent, if limited value; but in combination with other complementary interventions that address the school, home, and community environmental constraints, the power of school meals can increase dramatically” (WFP, 2010, p. viii). Olubayo, AmisiAluvi, and Namusonge (2015, p. 1433) argue that community participation in the form of parent associations enhances problem-solving and sustainability of school feeding programmes. In South Africa, Rendall-Mkosi et al., report that community involvement is confined to the role parents play on school governing bodies (SGBs) and the possibility of earning a stipend as VFHs. Beyond these, there is limited community involvement in the programme and almost no “systematic communication with the community” from the DBE (Rendall-Mkosi et al., 2013, p. 47).

The above demonstrates that there are an array of options in terms of management and implementation modalities and the level(s) at which procurement takes place. Each model has advantages and disadvantages and these should be considered carefully in relation to the context and particularly the available resources and capacities. There are a number of appealing strengths and benefits of decentralised models. However, if school nutrition is decentralised, it is critical that decentralisation is accompanied by capacity building – of managers, implementers, and suppliers – and that implementation does not impinge on teaching and learning time.

3.6.5 Appropriate local sourcing of food

Notwithstanding the challenges and risks relating to local procurement outlined above, Bundy et al. (2009) consider appropriate local sourcing of food to be a core component of successful school nutrition programmes. School nutrition programmes in middle and high-income countries source food

locally and supplying school nutrition programmes proffers an opportunity for LED: “Because school feeding programs run for a fixed number of days a year (on average 180) and normally have a predetermined food basket, they provide the opportunity to benefit local farmers and producers by generating a stable demand for their products” (Bundy et al., 2009, p. 45). Kristjansson et al. (2016), link local sourcing to satisfying local preferences, pointing out that food which is sourced locally is more likely to be palatable and culturally acceptable.

Linking school nutrition programmes to local agricultural production is becoming more common in developing countries: In 2003, a number of African governments endorsed community based school feeding (CBSF) as part of the Comprehensive African Agriculture Development Programme (CAADP) of the New Partnership for African Development (NEPAD) (Korugyendo and Benson, 2011). Twelve African countries implemented a pilot Home Grown School Feeding and Health Programme and Ghana and Nigeria subsequently rolled the programme out at scale (Bundy et al., 2009, p. 46). A Ugandan FFE programme had an additional objective of stimulating local agricultural production. These CBSF programmes are thought to stimulate demand from local farmers, who in turn have a steady market and stable prices and will adopt more productive methods of agriculture. The programmes also potentially ensure that local solutions are found to local problems, and that communities take ownership of school feeding much more than if it is imported from the outside (Korugyendo and Benson, 2011).

However, Korugyendo and Benson (2011) argue that CBSF programmes “are shown to be more limited in their ability to contribute to other development objectives, such as local agricultural growth, than has often been claimed” (Korugyendo and Benson, 2011, unpaginated). In addition, CBSF programmes do not offer fortified foods and do not necessarily offer nutrition-dense foods; local politics may influence the tendering processes and compromise quality (Korugyendo and Benson, 2011, unpaginated).

There is limited evidence regarding the economic impact of local sourcing initiatives in developing country contexts, but a local procurement initiative in the United Kingdom involving 12 schools was found to have benefitted the local economy by \$320,000 per year in 2007 (Bundy et al., 2009, p. 46). In Asia, the inclusion/expansion of a dairy component in school nutrition programmes in two countries (China and Thailand) was found to have increased milk production and created a significant number of jobs (Bundy et al., 2009, p. 47). In the absence of data, economic modelling has been conducted to quantify the *potential* benefits if African school nutrition programmes were to procure locally, and these have been found to be substantial.

The Food and Agriculture Organisation (FAO) finds that school nutrition programmes have the potential to support agricultural development *if* food is procured locally *and* the impact on local markets and production is monitored (Devereux et al., 2008). Drake et al. (2016), report that decentralised procurement for school nutrition programmes can influence local markets (e.g. the pricing and availability of food) and the smaller the market, the greater the effect.

Bundy et al. (2009) propose that a transition to local procurement will entail three phases: 1) costs rise (as a result of increased administration costs and new procurement procedures); 2) costs peak as food production increases; 3) costs fall as food production is sufficient.

Using the NSNP to encourage local small-scale farmers is not currently a key focus of the South African programme. The emphasis is on providing meals economically. However, we have seen that stimulating LED was once an objective of the PSNP, and some provinces encourage the appointment of small, medium and micro enterprises (SMMEs) and co-operatives as service providers. According to Rendall-Mkosi et al. (2013 p. 23), this does not necessarily support local agricultural development: proteins such as pilchards and soya constitute a considerable portion of the cost of the NSNP meals, and it is unlikely that they will be produced locally. Rendall-Mkosi et al. (p.23), are of the opinion that there is *potential* for the NSNP to support local food production, but this would require a shift in the NSNP procurement policy/strategy and concomitant support to build the capacity of small-scale farmers to supply food.

Beesley and Ballard (2013, p. 258) question the wisdom of including an income-generating outcome in nutrition programmes, since there is no policy precedent to rely on when the income-generating outcome undermines the primary outcome of nutrition for children.

Beesley and Ballard (2013) offer an assessment of an income-generating model of NSNP implementation that is employed in KwaZulu-Natal. They conducted case study research in 2009 of four co-operatives operating in one education district in KwaZulu-Natal. They found that one was operating successfully and had increased the number of schools it was provisioning; two others were functioning poorly and “provide(d) food to a greatly reduced number of children” (Beesley and Ballard, 2013, p. 255); and the fourth had been suspended. Principals interviewed about the two poorly functioning co-operatives reported that food provision was variable, resulting in children going without food. Thus, there was found to be a trade-off between the aims of employment creation/income generation and nutrition for children.

The NSNP includes an objective focused on promoting sustainable food production. The emphasis is on food production as a means for *learning* as opposed to *supplementing* the NSNP. This is in line with international recommendations that the focus of school food gardens should be primarily educational; it is unrealistic and potentially exploitative to expect food production in schools to sustain a nutrition programme (Bundy et al., 2009, p. 48). Rendall-Mkosi et al. (2013, p. 23) report that the number of school food gardens in South Africa has declined in recent years, but the reasons for this are not noted.

3.6.6 Appropriate Monitoring and Evaluation systems

Hellen (2014) argues that management hitches can be resolved by improving M&E. M&E requires an adequate budget of between 5% and 10%, delineated within the overall national budget. Gelli and Espejo (2012, p. 996) found that in most countries in Africa, “(t)here is generally no dedicated budget line at national level: M&E is usually part of the administration, support or overhead costs for the programme. Moreover, in most countries examined, the M&E system is not underpinned by a national policy, plan or project document”.

Drake et al.,’s synthesis report which draws on lessons learned from 14 school nutrition programmes identifies three factors which typically underpin the effective implementation of school nutrition programmes: “mechanisms to ensure accountability and quality assurance” is one, albeit a factor which was identified as a weakness across many of the case studies (2016, p.xliv). A handful of Latin American countries – Brazil, Chile and Ecuador – are cited as good practice examples in this regard. Chile and Ecuador have comprehensive management information systems which support their

nutrition programmes. Brazil has a system of checks and balances in place which involves a range of stakeholder groups including national, state and local government officials, and municipal committees – with representation from parents, teachers, learners, education professionals, and civil society members – monitoring implementation at school level. Information gathered by the municipal committees is fed back to national government and informs the internal audit function and external controls (Drake et al., 2016, p. 102-103).

Kristjansson et al. (2016), identify supervision of feeding at the point of implementation as a critical success factor for nutrition programmes: supervision is needed to ensure that the targeted children receive and consume the meals/supplements which are provided to them.

In South Africa, National Treasury is responsible for oversight of the Conditional Grant which is disbursed to provinces to fund the NSNP. The DBE is responsible for monitoring implementation at provincial level, monitoring and evaluating compliance with the requirements of the Conditional Grant, and submitting quarterly performance reports and an annual evaluation report. The DBE also conducts monitoring visits to schools. PEDs are responsible for monitoring and supporting implementation at district and school levels, implementing M&E plans, submitting quarterly performance and financial reports, and (in decentralised provinces) reconciling expenditure by schools against quarterly transfers. PEDs are also supposed to conduct monitoring visits to schools. Responsibilities at district level include: monitoring and supporting implementation in schools, submitting monthly and quarterly reports, and (in decentralised provinces) reporting on expenditure by schools (National Treasury, 2014a). Audits, evaluations and other types of reviews are conducted regularly, as required, at national, provincial, and district level. At school level the NSNP co-ordinator is mainly responsible for monitoring and quality assurance which should entail checking deliveries (in terms of quantities, quality, and correct invoicing), checking meal preparation, tasting the meal to be served to learners, and compiling a monthly report which is sent to the district office on the number of learners who eat the NSNP meals every day (Rendall-Mkosi et al., 2013).

In its study of school feeding programmes in Kenya, the WFP (2010, p. 48) found that district office staff are often constrained in their ability to randomly visit schools due to transport. This suggests that they are not able “to identify problems in a timely fashion and to avoid the emergence of undesirable school-specific practices”. These may include delivery, storage conditions, cooking facilities, record keeping, portion sizes, and ensuring that food is served every day, and on time.

This challenge is also evident in South Africa: Rendall-Mkosi et al. (2013), found that lack of transport was a barrier to district staff visiting schools in the Eastern Cape and Mpumalanga. Graham et al. (2015) also report that the NSNP relies heavily on district officials to monitor the quality and quantity of school meals and assess financial accountability. However, due to a large number of schools and a shortage of staff, district staff are unable to visit all the schools they should.

The TBF breakfast programme - which is implemented in some quintile 1 and 2 schools in South Africa - utilises technology to facilitate monitoring. TBF is responsible for management and monitoring and appoints a field monitor to oversee a number of schools. Field monitors communicate using Mobenzi technology - a data capturing and reporting package that operates via a headset. In this way, schools phone their field monitor if anything goes wrong. The schools use Mobenzi to complete a template for the number of breakfasts provided daily and upload photographs. A field monitor reported that even if

s/he does not manage to visit a school, the data is always being uploaded to the office (Graham et al., 2015, p. 42).

Effective M&E can stem food loss - to spoilage, the black market, or leakage (Hellen, 2014, p. 12). A balance must be found between a high administrative burden for schools and district offices and eliminating the risk of corruption.

3.7 Outcomes and impact of school nutrition programmes

We have seen (Section 3.5) that there are two main arguments in support of school feeding - nutritional and educational - although there is a raft of reasons why school nutrition programmes are implemented. Here we discuss the reported outcomes and impacts of a number of programmes.

Malawi receives funds from the WFP to run a FFE programme that offers school-time meals or snacks and take-home rations for girls and vulnerable children who attend school. The aim of the programme is to improve enrolment and attendance of girls and vulnerable children, reduce short-term hunger, and decrease differences in enrolment and drop-out between girls and boys in grades 5 to 8. In 2009, 642,109 pupils in 13 districts were fed, which is about 30% of Malawian children (WFP, 2009, p. 1). The WFP also provides de-worming tablets to all primary school children to ensure school feeding is effective and not wasted. While an evaluation of the programme was compromised by methodological issues, Tomlinson (2007, p. 17ff) reports that girls' enrolment increased by 37.7% in project schools and boys' by 24.4%. One unintended consequence of the project was an increased pupil-teacher ratio in classes in project schools due to increased enrolment.

In Bangladesh, there was a similar encounter with over-crowding due to increased enrolment and attendance. The Bangladeshi FFE programme, started in 1993, gave monthly grain rations to children from the neediest families if the children attended school 85% of the time. Before it was revoked due to a shift in funding priorities, the programme covered 27% of primary schools and approximately 13% of primary school children. Evaluations of the programme suggested that class attendance was 70% in FFE schools compared to 58% in non-FFE schools, and that girls' and boys' enrolment increased between 1992 and 1995 (Ahmed and Arends-Kuenning, 2006, p. 667). However, authorities did not budget for increased teachers, classrooms, and schools, hence the over-crowding: 61 children per teacher in FFE schools and 48 children per teacher in non-FFE schools in 2000.

In a randomised control trial in rural Burkina Faso, Kazianga et al. (2009), compared results of two feeding schemes, one that comprised a school lunch available to all children in a school, and one that comprised conditional take-home rations given to girls rather than boys. Take-home rations are diluted among household members, and as such are not likely to impact greatly on the nutrition needs of school children (and thus have limited impact on educational outcomes), but they may reach younger children in need. While girls' enrolment increased by between 5% and 6% for both kinds of nutrition schemes, and girls' scores in maths increased marginally, there was no "impact on other measures of cognitive development" (Kazianga et al., 2009, p. 4). Indeed, absenteeism increased for children from households with few children, possibly because children newly enrolled (for the food benefits) were still expected to perform household duties and in smaller households there were fewer children to share the tasks. However, the take-home rations did increase weight-for-age and weight-for-height scores for young children aged between 6 and 60 months (Ibid., p. 19).

Korugyendo and Benson (2011) outline lessons learned from a Ugandan FFE programme. Their focus is on the opportunity cost of sending children to school: children help in the home, provide farm labour, prepare meals, and sometimes bring home wages. Thus a feeding programme must reduce this opportunity cost by providing a meal or take-home rations for the family. FFE programmes generally report increasing attendance, enrolment, performance, and nutrition, but programme assessments “generally find fewer conclusive and significant relationships between FFE programs and school performance than anticipated” (Ibid., unpaginated).

McEwan (2010) conducted research on the Chilean feeding programme operated by the National Board of School Assistance and Scholarships (JUNAEB) and aimed at improving enrolment, attendance, and attainment. Schools’ vulnerability was ranked, and those with high vulnerability were provided with more calories per day to give children. However, “there is no evidence that exogenous provision of school meals produces consistent achievement gains” (McEwan, 2010, p. 6). The research found that feeding has “some effects” on attendance, fewer on enrolments, and “zero to small effects” on cognitive ability and educational outcomes (Ibid., p. 27).

The following table summarises the programmes detailed above. It should be noted that many programmes target girls rather than boys, since in crises or in households in extreme poverty girls are often first to be withdrawn from schools to care for sick household members or siblings. However, the investment in girls’ education shows great dividends: girls who go to school are likely to marry later, have fewer children than counterparts who spend less time in school, and for every year they spend in school there is a 5%-10% decrease in mortality among their children (Tomlinson, 2007, p. 7ff).

Table 11: Examples of five countries' feeding programmes

Country	Programme	Target group	Aims	Results
Malawi: FFE	School-based meals and take-home rations	Girls and vulnerable children	Increase girls’ enrolment and attendance	Girls’ enrolment increased by 37.7%; increased pupil-teacher ratio
Bangladeshi: FFE	Conditional monthly take-home rations	Girls & boys from poorest families	School attendance	Enrolment increased; increased pupil-teacher ratio
Burkina Faso, comparison of two programmes	1. School-based meals 2. Conditional take-home rations, for girls	1. Poor children 2. All members of poor households	Increase girls’ enrolment	Girls enrolment increased by 6-7%, and maths marks marginally; increased absenteeism in children with fewer siblings; increased weight-for-age in children under 5
Uganda: FFE	School-based meals and take-home rations		Food should reduce opportunity cost of sending children to school	Increased enrolment and attendance; limited improvement in school performance
Chile	School-based meals	Schools weighted to give poorest children most food	Enrolment, attendance, attainment	Some increased in enrolment and attendance, “zero to small” effects on outcomes

Source: various, as reported previously

School feeding schemes may alleviate short-term hunger, allowing children to concentrate (Grantham-McGregor et al., 1998) and perform more complex tasks, and they may encourage attendance and punctuality, thereby increasing time in school (Beesley and Ballard, 2013, p. 251ff). However, for short-term hunger to be alleviated, food must be provided every day, and if it is not, due to delays in delivery or lack of gas, learners will be hungry in class. It is reasonable to assume that if parents are not warned about the lack of a meal on a particular day, they will not make provision for their children, and those children will go hungry.

There is also evidence that school nutrition programmes increase enrolment, especially of girls (Bundy, 2005, cited in Tomlinson, 2007, p. 11). In a randomised control trial of school feeding in 50 pre-schools in Kenya between 2000 and 2002, Vermeersch and Kremer (2004, p. 19ff) found evidence in support of the attendance argument: meals did improve school attendance. Indeed, attendance was about 30% higher in treatment schools than control schools. This is also supported by findings of the Malawi FFE programme (Tomlinson, 2007, p. 17ff; also Grantham-McGregor et al., 1998), and the Ugandan programme (Korugyando and Benson, 2011, unpaginated) in which repetition of grades decreased by 21% for boys and 8% for girls.

Aliyar et al. (2012, p. 4), cite research that shows that school feeding increases “educational achievement”. Poswell and Leibbrandt (2006b, p. ii) argue that school feeding is a strong motivation for children to attend school, but there is “weak evidence” the feeding improves learning outcomes (Ibid., p. 14). In addition, Greenhalgh, Kristjansson, and Robinson (2007, p. 857) argue that hunger relief results are not constant across skill sets (verbal, non-verbal, and mathematical), and thus feeding may not improve concentration. McEwan (2010, p. 2) cites research on six studies that show “zero to small effects on measures of cognitive ability and academic achievement”.

Kristjansson et al. (2016) conducted a systematic review of school feeding programmes and a meta-analysis of programmes which had been evaluated for impact. They found small, positive effects of these programmes on weight (0.37 kg. per school year), but no effect on height (although preschool feeding programmes had positive results in this area) (Kristjansson et al., 2016, p. 81). Significant, positive effects were also found on school attendance and learner performance in mathematics.

The review by Kristjansson et al., also included a process evaluation component which identified factors which impact on the effectiveness of school feeding. In addition to those discussed in Section 3.6, the organisation of schools and classrooms was identified as key (2016, p. 82). Similarly, an assessment of the effectiveness of FFE programmes spanning a number of developing countries (Adelman et al., 2008) found that a high quality learning environment and quality teaching combined with school feeding were required to achieve good educational outcomes. Without an appropriate learning environment, school feeding only creates food security outcomes, not educational ones (WFP, 2010). The WFP (2010) calls this the “catalyst” effect in that the food acts as a “magnet” to schools for children, and the infrastructure catalyses their love of learning and aspirations.

Tomlinson (2007, p. 9) argues that short-term hunger can lead to poor concentration, recall, and verbal fluency, and he marshals evidence from other studies which show that provision of a good meal improves performance and cognitive ability. However, it is not clear that this automatically results in improved educational outcomes. With regard to the argument about improving test scores, Vermeersch and Kremer (2004, p. 33) found that test scores only improved in schools with experienced teachers. Grantham-McGregor et al. (1998, p. 785S) also found that children’s

concentration was improved in better organised schools, but decreased in poorly organised schools. Poswell and Leibbrandt (2006b, p. ii) also found that feeding can create better outcomes is only true if “high quality instruction” is also present. Thus feeding “cannot compensate for poor school facilities, insufficient trained teachers, or poor fit between curriculum and local job market” (Korugyendo and Benson, 2011, unpaginated).

According to the Health Systems Trust (HST), “(t)here is no conclusive evidence that school feeding programmes lead to any nutritional benefits” (HST, 1997, p. 12, their emphasis; also Grantham-McGregor et al., 1998, p. 785S; Kazianga et al., 2009; Tomlinson, 2007, p. 10;). This is partly because there are other determinants of nutritional status such as parents’ education, maternal employment, and household income. Thus, the feeding programme does nothing to augment child nutrition unless other enabling determinants exist. In contrast, Greenhalgh et al. (2007, p. 858ff) analysed 18 studies of nutrition programmes and found that “(m)ost trials in low and middle income countries that set out to correct nutritional deficiency had positive results”, particularly when children were genuinely undernourished at the start of the programme.

It is also argued that nutrition programmes may come too late in a child’s life, since malnutrition damage occurs earlier on (Beesley and Ballard, 2013, p. 251, Poswell and Leibbrandt, 2006b, p. 21), and a child’s ability to make up for poor nutrition fades after the age of two years (Tomlinson, 2007, p. 8; also Korugyendo and Benson, 2011, unpaginated). In addition, children with poor health are likely to begin school later, hence the nutritional value of school feeding is lost to them (Tomlinson, 2007, p. 11). In terms of improving the nation’s nutrition, a take-home ration might be most effective for reaching those children who need it most (Kazianga et al., 2009, p. 7; Korugyendo and Benson, 2011, unpaginated). However, in a systematic review of 32 studies on food supplementation for children under five years, Kristjansson et al. (2015, p. 10) found that when feeding was given at home, “children benefitted from only 36% of the energy in the supplement”, suggesting that it is too thinly shared among all household members to be of nutritional value to younger children.

One of the challenges to the nutrition argument is that school meals will not improve a child’s nutritional status if the family adjusts the food given at home, knowing the child will be fed at school (Aliyar et al., 2012, p. 4; Beesley and Ballard, 2013, p. 251; HST, 1997, p. 12; Tomlinson, 2007, p. 11). Greenhalgh et al. (2007, p. 860), report on a number of studies where ‘substitution’ occurs. The SANHANES-1 data also show that a significant number of South African children do not eat breakfast at home: 19.0% of respondents reported this, which is almost one in five children. However, it is not clear why this is the case, i.e., whether children do not eat breakfast at home because there is no food to eat or because parents withhold it in favour of the school meal.

“Nutrition education, de-worming and iron supplements are widely seen as better school based nutrition interventions than school feeding. In addition, there is good evidence that iron supplements and de-worming improve schooling outcomes” (Tomlinson, 2007, p. 11). Deworming has become part of the NSNP since January 2015 (DBE, 2015d, p. 30) and provision of nutritional supplements such as iron as the mandate of the DoH. Van Stuijvenberg reports on trials conducted by the Medical Research Council (MRC) in which children were given fortified foods. The first was a biscuit fortified with iron, iodine, and carotene and accompanied by a vitamin C drink to help absorption of the iron. Vitamin A deficiency dropped from 40% to 12%, anaemia from 28% to 15%, and iodine deficiency from 97% to 30%. There was also an approximately 30% reduction in absenteeism from illness among the learners

and an improvement in cognitive function in mental processes and fine motor skills (van Stuijvenberg, 2005, p. S215). However, iron and vitamin A statuses were not maintained over the holidays when no biscuits were given, and both returned to pre-intervention levels.

3.8 Cost and scaling up of school nutrition programmes

This section discusses issues relating to the cost and scaling up of school nutrition programmes. The WFP estimates that in 2012, 370 million children received school feeding, and every country worldwide had some sort of school nutrition programme (WFP, 2013).

The cost of school meals varies substantially across countries. Aliyar et al. (2012), report that in 2006-2007 the average cost of a school meal in high income countries was \$2.58 in primary schools and \$2.72 in secondary schools. Comparative costs for middle and low income countries were \$0.59 in Mali, \$0.48 in Rwanda, \$0.32 in Ghana and South Africa, \$0.19 in Kenya, and \$0.15 in Brazil.

Kristjansson et al. (2016), conducted a cost and cost-outcome analysis of school feeding programmes in middle and low income countries. The mean and median costs of school feeding (a meal of 401 kcals on 200 school days) were \$41 and \$30 per learner per year respectively, ranging from a minimum of \$9 in India to \$270 in Botswana. The cost of achieving the outcomes discussed in Section 3.7 was also calculated: the median cost of a 1kg weight gain per child was \$100-103. The cost was substantially lower (\$4-8) for an additional day of school attendance, and was \$34 for a one percentage point gain in mathematics achievement¹³ (Kristjansson et al., 2016, p. 81). The authors conclude by reporting that “aggregation of costs and benefits across different intervention modalities and various outcomes is an important challenge for evaluators” and an area of paucity currently with respect to evaluation evidence.

On the issue of funding of school nutrition programmes and scaling up, Bundy et al. (2009), posit that developing countries will at some stage “transition” from external funding to an internally funded, institutionalised, national school nutrition programme. Identifying sustainable sources of in-country funding is recognised as a pre-condition for sustainability. This becomes easier as countries get richer and the proportion of the education budget spent on school feeding reduces. Zambia and Ireland are presented as examples: in Zambia, school feeding accounts for around 50% of the annual per capita cost of primary education, whereas in Ireland – a more developed country – the proportion is 10%.

Drake et al. (2016), point out that school nutrition programmes are dynamic and evolve over time; refinements to programme design, including of the programme goal and objectives, targeting criteria, and scaling-up, is seen as a natural extension of this process.

In South Africa the NSNP has evolved over time, with a shift in the “ownership” of the programme from the DoH to the DoE, improvement in the quality of food provided (from a daily snack to a hot meal comprising three food groups), refinement of the programme goal and objectives, and upscaling to secondary schools starting in 2009. The programme is funded nationally and enjoys “positive political support” and concomitant budget support (Rendall-Mkosi et al., 2013). In 2014, the CGF projected a lifespan for the NSNP of at least another 10 years (National Treasury, 2014a). In addition to the core funding provided by the Conditional Grant, some provinces “top up” using their equitable share

¹³ On the Wide Range Achievement Test.

funding, and additional support is also provided via donors; for example, TBF which funds a breakfast programme in select quintile 1 and 2 schools, and MassMart which supports infrastructure development. Support in kind is also provided by other government departments, for example, the Departments of Health and Agriculture at national and provincial levels.

3.9 Lessons learned regarding implementation, outcomes, impact, the cost and scaling up of school nutrition programmes

3.9.1 Lessons learned regarding implementation

What follows is a summary of the key characteristics and contextual factors that will aid in ensuring the effectiveness of school nutrition programmes.

Objectives

- The education sector is an appropriate home for a school nutrition programme; however, linkages are important across sectors (health, agriculture and so on).
- An array of objectives is possible for school nutrition programmes (see Section 3.5); however, education focused objectives seem most suited to a programme located in the education sector.
- School nutrition programmes should be designed to complement nutrition initiatives which target younger children.

Target groups and targeting criteria

- Targeting is recommended to optimise the benefits of school nutrition programmes. The most common approaches are geographic and individual targeting. Geographic targeting may disadvantage poor/vulnerable children living/attending school in areas which are classified as better off, and individual targeting may stigmatise the beneficiaries.

Food modalities and food basket

- The RDA of energy provided should be related to the length of the school day: if children attend school for half a day, school meals should provide 30-45% of their RDA.
- Consider combining feeding with de-worming and micronutrient fortification or supplementation to improve the nutritional value of food eaten.
- School meals should be provided in the morning, ideally when children first arrive at school, to maximize the benefit for concentration and cognition.

Procurement and logistics arrangements

- An array of options is possible and workable: national ownership, adequate capacity at sub-national level, and well-organised distribution systems are critical.
- Centralised procurement systems offer the benefit of economies of scale, standardised monitoring and quality assurance and relatively even implementation. Decentralised procurement can reduce delivery costs and is more adaptive to local preferences, but needs to be accompanied by capacity building and places a greater burden of implementation on school staff or volunteers. Decentralised procurement can give rise to risks (in terms of contracting,

reliability, and quality) which need to be managed. Mixed models are also possible, for example, whereby dry goods are procured centrally and perishable goods are procured locally.

- The school-level infrastructure requirements for school feeding are: water, fuel, storage and preparation space, equipment, and utensils.

Local sourcing of food

- Sourcing foodstuffs locally is reported to have the potential to stimulate local agricultural development, but the evidence is somewhat mixed, and there are risks relating to decentralised procurement (see above) which need to be managed.

M&E systems

- Effective accountability and quality assurance mechanisms underpin effective school nutrition programmes.
- Technology can play a facilitative role in streamlining monitoring and reporting.

3.9.2 Lessons learned regarding outcomes and impact

The international literature offers a host of examples of feeding schemes with different aims and results. What can be learned from this plethora of information?

- School feeding schemes in five countries detailed in Section 3.7 resulted in increased attendance and enrolment of children in schools, as feeding is a motivation to attend school. This results in improved retention in the schooling system.
- School feeding schemes that are consistently delivered alleviate short-term hunger which may improve concentration.
- This may allow children to concentrate more and improve their recall.
- However, there is weak evidence for a link between feeding on the one hand and cognitive ability, test scores, and educational outcomes on the other.
- Test scores and educational outcomes are only improved in well organised schools that are characterised by good quality instruction or high levels of teacher experience.
- There is no conclusive evidence for long-term health benefits of feeding on school children, partly because there are household and other determinants of health. There may also be substitution at home if parents know children are being fed at school.
- Long-term health benefits are also mitigated by the fact that irrevocable damage from malnutrition may be present when children start school.
- Take-home rations may positively impact on the long-term health of children under the age of five years, although the take-home rations may be too thinly spread among the whole family to have nutritional value for younger children.
- Deworming and fortified foods have both been found to have positive health and nutritional benefits, since both assist in the prevention of micro-nutrient depletion.

3.9.3 Lessons learned regarding cost and scaling up

The key lessons from international experiences in relation to the cost, funding, and scaling up of school nutrition programmes are as follows:

- Costs vary considerably depending on the modalities of feeding and food provided and the logistics of how food is provided; however, the reason for such extensive variation (i.e., \$9 per learner per year in India to \$270 in Botswana) is not entirely clear.
- Developing countries will typically transition from relying on external funding to an internally funded programme. Identifying sustainable sources of national funding is a pre-condition for sustainability. Donor funding can be used to “top-up” and supplement and specific areas.
- Nutrition programmes should be reviewed regularly. Refinements to programme design, targeting criteria, and scaling up - in line with available resources and national priorities – result logically from this.

4. Evaluation Findings and Analysis

This Chapter outlines the key evaluation findings. In so doing, it triangulates and integrates the findings gathered via multiple methods and data sources into a report narrative. A number of identical or similar questions were asked to different stakeholders. In the interests of compiling a concise and focused report, the answers are not always presented for every type of respondent. Rather, we present data from the instrument/respondent believed to be most reliable (e.g. the school principal for matters relating to school organisation and management and VFHs for matters relating to food preparation) and discuss similarities and any differences - where relevant – in relation to the data from other sources.

Each sub-section in this Chapter tackles a broad evaluation theme. There are linkages between the themes and key evaluation questions and these are summarised in the table below. . For example, programme relevance and appropriateness - and the key and sub-evaluation questions that are discussed in this section - are linked to sustainability and impact – i.e. , if the programme is relevant and appropriate, then sustainability and impact is more likely. Appendix D contains a table which outlines where in the evaluation report each evaluation question and sub-question is answered.

Table 12: Link between structure of the findings and key evaluation questions

Theme	Key evaluation question(s)
Programme relevance and appropriateness	5) Is the programme reaching the intended beneficiaries?
Effectiveness and results	3) Are learners receiving quality meals and services?
Fidelity and efficiency	1) Is the programme being implemented as planned? 2) Are operational procedures effective to ensure the timely delivery of food? 4) What are the variations in implementation at different sites or by different provinces?
Additionality	8) Are there other spinoffs of the NSNP?
Funding, sustainability and impact	6) Is there evidence that the NSNP enhances learning behaviour (likely intended impact)? 7) Should the NSNP be up-scaled? How can it be strengthened and up-scaled for better impact?

Source: JET

4.1 Programme relevance and appropriateness

4.1.1 Rationale for the programme

The rationale is well-founded: the NSNP is a necessary programme which responds to national imperatives to:

- Alleviate poverty - many children are vulnerable to hunger (Statistics South Africa, 2013; Statistics South Africa, 2015);
- Protect the rights of children – including the rights to basic nutrition and basic education (Leatt, *et al.*, 2005);

- Achieve universal access to education - when feeding becomes a motivation for learners to enrol in school and access education opportunities (DBE and MiET Africa, 2010);
- Improve learner concentration - meals provide nutrients which aid concentration and act as an incentive for learners to attend regularly and remain in school. (ToC interview respondent 2, 20.02.14);
- Improve educational outcomes - the factors outlined above are believed to contribute to improved educational outcomes. (ToC interview respondent 2, 20.02.14).

The literature review revealed that hunger remains widespread in South Africa: the South African Health and Nutrition Examination Survey (SANHANES -1) found that at provincial level between 16.4% and 36.2% of South Africans experienced hunger (Shisana, et al., 2014, p. 146). Similarly, analysis by Hall et al. of the 2012 General Household Survey data (2013, p. 98) found rates of child hunger that ranged between 3.8% and 33.5% per province. Both studies reported that only Gauteng and the Western Cape had rates of hunger and child hunger below 20%, although even these provinces have a substantial proportion of children in need of nutritional support. This data confirms that the rationale for the programme is sound, and that there is a need for the programme in all provinces.

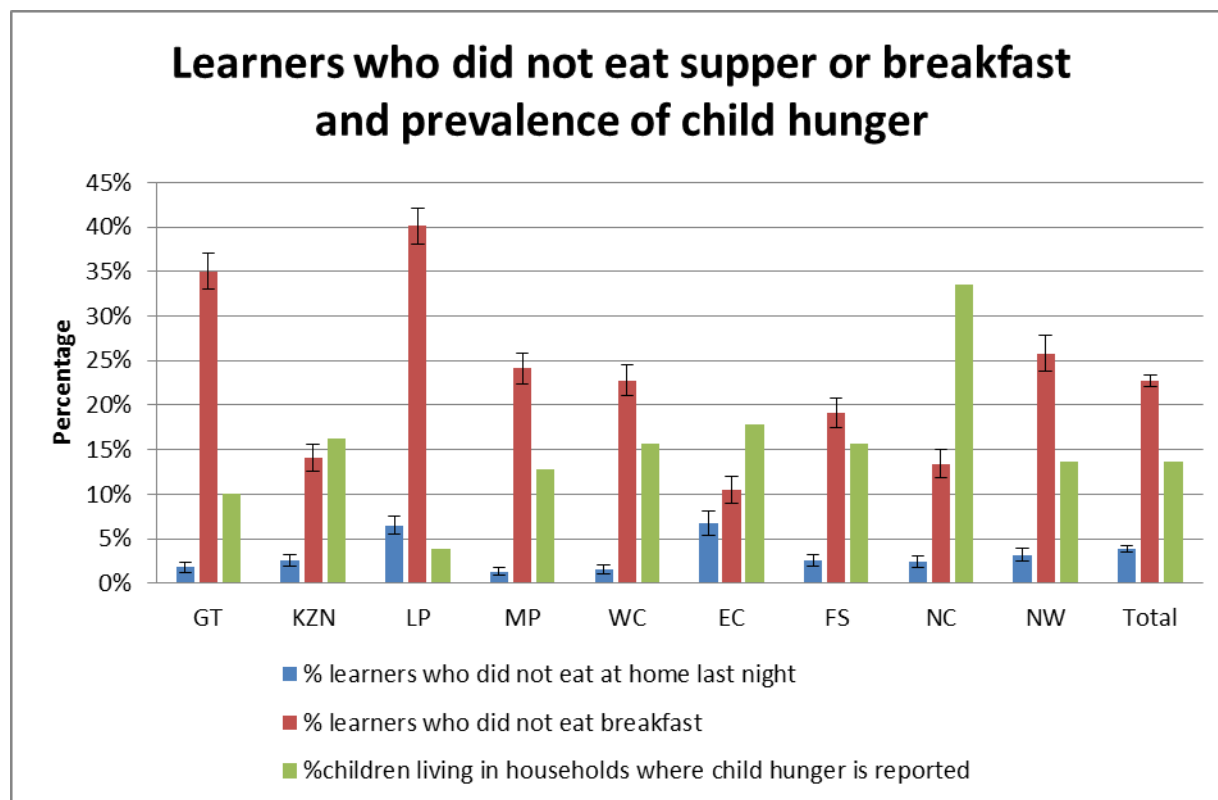
The survey asked whether learners had had something to eat at home the previous night and whether they had eaten breakfast at home in the morning before coming to school. The data overleaf shows that the vast majority of learners (92.4% to 98.5% per province) had had something to eat the previous night, but fewer (59.9% to 88.8% per province) had eaten breakfast at home in the morning. The learners (22.7%) who did not eat at home in the morning likely rely on the food they receive at school.

Of the learners who had not eaten breakfast at home, 19.3% indicated that this was because there was no food at home, 9.7% because there was no one to cook, and 9.4% reported that they did not have breakfast at home because they get breakfast at school (the proportion of learners indicating the latter was higher - at 27.7% and 21.1% respectively - in the Western Cape and Gauteng). The largest share - 55.9% - said they were not hungry. In these instances the meal they get at school is useful if they do get hungry.

Figure 4 juxtaposes the survey data on learners who reported not eating supper and breakfast with secondary data on the prevalence of child hunger (Hall et al., 2013). The distribution of learners who had not eaten at home the previous night is highest in the Eastern Cape and Limpopo, mirroring the literature review findings regarding the greatest prevalence of hunger (Hall et al., 2013; Shisana et al., 2014). However, the distribution of learners who did not eat breakfast at home is unusually high for Gauteng and the Western Cape – provinces with lower prevalences of hunger – suggesting that learners in Gauteng and the Western Cape do not eat breakfast at home because they expect to receive breakfast at school. Limpopo has the highest percentage of learners who did not have breakfast at home (40.1%); however, this province does not have a breakfast programme and none of the schools visited for fieldwork served breakfast. North West and Mpumalanga also have high proportions of learners who did not eat breakfast and a breakfast programme is not widely available in these provinces¹⁴. Whether or not children eat breakfast at home before school seems to be related to: (i) the prevalence of hunger and child hunger (as reported in the literature); and (ii) the existence of a breakfast programme.

¹⁴ One school in North West and four in Mpumalanga served breakfast on the day of fieldwork.

Figure 4: Learners who did not have supper the previous night or breakfast in the morning at home. Source: Learner survey and Hall et al., 2013



4.1.2 Programme targeting

According to the DBE guidelines for implementation (DBE, 2010b) and the CGF (National Treasury, 2015), the programme targets all learners in quintile 1, 2 and 3 public primary and secondary schools, as well as identified special schools - an example of geographic targeting (see Section 3.6.2). Additionally, provision was made for schools in Gauteng and the Western Cape to make a “deviation from whole school feeding” (National Treasury, 2014a). The latest CGF extends this provision to Kwazulu-Natal. (National Treasury, 2016). The rationale for the deviations is that some informal settlements are located next to suburbs, and this results in very poor and less poor learners attending the same school: “this gives rise to a need to identify poor learners in schools that have been identified as least[less] poor according to the quintile system”. According to the DBE, Gauteng, Kwazulu-Natal and the Northern and Western Cape have opted to make use of this provision and are providing NSNP meals to some learners in some quintile 4 and 5 schools (personal communication, DBE, 2016).

The fact that the programme targets *all* learners attending quintile 1-3 schools was reported to help avoid the potential stigma that children from poor households may face if they were singled out for feeding. A Western Cape Government Provincial Official explained: “the programme was stigmatised and the girls would not queue for their food. But we introduced a system where they are fed in class and once this started, you could see immediately an increase in numbers... each learner receives a lunchbox...”.

School-level targeting means that the resources available for NSNP meals are spread across all learners attending quintile 1 to 3 schools, as opposed to being directed towards the learners who need the

meals most. This is appropriate if all or most learners attending these schools are in need of and are eating NSNP meals (this is discussed further in Section 4.1.3).

The DBE elaborated that “in-school targeting is exceptionally difficult and fraught with risks around stigmatisation etc... it has been tried before and the system actually rejected this approach” (personal communication, DBE, 2016).

Quintile 4 and 5 schools which provide meals to targeted learners were not visited for this study, and thus the evaluation team cannot comment on whether stigmatisation was an issue in these schools.

Some provincial stakeholders who were interviewed felt that using the quintile system as the basis for targeting is flawed; since not all learners attending quintile 4 and 5 schools come from better-off households, some are in need of NSNP meals:

“You find a school here that is quintile 3, and separated by a fence from a quintile 4 school. Parents are asking why their children are not getting fed” (KZN Provincial Official).

“All the learners in Thandukulu School, which is in Mowbray, come from Khayelitsha, meaning that they travel from a quintile 1 area to a quintile 4 school” (WC Provincial Official).

Provincial Officials from KwaZulu-Natal, and the Western Cape reported that these PEDs are providing NSNP meals in selected quintile 4 and 5 schools with funding from the provincial equitable share and other sources. In 2014, 256,932 learners from 309 quintile 4 and 5 schools in KwaZulu-Natal and the Western Cape benefitted from school feeding (DBE, 2014d, p. 5).

PEDs that have expanded the programme to some quintile 4 and 5 schools are unable to feed learners every day - KwaZulu-Natal provides meals in these schools four days a week, excluding December and January, and only to primary schools, due to insufficient funds (KZN District Official). The Western Cape fed some learners attending quintile 4 and 5 schools on 170 days in 2014, whilst learners attending quintile 1 to 3 schools received meals on 196 days (WC Provincial Official).

The fact that learners in some quintile 4 and 5 schools in some provinces receive NSNP meals – and in the case of the Western Cape, in a province with lower rates of child hunger than other provinces – means that in the other provinces there are likely to be needy children attending quintile 4 and 5 schools who are not receiving NSNP meals. Similarly, based on the (lesser) number of days that feeding occurs in quintile 4 and 5 schools in KwaZulu-Natal and the Western Cape which provide NSNP meals, there are likely to be needy children going hungry some of the time.

At the time of the fieldwork, two provinces – Gauteng and the Western Cape – made provision for serving breakfast as well as lunch in schools benefitting from the NSNP. However, not all schools in Gauteng and the Western Cape which were visited were found to be serving both meals on the day of fieldwork. It was found that there were some schools in the provinces which were serving breakfast as well as lunch with support from corporate donors (e.g. Kelloggs and the TBF), or by utilising funds raised locally or school funds. In some cases, all learners were receiving breakfast, and in others the feeding targeted those who needed it most, i.e., OVCs. Such initiatives on the part of schools should be acknowledged and applauded.

The fact that Gauteng and the Western Cape make provision for serving breakfast as well as lunch, and some schools in other provinces have identified a need and raised funds to do so - for some or all children - suggests there is a need for the provision of breakfast as well as lunch, particularly in provinces with high rates of child hunger. This is in line with the recommendation from the literature that if learners spend half a day at school, the meals provided should meet 30-45% of their RDA energy requirements (Bundy et al., 2009, p. 55).

There is clearly a case to be made for the need – and, related to this, the demand – to extend the NSNP to identified learners in quintile 4 and 5 schools and to provide breakfast to needy learners. This must be weighed against the funding available and the cost implications of upscaling (this is discussed further in Section 4.5).

4.1.3 Proportion of learners who eat NSNP meals

The literature review (Section 3.6.2) found that self-selection may be an issue affecting targeting. The figure below indicates how often learners reported eating the NSNP meals. Table 13 presents data on the proportion of learners in Gauteng and the Western Cape who said they ate the NSNP breakfast and the proportion of learners in all provinces who said they ate the NSNP lunch provided on the day of fieldwork.

Figure 5: How often learners eat the NSNP meal that the school provides. Source: Learner survey

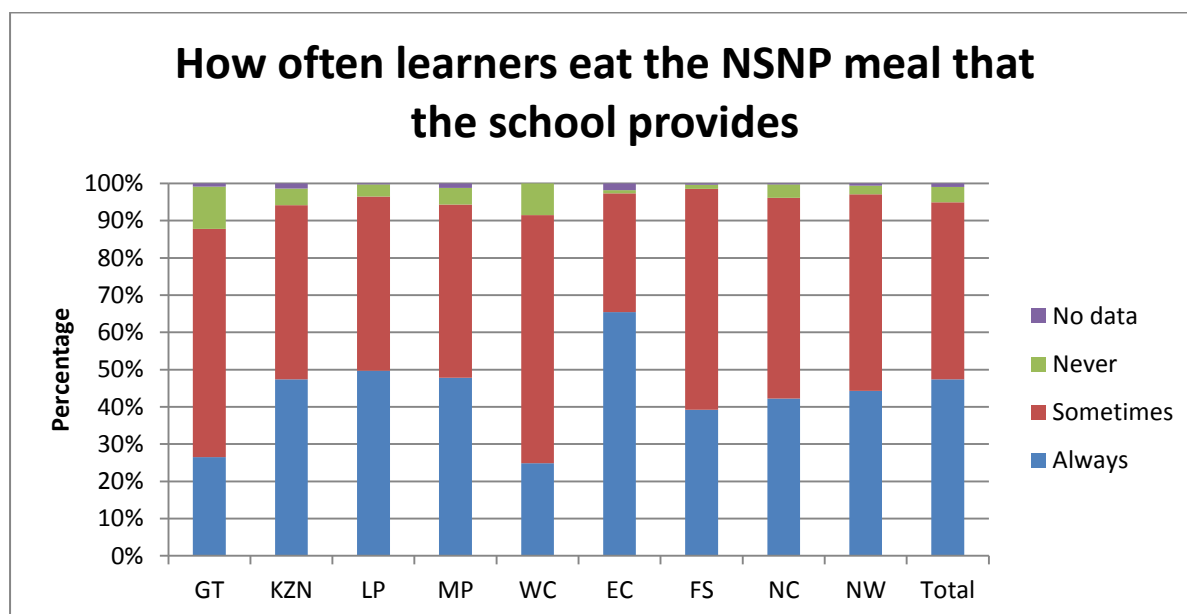


Table 13: Proportion of learners who ate breakfast and lunch provided by the school. Source: Learner survey

Province	Did you eat breakfast at school today?	SE	Did you eat the main meal provided at school today?	SE
GT	34,7%	2,02%	55,4%	2,12%
KZN			70,8%	1,46%
LP			82,3%	0,78%
MP			72,9%	0,74%
WC	37,8%	1,99%	53,9%	2,02%
EC			78,2%	0,31%
FS			69,8%	1,08%
NC			74,5%	0,57%
NW			77,9%	0,74%
Total			72,7%	0,44%

Close to half of the learners that were surveyed reported “always” eating the school meal. However, there were considerable inter-provincial variations which are consistent with the findings on hunger and child hunger presented in the literature review.

- Learners in Limpopo and the Eastern Cape were most likely to “always” and least likely to “never” eat the NSNP meals;
- Learners in Limpopo were most likely to have eaten the meal on the day of fieldwork;
- The data for the Western Cape and Gauteng is different. These provinces have:
 - The lowest percentages of learners who always eat the NSNP meal;
 - The highest percentages of learners who eat the NSNP meal sometimes;
 - The lowest percentages of learners who ate the NSNP meal on the day of fieldwork;
 - Relatively low uptakes of breakfast (below 40%) despite having dedicated breakfast programmes.

The survey findings are confirmed by the fieldwork notes. In the Western Cape, fieldworkers reported that in numerous schools a small proportion of learners ate the breakfast that was prepared and there were lots of leftovers and wasted food¹⁵; that learners were allowed additional servings (of leftovers); that in many schools less than half of the students ate the main meal; and that in some schools, learners “look down” on their peers who eat the NSNP meals. It is important to emphasise that these findings were not universal: there were Western Cape schools in which the NSNP was understood to be a critical source of nutrition and some schools in which the food which was cooked ran out, and there were no leftovers.

In several Gauteng schools, it was reported that learners did not like the meals that were prepared for them, and there was substantial wastage.

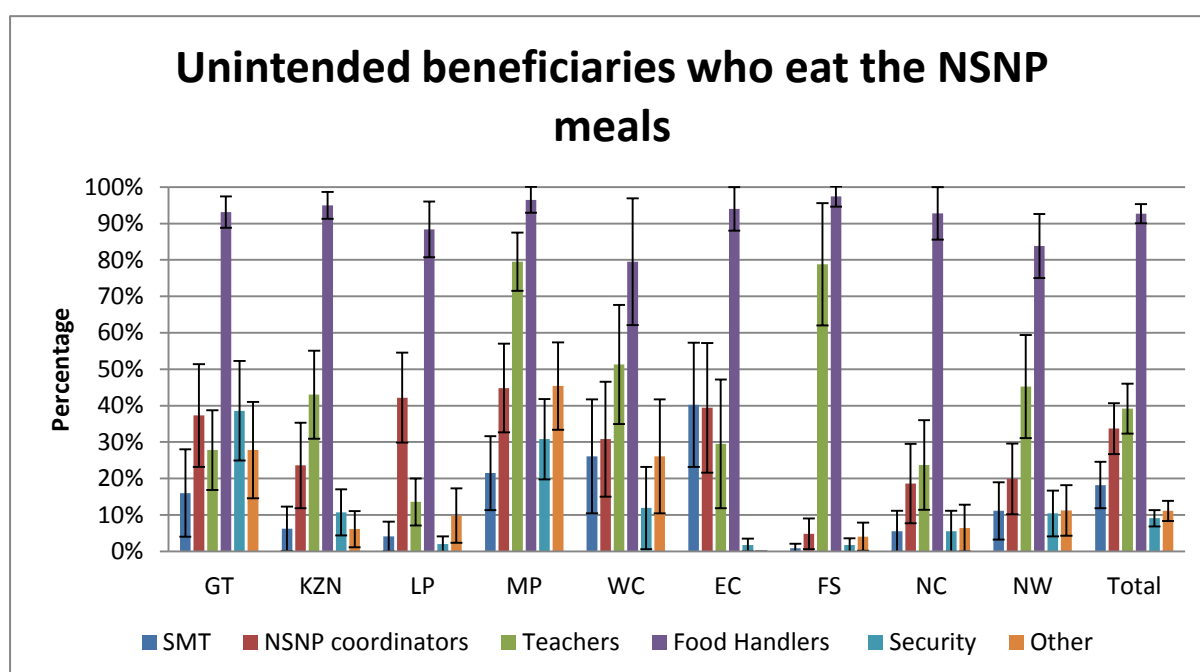
¹⁵ The prevalence of leftovers and wasted food was not systematically measured via observation. This is recommended for future studies of the NSNP.

These findings indicate that self-selection is occurring, and not all learners eat the NSNP meals every day. Possible reasons for this are discussed in Section 4.2, and the implications in terms of programme efficiency are discussed in Section 4.3.

4.1.4 Unintended beneficiaries of the NSNP meals and leftovers

Widespread prevalence was found of unintended beneficiaries – people other than learners – also eating the NSNP meals, with the highest reported occurrence in Mpumalanga, the Free State and Limpopo. The majority (59.2%) of principals reported that other people also eat the meals that are cooked for learners¹⁶. Similarly, it was reported by 69.7% of VFHs that there are others who eat the NSNP meals, including: SMT members (reported by 12.7%); NSNP Co-ordinators (reported by 23.5%); teachers (reported by 27.5%); VFHs (reported by 64.7%, with a high of 95.8% in Mpumalanga); security personnel (reported by 6.3%); and others (reported by 7.7%).

Figure 6: Unintended beneficiaries who eat the NSNP meals. Source: VFH survey



The DBE explained that the NSNP *encourages* VFHs and teachers to eat with the learners to remove the stigma that is attached to the meals. The DBE noted that if small numbers of VFHs and school staff eat the NSNP meals, this could help ensure that the meals are of good quality (personal communication, DBE, 2016). In support of this viewpoint, provision of sufficient food so that teachers and learners can eat together was reported as a factor in the success of the TBF breakfast programme and an incentive for teachers to arrive at school on time (Graham et al., 2015). The DBE added that this would only be a problem if large numbers of unintended beneficiaries were eating the NSNP meals, resulting in shortages for learners (personal communication, DBE, 2016).

¹⁶ The surveys asked whether other people eat the meals cooked for learners' and who these people are; data was not collected on the *number* of other people who eat the NSNP meals.

As noted above, the surveys did not collect data on how many unintended beneficiaries there were at the schools which were visited for fieldwork. However, fieldwork notes reveal that in some instances where others ate the NSNP meals, there was not enough food for all learners to eat, or the learners complained that their portions were (and this was usually the case) too small. At one school in Mpumalanga, a meal was not cooked for learners on the day of fieldwork, reportedly because there was no gas or wood, but VFHs cooked enough food on a gas stove to feed themselves (fieldwork notes).

Both the NSNP implementation guidelines (DBE, 2010b, p. 8) and the CGF (National Treasury, 2014a, 2015, and 2016) are silent on the issue of unintended beneficiaries eating the NSNP meals and the Conditional Grant funding does not make provision for this. The finding that there are unintended beneficiaries not catered for in the CGF and who are eating the NSNP meals is significant as this practice reduces the extent to which the funding reaches the intended beneficiaries.

School stakeholders were asked what happens to food that is left over after meal times. Just over half, (55.6%) of principals said there is nothing left over, suggesting that in 44.4% of schools there is food left over. Close to one third (29.8%) of principals, with a high of 73.1% in Mpumalanga, stated that left over food is given to needy children. The remaining principals stated the leftover food goes to VFHs (4%) (primarily in the Western Cape – 23.9% and Limpopo – 14.7%), is given to the community (0.9%), is thrown away (0.7%), or used for “other” purposes (13.5%).

NSNP Co-ordinators were also asked what happens to leftover food and these results were quite similar: 57.9% said there is nothing left over; 32.7% said leftover food is given to needy children; and 4.2% said VFHs take it home. Giving leftovers to the community was prevalent in two provinces (Northern Cape – 24.3%, and Western Cape – 13.4%).

The “other” uses of leftover food include: feeding farm animals – prevalent in the Western and Northern Cape; food being given to specific learners; feeding being repeated later in the day – prevalent in the Eastern and Northern Cape; and teachers receiving a second helping of food.

In a similar vein, principals were asked what happens to leftover stock at the end of term: 37.0% said nothing is left over; 30.8% said it is kept for use the following term; 35.1% said leftover food is given to needy children; and 4% said teachers or VFHs take it home.

The VFHs were asked whether they have a problem with stock disappearing. Encouragingly, 89.8% said no and just 8.6% reported they did. However, concerningly, this problem was reported to be widespread in the Free State, where 71.8% of VFHs reported the disappearance of stock.

The distribution of NSNP leftovers to needy children is encouraging, but the distribution of leftovers to VFHs and teachers and some of the “other” uses are of concern. The NSNP guidelines are silent on these issues.

4.1.5 Summary

This section assessed the extent to which the NSNP is appropriately targeted and is reaching the intended beneficiaries. The rationale for the programme is sound: there is great need for such a programme in all South African provinces due to the prevalence of child poverty and hunger. Two recent studies found hunger and child hunger rates of between 16.4% and 36.2% (Shisana et al., 2014, p. 146) and 3.8% and 33.5% (Hall et al., 2013, p. 98) per province. Furthermore, fieldwork in schools

found that a substantial proportion of learners (22.7%) had not eaten breakfast at home on the day of the fieldwork, highlighting the necessity for the NSNP in relieving hunger.

The NSNP targets all learners attending quintile 1-3 schools - which have been identified as the poorest schools in South Africa. In targeting all learners in schools receiving the NSNP, the programme avoids stigmatising learners from poor households who are in most need of food. In addition to this, some provinces (Gauteng, Kwazulu-Natal and the Northern and Western Cape) are providing meals to selected learners attending quintile 4 and 5 schools, the rationale being that some children attending these schools are in need of NSNP meals. These strategies are appropriate, but there are likely to be some children in need of NSNP meals in the other provinces which do not make provision for NSNP feeding in quintile 4 and 5 schools.

The majority of learners (72.7%) reported eating the NSNP meal on the day of fieldwork, and close to half (47.4%) said they “always” eat the NSNP meal. Also around half (47.6%) said they “sometimes” eat the NSNP meal and just 4.1% said they “never” eat it. Thus, a high proportion of learners eat the NSNP meals regularly. However, there is considerable inter-provincial variation. In some provinces – notably the Eastern Cape - the proportion of learners eating NSNP meals regularly is considerably higher and in other provinces – notably Gauteng and the Western Cape - in certain schools, a proportion of learners are “opting out” of the NSNP.

Two provinces – the Western Cape and Gauteng – make provision for breakfast as well as lunch. Uptake is close to 40% - indicating a need. However, the provinces which provide breakfast are not the provinces with the greatest prevalence of hunger and child hunger (Hall et al., 2013; Shisana et al., 2014). In light of this secondary data and survey data on the proportion of learners who had eaten breakfast at home, we conclude that there are likely to be hungry children in need of breakfast in the other provinces which do not make provision for breakfast as part of the NSNP.

The fieldwork documented widespread prevalence of unintended beneficiaries (i.e., , people other than learners) also eating the NSNP meals. The DBE encourages VFHs and teachers to eat with the learners to mitigate possible stigma that may be attached to eating the NSNP meals. However, the Conditional Grant funding does not make provision for the NSNP meals to be eaten by others, and there is concern that - unless adequately provisioned for - this practice will reduce the available funding for meals for learners.

4.2 Programme effectiveness and results

This section discusses programme effectiveness, that is, the extent to which learners are receiving quality meals and services as defined in the programme’s ToC: nutritious meals served on time every day; food gardens which may supplement meals; and nutrition education lessons. Specifically, this section reports on the number of food groups provided and quantities of food prepared, enjoyment of the NSNP meals, NSNP feeding times and days, food preparation processes, serving of meals, and the success of the nutrition education and food gardening components.

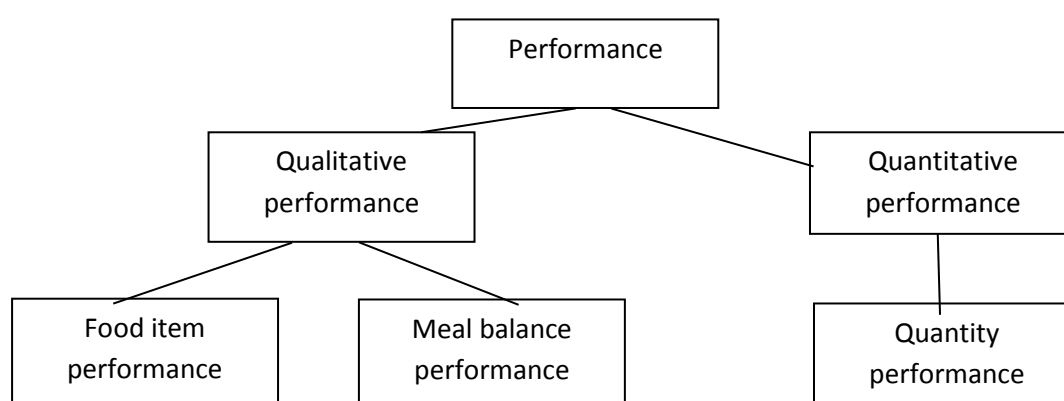
4.2.1 Quality and quantity of food

The serving of a nutritious meal on time every day is the key output of the NSNP, considering that 96% of the conditional grant is dedicated to school feeding (National Treasury, 2014a, 2015, and 2016). The nutritional value of the meals depends on the nutritional content of the food which is prepared, and

whether the right quantities of each food group are being prepared and served relative to the number of learners who eat the meals.

The analysis which follows discusses the extent to which schools prepared and served the correct amount of the various food groups for the number of learners approved for the NSNP¹⁷ according to approved provincial menus which are in line with the FBDGs of the DoH. The analysis explores quantitative and qualitative performance in relation to the provincial menus which specify the type and quantity of each food product that should be prepared and served per learner. This approach is conceptualised in the diagram below:

Figure 7: Conceptual framework for quantitative and qualitative analysis of NSNP school feeding



Source: JET, from Wenhold, 2015

“Qualitative” performance refers to compliance in terms of types of foods prepared. The analysis of qualitative performance aimed to determine whether the meals prepared are correct according to the type of food specified in the approved provincial menus (thereby in line with the FBDGs), and whether there is within-meal dietary representation of the three specified food groups. “Quantitative” performance analysis judged the total quantity prepared of each of the three food items relative to the total number of learners approved for feeding.

A data collection instrument developed by FUEL for NSNP monitoring was adapted and used for this analysis. The instrument specifies the quantity of dry food that should be prepared per learner approved for the NSNP for each of the approved foods. These foods and quantities were then compared to those the researchers observed being prepared in the school kitchen on the day of fieldwork. This instrument was thus used to ascertain whether the correct amount of each food group (i.e., starch, protein, and vegetables/fruit) was being prepared for the number of learners approved for the NSNP.

¹⁷ The number of learners approved for the NSNP is the number of learners enrolled at the school at the time of the SNAP survey in the previous school year. This forms the basis for the school’s funding allocation. The actual number of learners that a school cooks for may be more or less than the number of approved learners in a given year.

The nutritional content of the meals was not measured, but if the correct amount of each type of food was prepared, the meals should provide around 25-30% of the RDA of energy for primary school learners, as the provincial menus are designed in line with this benchmark (DBE, 2010b; ToC interview respondent 1, 20.02.15). However, an examination of the NSNP menus by Rendal-Mkosi et al found that the nutritional value of the NSNP meals was less – providing about 15% of the RDA of energy and 26% of protein requirements (2013, p. 19). International literature advises that the RDA of energy provided should be higher: if learners spend half a day at school, meals should provide 30-45% of their energy requirements (Bundy et al., 2009, p. 55).

The literature review also found that outside of school South African children mainly eat carbohydrate rich foods which contribute limited amounts of other nutrients. Fresh fruit and vegetables and animal protein are not common and their diets are not varied (Steyn et al., 2006): it is therefore important that the food groups which are lacking be provided via school meals. International literature advises that provision of fortified foods can have positive health and nutritional benefits and assist in the prevention of micro-nutrient depletion (Adelman et al., 2008; Bundy et al., 2009; WFP, 2010) which was found to be prevalent in South Africa (Hendricks et al., 2013; Shisana et al., 2014).

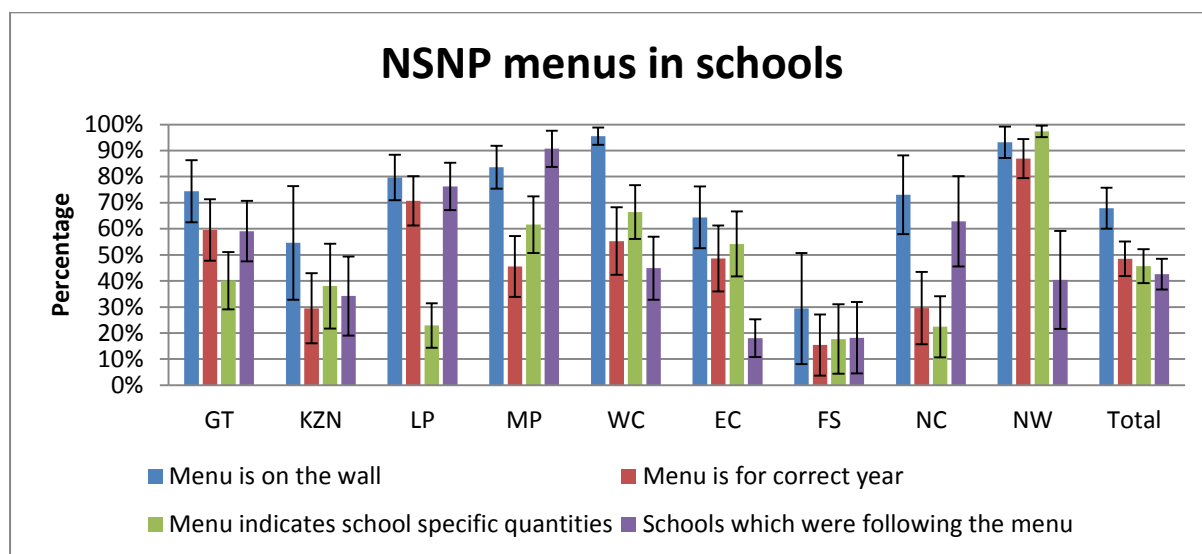
The NSNP meals aim to offer greater variety than children typically eat outside of school, including more fresh foods and some animal protein. Analysis of the provincial menus showed that the menus reflect a variety of food groups.

Provincial menus form the basis for school specific menus which specify the quantities that should be prepared to serve adequately sized meals for the number of NSNP-approved learners in the school. The findings below consider the extent to which schools were following the provincial menus. It is important to note that some decentralised provinces (the Eastern Cape, Free State, and Northern Cape) allow schools to deviate from the provincial menus (DBE, 2014b). The DBE supports this practice which encourages innovation: “deviation means that the provincial menu is not implemented with rigidity, but can be customised to learners’ preferences, thus eliminating wastage of food”. Deviations must be approved by the PED in order to ensure that the school menu is in line with the FBDGs and that the school serves three food groups a day (DBE, personal communication, 2016).

During school visits, fieldworkers observed that 67.9% of the schools had menus displayed on the wall. However, of the menus which were displayed, only 48.5% were current (i.e., for 2014-2015 or 2015-2016, depending on when the fieldwork was conducted¹⁸); 15.7% were not dated; and 7.3% were dated earlier than 2013-2014. Only 45.7% of the menus were “school specific” in that they indicated quantities of food that schools should prepare.

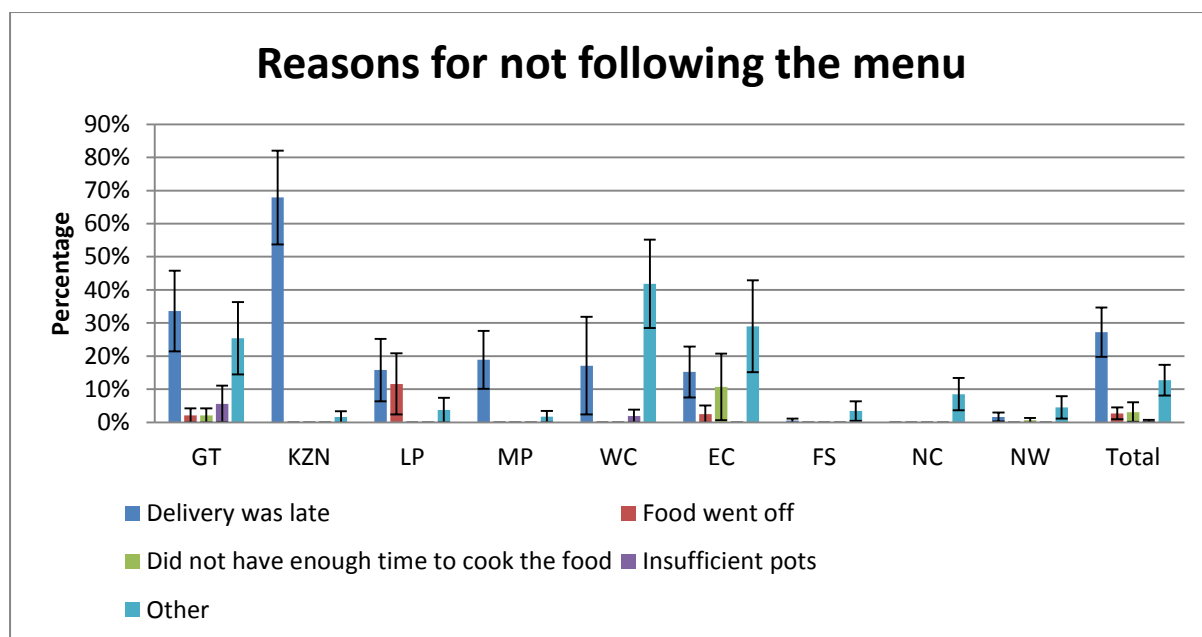
¹⁸ Fieldwork spanned both the 2013-2014 and the 2014-2015 financial and NSNP years.

Figure 8: NSNP menus in schools. Source: Observation



On the day of the fieldwork visit, 46.2% of the schools were following the menu. This is not unusual – 42.5% of VFHs and 43.3% of NSNP Co-ordinators said schools did not always follow the menu. The main reason for not following the menu was deliveries being late, which was reported as a particular problem in KwaZulu-Natal (reported by 67.9% of VFHs) and to a certain extent in Gauteng (reported by 33.6% of VFHs). If deliveries are late then schools use the ingredients they have available to prepare meals (fieldwork notes). Several schools in the Free State and the Northern Cape were found to be following their “own menu” which was different to the provincial one (fieldwork notes); this is permissible providing the school menu has been approved by the PED.

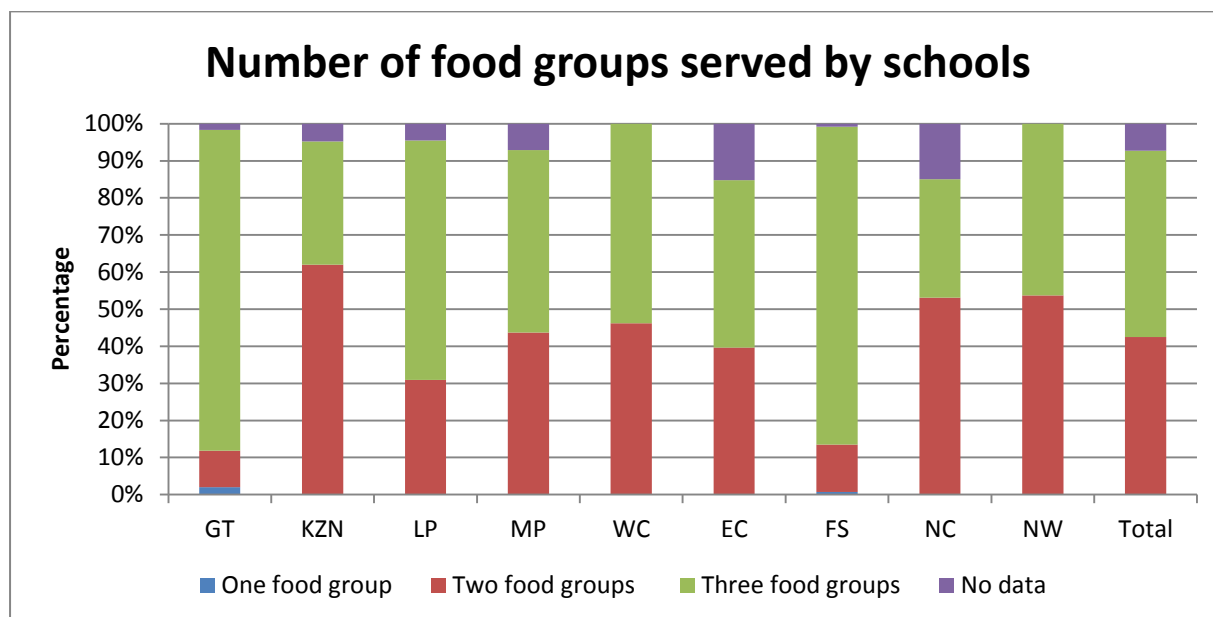
Figure 9: Reasons for not following the menu. Source: VFH survey



On the day of the visit, half (50.2%) of schools served three food groups, and 42.4% served two food groups for the NSNP meal. Some provinces were better than others in this regard: in Gauteng, the Free State, Limpopo, and the Western Cape, the majority of schools served three food groups. The worst

performing provinces were the Northern Cape and KwaZulu-Natal in which just one third of schools served three food groups. The food group most frequently not served was fruit/vegetables.

Figure 10: Schools serving one, two and three food groups on the day of fieldwork. Source: KPI instrument



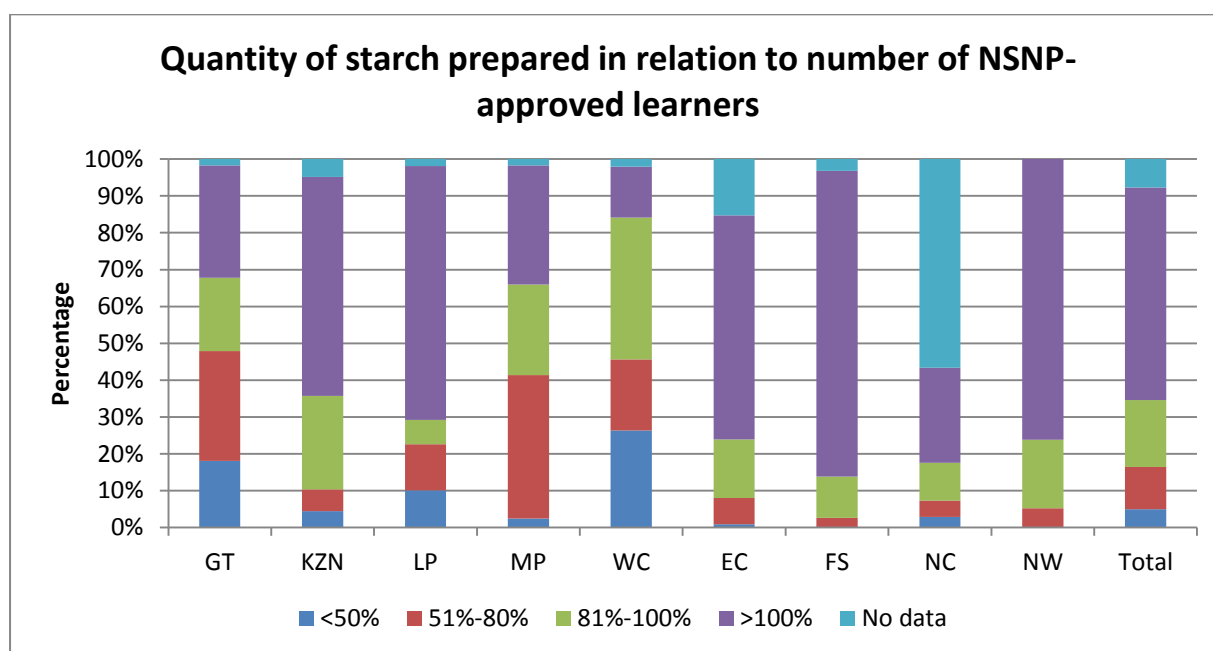
The fieldworkers noted that in a number of schools in several provinces, no vegetables or fruit were served; the reasons cited for this were: NSNP funds not having been received; deliveries not having been made; or deliveries being short. A substantial number of schools in the Western Cape reported not receiving (and therefore not serving) vegetables during the last two weeks of the school term. Several schools in the Free State and Northern Cape fed learners peanut butter sandwiches instead of a cooked meal. One Northern Cape school reported feeding bread and peanut butter sandwiches three times a week.

There were also challenges with the quantity of food prepared relative to the number of NSNP-approved learners in the schools, as indicated in the tables below. A high percentage of schools cooked more than 100% or less than 80% of the quantities of each food group they are required to prepare daily. However, it is important to keep in mind when reviewing the data that the *actual number* of learners that schools cook for may be more or less than the number of learners *approved* for the NSNP in a given year.

Table 14: Percentage of schools preparing the correct amount of starch for the number of NSNP-approved learners on the day of fieldwork. Source: KPI instrument

Province	<50%		51%-80%		81%-100%		>100%		No data*	
	%	SE	%	SE	%	SE	%	SE	%	SE
GT	18,1%	7,52%	38,2%	11,48%	11,3%	5,39%	30,5%	12,21%	1,7%	1,78%
KZN	4,4%	3,74%	11,1%	7,10%	20,3%	10,24%	59,4%	17,18%	4,8%	4,25%
LP	10,1%	5,88%	14,4%	7,31%	4,7%	4,67%	68,9%	9,82%	1,9%	1,99%
MP	2,4%	1,93%	39,0%	11,33%	24,6%	9,30%	32,3%	12,28%	1,7%	1,73%
WC	26,4%	10,11%	19,3%	7,52%	38,5%	13,32%	13,8%	8,67%	2,1%	2,14%
EC	0,9%	0,93%	7,1%	3,74%	15,9%	7,38%	60,9%	11,62%	15,3%	8,69%
FS	0,0%	0,00%	2,6%	2,36%	11,2%	8,72%	83,1%	12,56%	3,2%	2,90%
NC	2,9%	2,39%	4,4%	3,15%	10,3%	5,48%	25,8%	12,49%	56,6%	18,21%
NW	0,0%	0,00%	5,2%	3,57%	18,6%	9,45%	76,2%	11,58%	0,0%	0,00%
Total	5,0%	1,46%	13,4%	2,83%	16,3%	3,45%	57,7%	6,20%	7,7%	2,94%

*No data can result for several reasons: quantities prepared and served on the day were not available, the number of NSNP-approved learners was not available, or the food group was not served on the day. In some provinces these figures appear high because of the relatively small number of schools sampled and the weightings allocated to each school.

Figure 11: Quantity of starch prepared by schools in relation to the number of NSNP-approved learners. Source: KPI instrument

There was a tendency to prepare more starch than is required, except in certain provinces (in the Western Cape, Gauteng, and Mpumalanga the majority of schools prepared less starch than is required). Conversely, despite a high occurrence of data not being available, there was a tendency to prepare fewer vegetables than are required; in some provinces such as Gauteng, Mpumalanga, the Western Cape, and Eastern Cape this tendency was marked. The exception is the Free State, where 77.5% of schools prepared the required amount of starch or more. With regards to protein, some provinces (the Free State, Mpumalanga, KwaZulu-Natal, and the Northern Cape) demonstrated a tendency to prepare more than the required amount, whilst the other provinces prepared less than was required.

Table 15: Percentage of schools preparing the correct amount of vegetables/fruit for the number of NSNP-approved learners on the day of fieldwork Source: KPI instrument

Province	<50%		51%-80%		81%-100%		>100%		No data*	
	%	SE	%	SE	%	SE	%	SE	%	SE
GT	30,0%	9,81%	6,2%	3,73%	36,1%	12,20%	24,4%	10,41%	3,3%	2,41%
KZN	11,0%	6,06%	3,2%	3,36%	1,2%	1,32%	16,6%	9,29%	68,0%	14,23%
LP	16,9%	7,85%	13,3%	6,37%	8,0%	7,66%	29,6%	10,86%	32,2%	10,42%
MP	24,2%	9,01%	11,7%	6,66%	13,2%	6,49%	6,7%	4,43%	44,1%	12,32%
WC	21,7%	9,69%	3,7%	2,75%	2,1%	2,16%	20,1%	14,55%	52,4%	12,81%
EC	20,9%	8,47%	10,6%	6,47%	11,0%	5,39%	1,7%	1,71%	55,9%	12,09%
FS	3,9%	3,40%	1,9%	1,92%	2,4%	2,17%	77,5%	16,28%	14,2%	10,67%
NC	4,0%	2,59%	2,0%	2,12%	5,4%	5,63%	0,0%	0,00%	88,6%	7,17%
NW	17,5%	9,09%	3,7%	3,24%	4,6%	3,17%	21,4%	12,80%	52,8%	21,24%
Total	17,1%	3,52%	7,7%	2,43%	8,3%	2,31%	17,4%	4,60%	49,5%	6,91%

*No data can result for several reasons: quantities prepared and served on the day were not available, the number of NSNP-approved learners was not available, or the food group was not served on the day. In some provinces these figures appear high because of the relatively small number of schools sampled and the weightings allocated to each school.

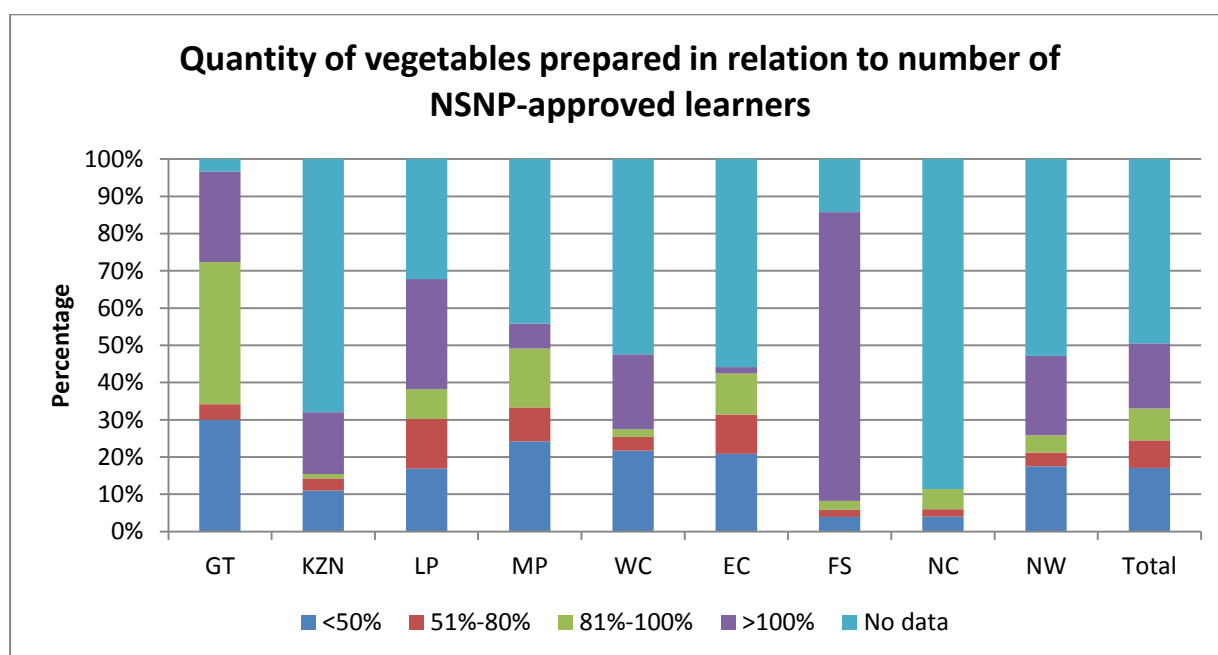
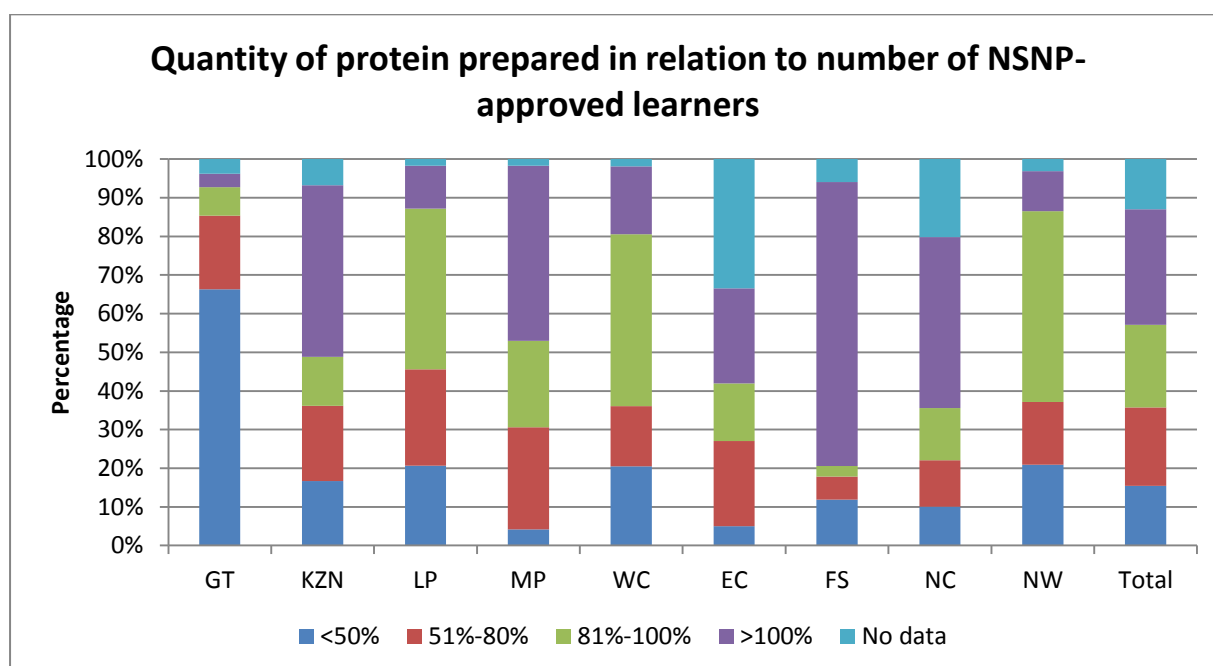
Figure 12: Quantity of vegetables prepared by schools in relation to the number of NSNP-approved learners, Source: KPI instrument

Table 16: Percentage of schools preparing the correct amount of protein for the number of NSNP-approved learners on the day of fieldwork Source: KPI instrument

Province	<50%		51%-80%		81%-100%		>100%		No data*	
	%	SE	%	SE	%	SE	%	SE	%	SE
GT	66,3%	12,18%	19,1%	12,54%	7,3%	4,46%	3,5%	3,54%	3,80%	2,78%
KZN	16,7%	8,44%	19,5%	10,09%	12,7%	7,70%	44,4%	22,13%	6,80%	4,95%
LP	20,7%	8,30%	24,9%	8,56%	41,7%	11,60%	11,1%	8,09%	1,70%	1,71%
MP	4,2%	2,60%	26,4%	10,39%	22,4%	8,40%	45,3%	12,12%	1,70%	1,73%
WC	20,5%	8,57%	17,3%	6,73%	42,7%	13,21%	17,5%	9,29%	1,90%	1,94%
EC	5,0%	3,28%	25,7%	10,94%	11,3%	5,90%	24,6%	13,29%	33,50%	11,75%
FS	11,9%	8,99%	5,9%	5,02%	2,8%	2,50%	73,5%	19,00%	5,90%	4,75%
NC	10,1%	5,35%	14,0%	8,23%	11,4%	6,26%	44,3%	21,98%	20,20%	14,46%
NW	20,9%	12,09%	17,0%	9,34%	48,6%	22,72%	10,4%	7,91%	3,10%	2,67%
Total	15,4%	2,90%	21,5%	4,55%	20,2%	4,41%	29,9%	8,24%	13,00%	3,86%

*No data can result for several reasons: quantities prepared and served on the day were not available, the number of NSNP-approved learners was not available, or the food group was not served on the day. In some provinces these figures appear high because of the relatively small number of schools sampled and the weightings allocated to each school.

Figure 13: Quantity of protein prepared by schools in relation to the number of NSNP-approved learners. Source: KPI instrument

Food quality was explored – where possible – through other means. Two types of protein were evaluated: soya and milk. The table below shows that a high proportion of schools in KwaZulu-Natal, the Free State, and the North West had soya in stock which did not meet quality requirements (i.e. Textured Vegetable Protein (TVP) content is over 24%).

Table 17: What is the quality of the soya product? Source: Observation

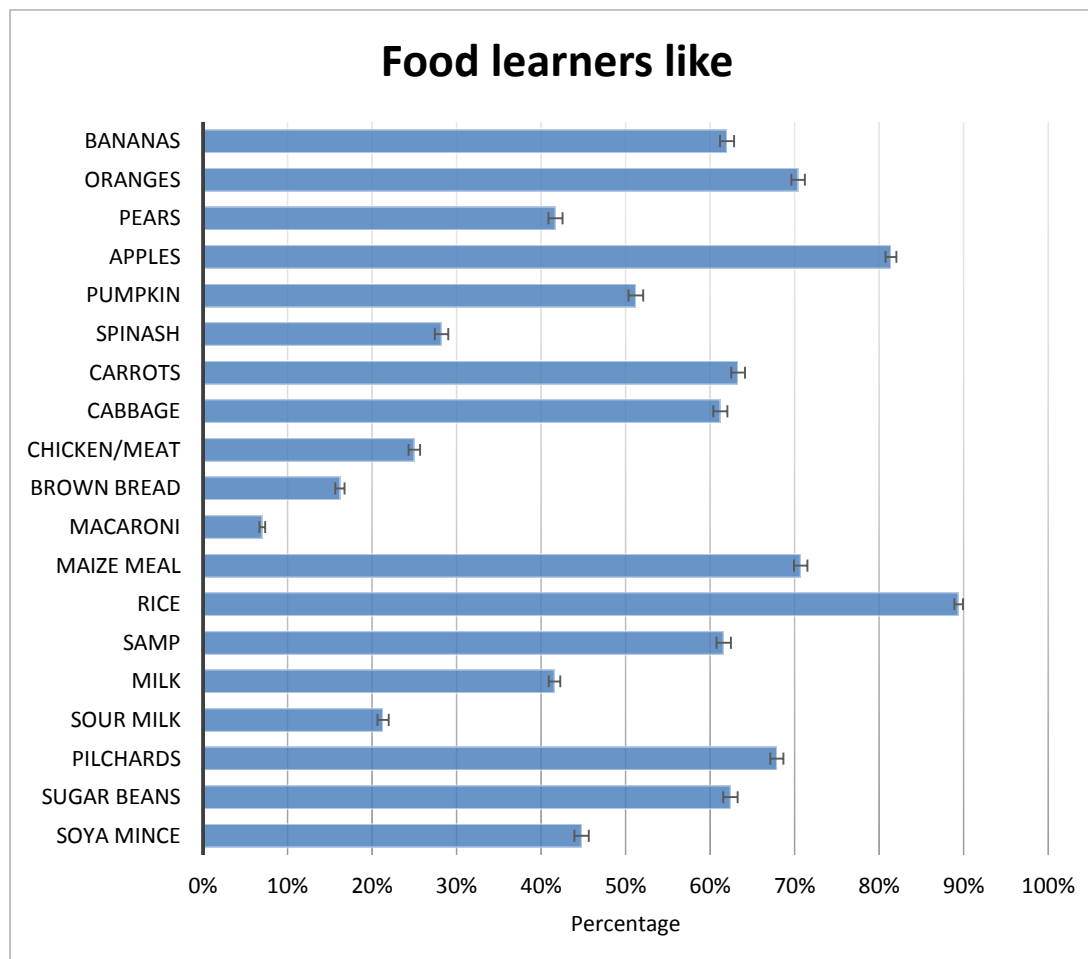
	Province	Does not meet requirements		Meets NSNP requirements (TVP > 24%)		Not Applicable		No data		Total
		Percentage	SE	Percentage	SE	Percentage	SE	Percentage	SE	%
Centralised	GT	0,0%	0,00%	94,9%	3,85%	3,4%	3,41%	1,7%	1,78%	100,0%
	KZN	84,7%	8,61%	10,5%	6,79%	0,0%	0,00%	4,8%	4,25%	100,0%
	LP	7,6%	4,46%	79,9%	8,34%	10,1%	7,09%	2,4%	2,48%	100,0%
	MP	38,1%	12,16%	61,9%	12,16%	0,0%	0,00%	0,0%	0,00%	100,0%
	WC	3,6%	2,71%	79,3%	14,43%	0,0%	0,00%	17,1%	14,74%	100,0%
Decentralised	EC	26,2%	9,35%	38,0%	12,92%	14,8%	9,92%	21,0%	9,47%	100,0%
	FS	87,3%	9,64%	2,4%	2,24%	0,0%	0,00%	10,3%	8,00%	100,0%
	NC	9,7%	6,74%	60,4%	18,11%	0,0%	0,00%	29,9%	16,17%	100,0%
	NW	70,5%	14,31%	26,6%	13,20%	0,0%	0,00%	2,9%	2,59%	100,0%
Total	Total	41,7%	6,88%	42,3%	6,07%	6,2%	3,29%	9,8%	3,16%	100,0%

Interviews and fieldwork notes revealed that many learners did not enjoy the soya. This was confirmed by the learner survey: less than half (44.8%) of learners indicated that they like soya, and this percentage was considerably less than indicated that they liked other foods commonly served at school as part of the NSNP (see Figure 14 overleaf). Learners not liking soya may be related to the high proportion of schools serving soya which does not meet the NSNP soya mince specification (see Table 17). Interviewees indicated that this reduces intake of protein and results in wastage since learners refuse to eat the NSNP meals on the days when soya is served. This is problematic, as soya mince features prominently on some provincial menus¹⁹. Possible alternatives which are more palatable to learners and also cheap forms of protein include cooked pasta/rice/pap mixed with pilchards, baked beans in tomato sauce or other legumes (cow peas, split peas, chick peas or kidney beans, or bread with peanut butter).

¹⁹ At the time of fieldwork (i.e. during the 2014-2015 and 2015-2016 financial year, depending on the province), soya mince was served up to twice a week in the Northern Cape, KwaZulu-Natal and North West (soya was on the menu once and soya OR alternatives were on the menu on another day) and twice a week in the Western Cape and Gauteng.

Pilchards and beans were more popular, liked by 67.9% and 62.4% of learners, as indicated in the figure below. International literature recommends that it is good practice to tailor school menus to local preferences (Bundy et al., 2009; Kristjansson et al., 2016).

Figure 14: Foods learners said they enjoy. Source: learner survey



The current FBGDs for South Africans recommend that milk, maas or yoghurt should be eaten every day. The NSNP guidelines (DBE, 2010b) specify that fresh or sour milk can be served and the DBE policy is that ultra-high temperature (UHT) milk should be served, the rationale being that UHT milk is safer as it has been pasteurised at high temperature. The DBE has partnered with the Dairy Standards Agency on the monitoring of dairy processors to assist in this regard. Provincial menus in use at the time of fieldwork made provision for milk to be served once a week in all provinces²⁰. UHT fresh OR sour milk was on the menu in the Eastern Cape, KwaZulu-Natal and Limpopo and UHT milk was on the menu in the other provinces.

²⁰ All provinces served milk once a week, but the Northern Cape menu made provision to serve milk OR peanut butter once a week.

Table 18: Is the milk UHT? Source: Observation

	Province	Yes		No*		Not Applicable		No data		Total
		%	SE	%	SE	%	SE	%	SE	%
Centralised	GT	95,3%	3,51%	0,0%	0,00%	3,0%	3,01%	1,7%	1,78%	100,0%
	KZN	1,9%	2,08%	47,3%	21,15%	49,7%	20,17%	1,1%	1,17%	100,0%
	LP	0,0%	0,00%	0,0%	0,00%	100,0%	0,00%	0,0%	0,00%	100,0%
	MP	90,8%	7,08%	2,3%	2,33%	7,0%	6,77%	0,0%	0,00%	100,0%
	WC	81,1%	14,58%	0,0%	0,00%	1,9%	1,92%	17,1%	14,74%	100,0%
Decentralised	EC	29,7%	13,31%	25,0%	9,02%	34,0%	11,41%	11,4%	8,03%	100,0%
	FS	74,1%	18,90%	19,9%	14,83%	4,2%	3,62%	1,8%	1,82%	100,0%
	NC	7,6%	6,18%	8,2%	5,00%	68,1%	16,30%	16,2%	13,69%	100,0%
	NW	46,5%	23,50%	1,6%	1,36%	51,9%	22,91%	0,0%	0,00%	100,0%
Total	Total	31,3%	5,89%	20,0%	7,67%	43,9%	6,11%	4,7%	2,53%	100,0%

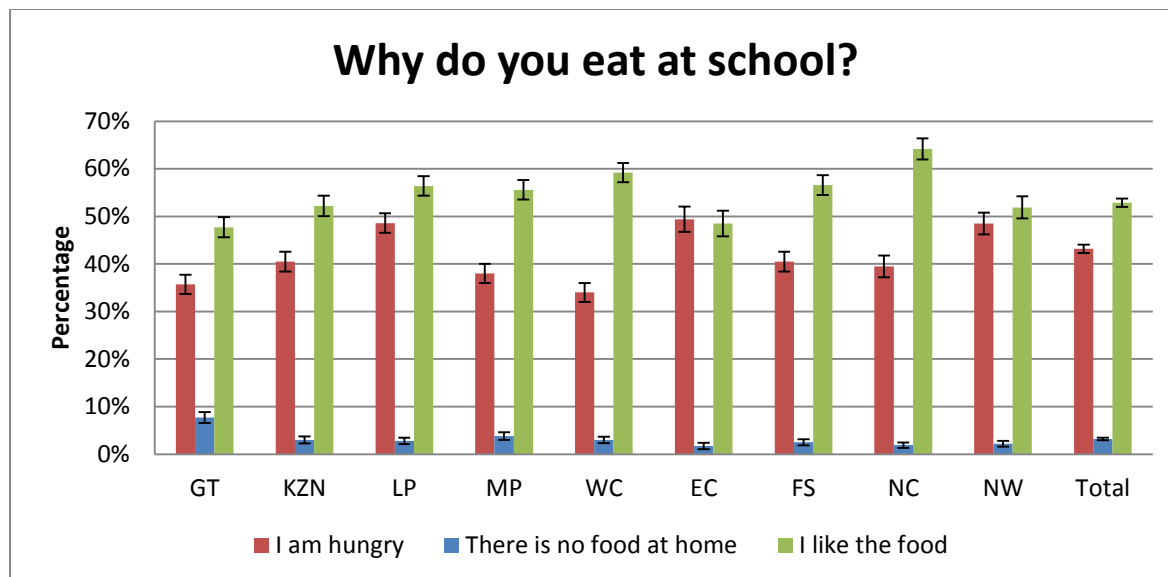
*Maas could be served as well as fresh milk in KwaZulu-Natal, the Eastern Cape and Limpopo; the “no” option was selected if maas was served. ^Not applicable would have been selected if milk was not served on the day of fieldwork and there was no milk in storage.

Table 18 displays the findings from observation regarding the type of milk being served. If UHT milk was served “yes” was selected, if non-UHT milk (including maas) was served “no” was selected and “not applicable” was selected if milk was not served on the day of fieldwork and no milk was in storage at the school. The highest compliance in the use of UHT milk was in Gauteng (95.3%) and Mpumalanga (90.8%), followed by the Western Cape (81.1%). KwaZulu-Natal had the greatest proportion of schools not using UHT milk (47.3%), followed by the Eastern Cape (25%), and the Free State (19.9%). A number of these schools in the Eastern Cape and KwaZulu-Natal were likely using maas. However, in these provinces several schools were obtaining milk from local farms which they said was cheaper than purchasing UHT milk. They reported that it was safe²¹ and that local farmers delivered directly to the school (fieldwork notes).

²¹ The DBE notes that their policy on UHT milk is to protect the learners from any form of contamination that can lead to disability or even death.

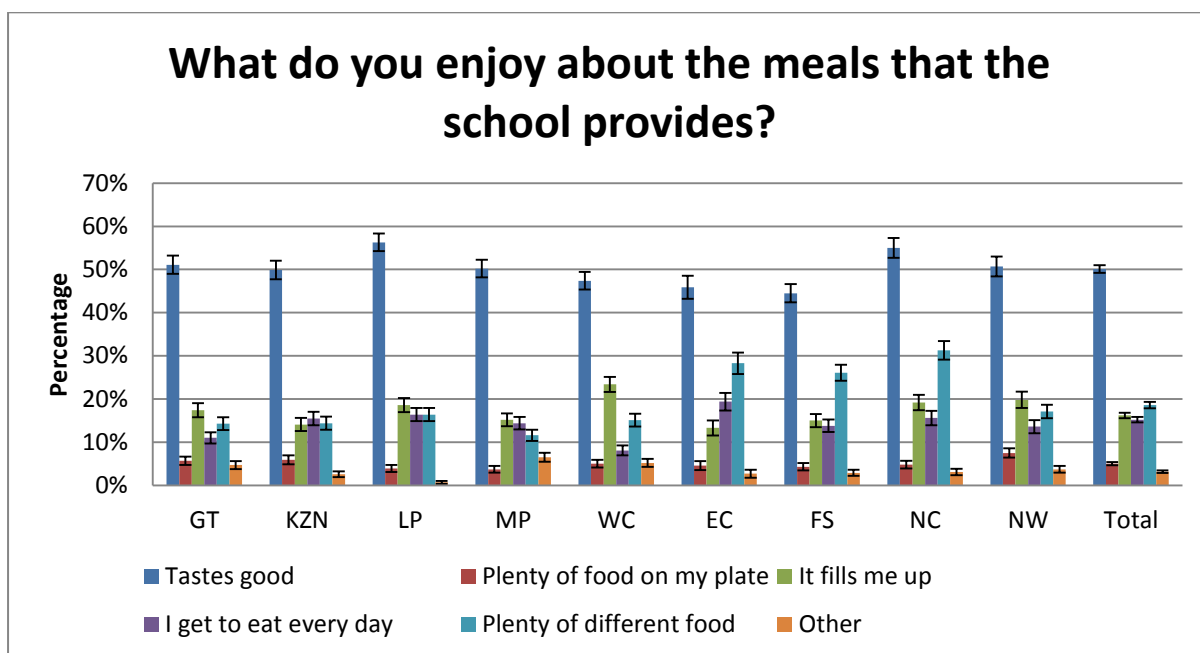
The learners who eat the NSNP meals generally reported that they liked the food: in the Northern Cape in particular, 64.2% of learners said they liked the food. Only in Gauteng and the Eastern Cape did less than 50% of learners say they liked the food served at school. The other main reason learners gave for eating the NSNP meals was that they were hungry, confirming the value of the meal in alleviating hunger.

Figure 15: Why learners eat at school. Source: Learner survey



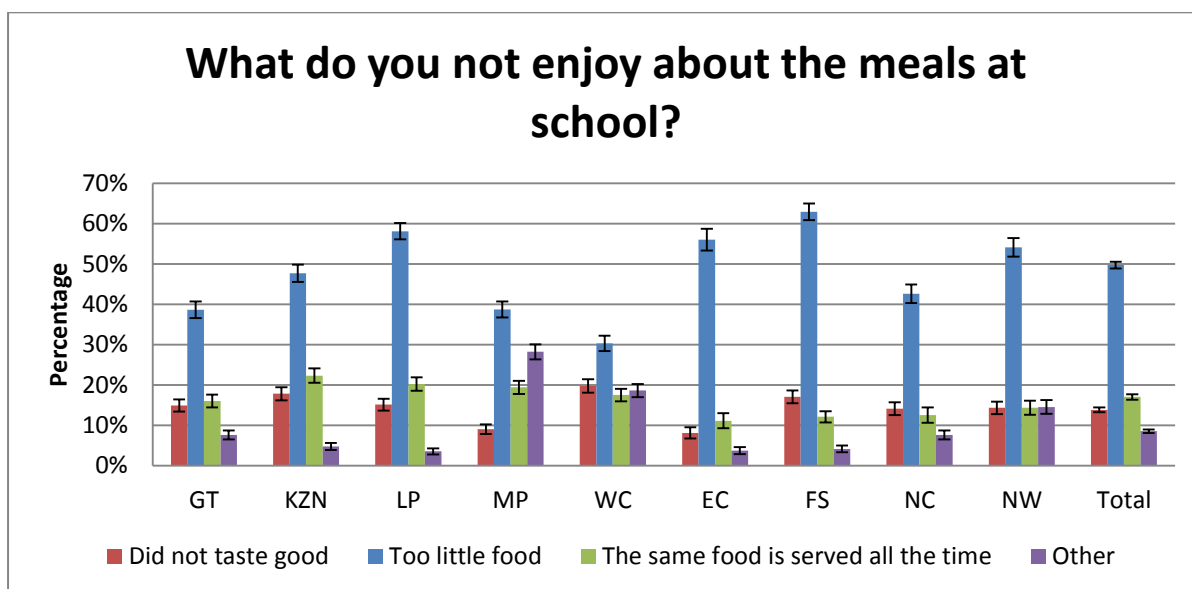
Taste was the greatest attraction (50.1%) of the schools meals, and all provinces seemed to be serving tasty meals. Learners also appreciated the variety (18.6%) of the food they received and the fact that they were guaranteed filling (16.2%) food daily (15.2%).

Figure 16: What learners enjoy about NSNP meals. Source: Learner survey



However, 17.3% of learners reported that they did not enjoy the NSNP meal they ate on the day of fieldwork. The most common reason for not enjoying the NSNP meals was too little food (49.7%), with learners from the Free State (62.9%), Limpopo (58.1%), the Eastern Cape (56%), and North West (54.1%) being most likely to make this complaint.

Figure 17: What learners do not enjoy about NSNP meals: Source: Learner survey



For most learners, the quantity of food provided was reported to be sufficient – 62.8% of learners indicated that they were full after the NSNP meal they ate on the day of fieldwork. Of the 24.8% of learners who indicated they still felt hungry after finishing their meals, a larger share came from the Eastern Cape (35.5%), the Free State (29.3%), and KwaZulu-Natal (26.3%). The fieldwork notes record a number of instances in which food ran out, resulting in portion size being reduced, some learners not receiving all food groups, and some learners not receiving meals.

Table 19: Comparing learners who ate and enjoyed the meal and felt full up Source: Learner survey

Model	Province	learners who ate main meal on the day of fieldwork		learners who ate who enjoyed today's meal		learners who ate who still felt hungry after today's meal	
		%	SE	%	SE	%	SE
Centralised	GP	55,4%	2,11%	64,3%	2,03%	18,3%	1,64%
	KZN	70,8%	1,93%	67,1%	2,00%	26,3%	1,87%
	LP	82,3%	1,58%	80,3%	1,65%	21,3%	1,69%
	MP	72,9%	1,82%	70,9%	1,86%	17,7%	1,56%
	WC	53,9%	2,05%	54,2%	2,05%	18,2%	1,58%
Decentralised	EC	78,2%	2,49%	65,2%	2,69%	35,5%	2,46%
	FS	69,8%	1,94%	58,4%	2,08%	29,3%	1,92%
	NC	74,5%	1,97%	67,8%	2,12%	19,0%	1,72%
	NW	77,9%	1,76%	71,7%	1,94%	21,6%	1,95%
	Total	72,7%	0,78%	68,3%	0,83%	24,8%	0,76%

Cooking high quantities of starch and low quantities of vegetables and protein (evident in some provinces), and preparing food (soya) that some learners do not like could be impacting on the uptake of the meals and leading to self-selection out of the programme, as discussed in Section 4.1.3. On the other hand, there are a substantial proportion of learners who find that the NSNP meal is not filling enough and would appreciate more food, as indicated above. This is concerning in light of the finding (Section 4.1.4) that there are unintended beneficiaries also eating the NSNP meals in the majority of schools.

4.2.2 Feeding times and days

The literature recommends that learners should be fed in the morning, preferably when they first arrive at school, to maximise the effects of feeding on concentration and learning (Adelman et al., 2008; Bundy et al., 2009; CCB, 2008; McLaughlin et al., 2002).

The NSNP implementation guidelines specify that breakfast should be provided at 7:30 am and lunch at 12:30 pm (DBE, 2010b, p. 22). The CGFs of 2013/2014 and 2015/2016 do not specify a feeding time²², but earlier CGFs (i.e., 2012/2013 and prior years) did. The financial management guidelines for schools (DBE, 2014b) specify that feeding should be completed by 10:00 am and the DBE confirmed that this is still the policy.

Fieldworkers recorded the actual time by which the last learner at the school finished eating on the day of fieldwork, as indicated below. Of concern is that among schools in provinces that do not make provision for breakfast²³ - i.e., all except Gauteng and the Western Cape - 75% completed feeding after 10:00 am, most notably schools in Kwa-Zulu Natal (95.2%) and the Free State (97.8%). Limpopo is the only province in which at least half of the schools completed feeding by 10:00 am as recommended.

²² According to the DBE, reference to the 10:00 am feeding time in the CGF was removed due to administrative reasons (personal communication, DBE, 2016).

²³ Some schools in these provinces had their own breakfast feeding schemes which were not part of the NSNP. However, in most cases these feeding schemes targeted select individuals and not all learners.

The main reason noted by fieldworkers for meals not being served on time was that VFHs could not prepare and cook the meals in time (there were various contributing factors, including schools being closed early in the morning, lack of transport for VFHs to travel to the schools, and it simply not being possible to prepare, cook, and serve large quantities of food in a short space of time). Other reasons which were provided included: the structure of the school day – learners would have been at school for only 90 minutes before there would need to be a break for feeding to occur – and, to a lesser extent, late deliveries (fieldwork notes).

Table 20: Time by which feeding of the main meal is completed (excluding Gauteng and the Western Cape) Source: KPI instrument and observation

Province	By 10:00 am	SE	10:01-11:00 am	SE	After 11:00 am or no main meal served	SE	No data	SE	Median	Mean	SD	Min	Max
KZN	0.0%	0.00%	71.1%	13.32%	24.1%	11.68%	4.8%	4.25%	10:30	10:47	00:29	10:04	11:56
LP	52.5%	11.12%	41.8%	10.61%	0.0%	0.00%	5.6%	4.04%	10:03	10:14	00:23	09:51	11:50
MP	35.1%	11.76%	57.9%	11.77%	2.8%	2.09%	4.2%	3.14%	10:19	10:22	00:21	09:37	11:30
EC	11.6%	7.44%	58.5%	12.30%	18.0%	8.49%	11.9%	8.35%	10:55	11:08	00:47	10:00	13:50
FS	0.0%	0.00%	88.9%	8.39%	8.9%	6.86%	2.2%	2.22%	10:40	10:44	00:29	10:05	14:46
NC	40.0%	23.09%	41.3%	17.54%	3.8%	3.35%	15.0%	13.55%	10:15	10:14	00:38	09:00	11:50
NW	17.9%	9.12%	75.0%	12.15%	6.2%	4.79%	0.8%	0.87%	10:23	10:34	00:26	09:40	11:55
Total	18.1%	4.19%	61.6%	6.56%	13.4%	3.67%	7.0%	3.08%	10:38	10:43	00:40	09:00	14:46

n= 30 KwaZulu-Natal, 29 Limpopo, 30 Mpumalanga, 28 Eastern Cape, 29 Free State, 29 Northern Cape and 30 North West

In Gauteng and the Western Cape, among those schools that served breakfast, 84.8% in Gauteng and 97.4% in the Western Cape had completed serving the main meal by 12:30 pm as is recommended in the NSNP guidelines

Table 21: Time by which feeding of the main meal is completed, from observation, in Gauteng and Western Cape schools in which breakfast was served. Source: KPI instrument and observation

Province	By 11:30 am	SE	11:31 am - 12:00 pm	SE	12:01 - 12:30 pm	SE	After 12:30 pm	SE	Missing	SE	median	mean	sd	min	max
GT	52.3%	13.82%	24.3%	12.15%	3.0%	3.10%	13.7%	8.41%	6.7%	4.91%	12:06	12:26	01:03	11:10	14:45
WC	59.4%	14.01%	0.0%	0.00%	18.3%	15.62%	2.2%	2.26%	20.1%	8.43%	10:33	10:57	00:49	09:55	12:35
Total	55.5%	9.70%	13.2%	6.83%	10.1%	7.98%	8.4%	4.67%	12.8%	4.66%	11:40	11:42	01:12	09:55	14:45

Note: n=22 Gauteng and 27 Western Cape schools

Among those Gauteng schools that did not serve breakfast, most served the main meal after 11:00 am or did not serve a meal at all.

Table 22: Time by which feeding of the main meal is completed, from observation, in Gauteng and Western Cape schools in which breakfast was not served Source: KPI instrument and observation

Province	By 10:00 am	SE	10:00-11:00 am	SE	After 11:00 am or no main meal served	SE	Missing	SE	Median	Mean	SD	Min	Max
GT	12.0%	11.83%	0.0%	0.00%	80.8%	13.93 %	7.3%	7.51%	11:40	11:27	00:50	10:25	12:46
WC	0.0%	0.00%	0.0%	0.00%	56.5%	30.75 %	43.5%	30.75%	10:50	11:14	00:34	10:50	12:00
Total	10.0%	9.84%	0.0%	0.00%	76.7%	13.38 %	13.2%	9.49%	11:40	11:26	00:48	10:25	12:46

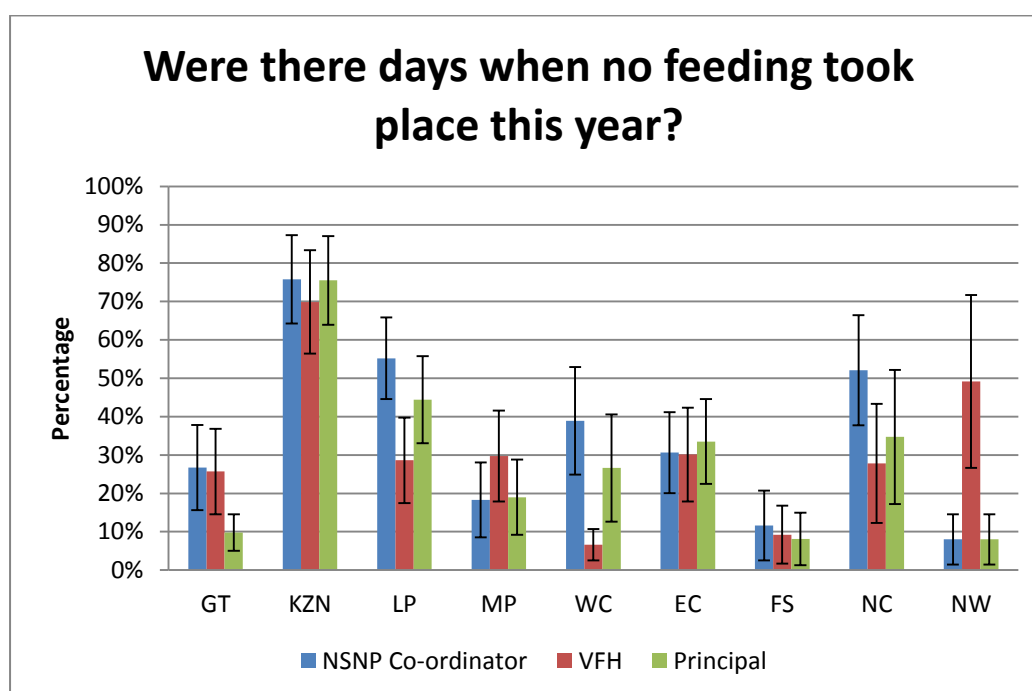
Note: n=8 Gauteng and 3 Western Cape schools

According to the NSNP Annual Report, in the 2013/2014 financial year, schools fed learners for an average of 194 days. All provinces, except Mpumalanga, exceeded the target of feeding on an average of 190 days, and the Western Cape performed best, feeding on an average of 198 days. (DBE, 2014a)

The findings of this evaluation were that on the day of the fieldwork, of the 267 schools visited, the main meal was served at 255 schools (96.2%). In the provinces which serve breakfast (Gauteng and the Western Cape), of the 60 schools visited, breakfast was served at 49 schools; 8 school in Gauteng and 3 in the Western Cape did not serve breakfast on the day of fieldwork.

From the school surveys, principals indicated that there were days when feeding had not taken place this year. In the provinces using the decentralised model, 26.5% of school principals indicated that there were days when feeding had not taken place; this percentage was higher amongst principals from the Eastern Cape and the Northern Cape. In the provinces using the centralised model, principals were almost twice as likely to indicate that there were days when feeding had not occurred: 48.2% gave this answer, the majority being from KwaZulu-Natal²⁴.

Figure 18: Days when no feeding took place this year according to principals, NSNP Co-ordinators and VFHs.
Source: Surveys



The main reasons given by principals in the decentralised provinces for feeding not occurring were funds not being received on time, weather (in the Eastern Cape), teacher/learner/community disruptions (in the Eastern Cape and North West) and, to a lesser extent, late delivery by the supplier and not having fuel. In the centralised provinces, the main reasons given were late delivery by the

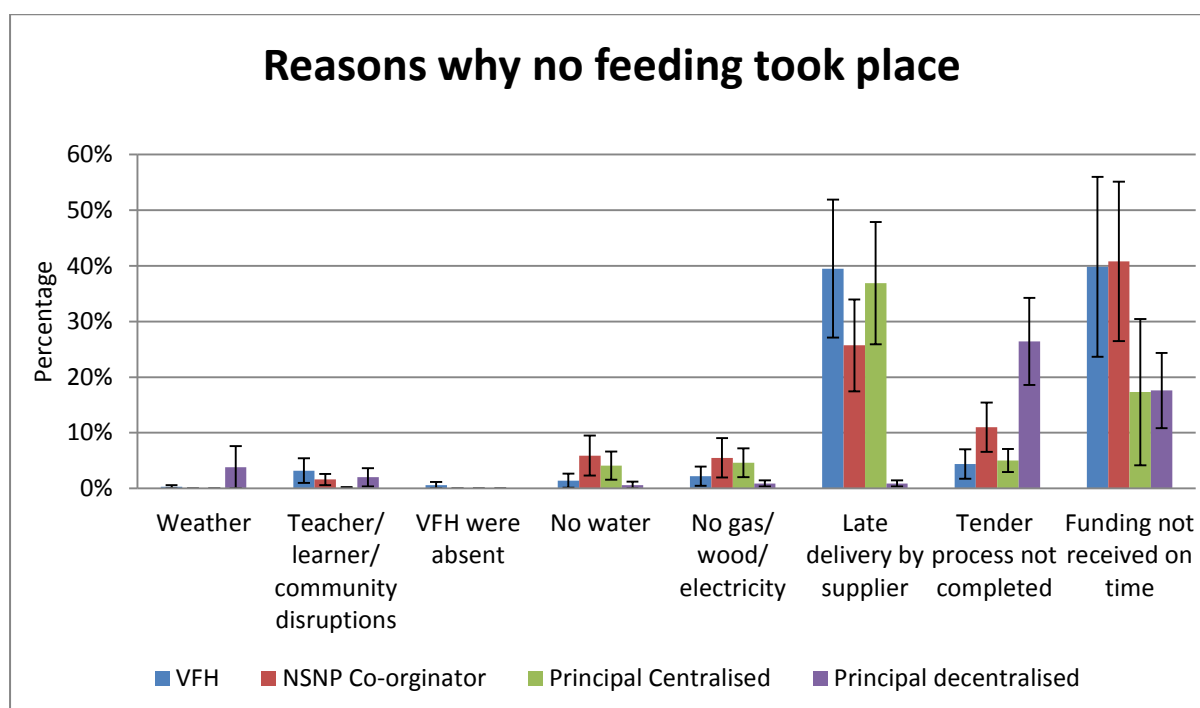
²⁴ At one KwaZulu-Natal school, the fieldworker was informed that learners have not had NSNP meals for the entire term, as the contract between the province and the school supplier is still to be signed; at another school, learners did not eat for 16 days during the previous term; and in a third school it was reported that no NSNP meals were served between March and November 2014 because the supplier had not been paid by the district office (fieldwork notes).

supplier, funds not being received on time, the tender process not having been completed (in KwaZulu-Natal), and lack of fuel. The differences between decentralised and centralised provinces are quite striking and suggest that the decentralised delivery model may be more effective in holding suppliers accountable for delivering on time. This is discussed further in Section 4.3.3.3.

When NSNP Co-ordinators were asked why schools were unable to feed on certain days, they largely attributed this to funding not being received on time – 40.8% of NSNP Co-ordinators gave this as the reason – as well as late delivery by supplier (25.7%), tender processes not having been completed on time (11.0% overall and specifically a problem in KwaZulu-Natal), no water (5.9%) and no gas, wood or electricity (5.5%)

The VFHs who were surveyed gave similar answers to those of the school principals regarding why meals are not served. VFHs also noted the challenge of no water in the Eastern Cape and KwaZulu-Natal and teacher/learner/community disruptions in Mpumalanga and the North West.

Figure 19: Reasons why no feeding took place, according to principals, NSNP Co-ordinators and VFHs.
Source: Surveys



4.2.3 Food storage and preparation

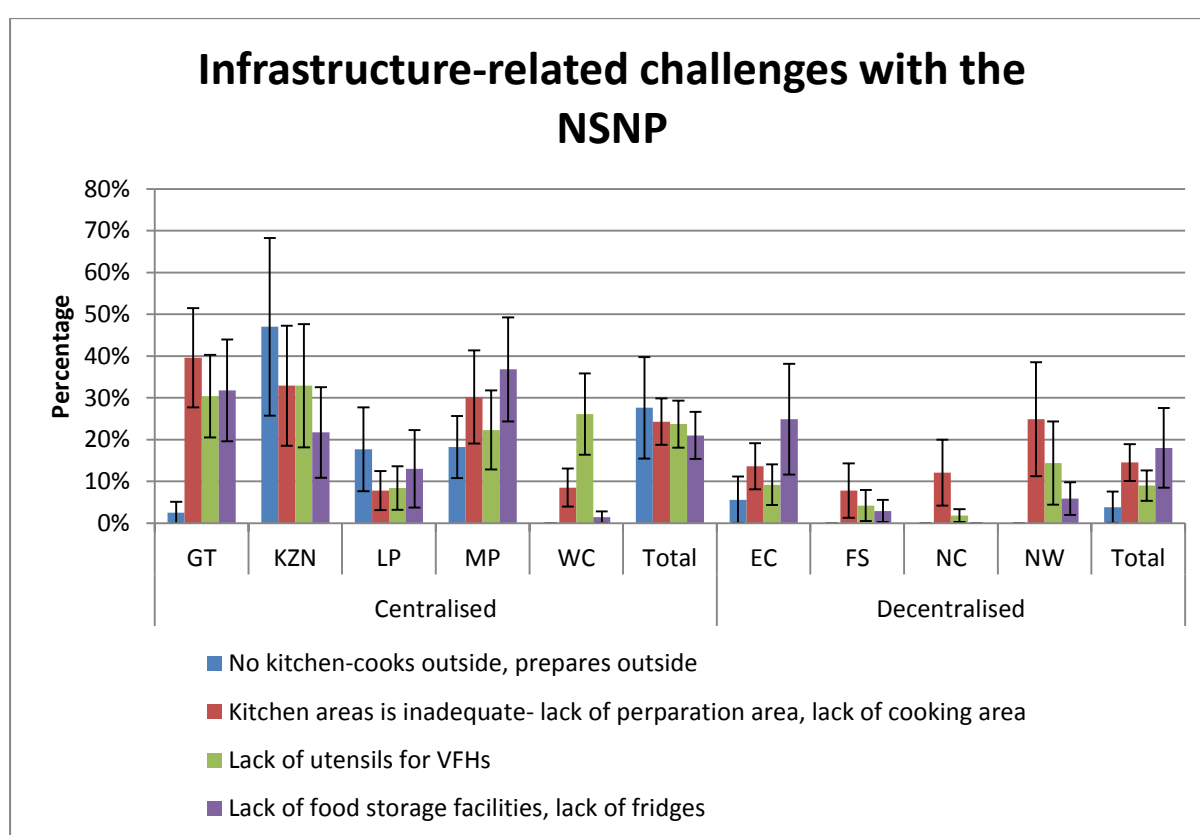
The preparation of nutritious meals is dependent on schools having adequate infrastructure and equipment for storing food and preparing meals in accordance with Health and Safety guidelines. Previous evaluations of the NSNP found the adequacy of infrastructure at school level to be a challenge (Graham et al., 2015; PSC, 2008, p. 45ff; Rendall-Mkosi et al., 2013). Nhlapo et al. (2015, p. 6ff), found high variation in the nutrient content of NSNP meals containing similar ingredients, possibly due to long storage periods or exposure to light and oxygen leading to deterioration, underscoring the importance of storing foodstuffs correctly, rotating stock, and ensuring it is used timeously.

Several infrastructure and equipment-related challenges were reported by principals including: lack of kitchens - which force VFHs to prepare food outside (prevalent in KwaZulu-Natal, Mpumalanga, and

Limpopo); lack of adequate preparation areas (common in Gauteng, Mpumalanga, and KwaZulu-Natal); lack of utensils for food preparation (common in Gauteng, Mpumalanga, Western Cape, and KwaZulu-Natal); and lack of storage facilities, including fridges (prevalent in Mpumalanga, Gauteng, and the Eastern Cape). Overall, schools in KwaZulu-Natal, Gauteng, and Mpumalanga were most likely to report infrastructure-related problems and these challenges were reported more frequently in provinces using the centralised model.

NSNP Co-ordinators gave similar answers to those given by the school principals. VFHs were *more likely* to cite infrastructure-related challenges than other types of challenges which the school faced in relation to the h the NSNP²⁵. This is not surprising as VFHs engage directly with these challenges on a daily basis.

Figure 20: Greatest infrastructure-related challenges with the NSNP, according to Principals. Source: Principal survey



Fieldworkers confirmed the infrastructure challenges in KwaZulu-Natal, Limpopo, and Mpumalanga. The preparation facilities in 37.5% of the KwaZulu-Natal schools were rated as “very poor”, with food preparation taking place outside in the open; a further 15.4% of schools in the province were rated as “poor”, with a roof only. Of concern is how these schools cope in inclement weather. All preparation facilities at schools in the Western Cape, Free State, and Northern Cape were indoors and were rated as “good” or “excellent”. At some schools, fieldworkers noted an oversupply of certain food preparation utensils (e.g. can openers) and an undersupply of others (e.g. spoons) (fieldwork notes).

²⁵ The question posed was: What are the three biggest challenges you face with the NSNP?

The Conditional Grant makes minimal provision for utensils and infrastructure required for food preparation²⁶. The norms and standards on school infrastructure require that every newly built school should have a food preparation area, but there is a backlog of existing schools without this. Interviewees explained that this creates a challenge: “schools were not built with the NSNP in mind and currently are not conducive for the programme. The quintile 1-3 schools, the main schools targeted by the programme, do not have any kitchens and have to use classrooms to do the cooking” (Northern Cape Provincial Official).

The lack of cold storage facilities has cost and food quality implications. It necessitates frequent delivery of fresh produce: vegetables/fruit are supposed to be delivered weekly, but challenges were reported with vegetables/fruit not being delivered regularly or on time in a number of schools (fieldwork notes). Some cases were encountered/reported during fieldwork of fresh vegetables/fruit being substituted with alternative foods (as in the case of raisins in the Western Cape in summer) or of fresh food rotting (fieldwork notes). Delivery challenges are discussed further in Section 4.3.3.3.

Another area of concern is the security of the storage areas. Large quantities of food are delivered to schools. The food has to be stored in a safe and lockable area to minimize risk of theft. Most of the schools (75.1%) had lockable storage areas. Of the 22.6% of schools without lockable storage areas, the highest prevalence was in the Free State (73.9%), KwaZulu-Natal (49.9%), and the North West (49.7%). Fieldworkers reported challenges in these provinces with lack of storage space and “pilferage”. In the Eastern Cape, fieldworkers reported that in two schools food was being stored in a VFH or school staff member’s home and brought to school daily, which is problematic in terms of accountability.

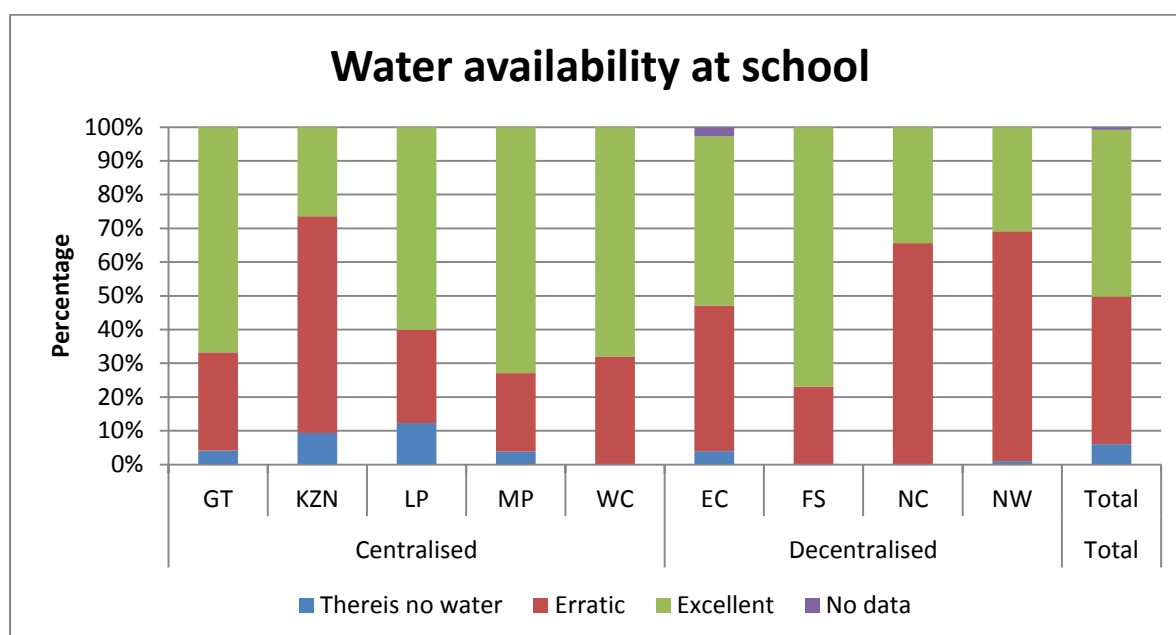
Table 23: Storage and rotation of food Source: Observation

Province	Storage area is lockable		Dry food is stored off the floor		Fruit and vegetables are stored off the floor		There is food which has passed the expiry date		There is food with no expiry date	
	%	SE	%	SE	%	SE	%	SE	%	SE
GT	97,2%	2,88%	63,5%	10,11%	37,5%	11,58%	8,8%	4,63%	15,1%	6,08%
KZN	48,4%	19,74%	77,4%	10,86%	63,5%	15,73%	18,6%	9,95%	25,9%	12,44%
LP	93,6%	4,82%	86,7%	7,29%	76,2%	8,49%	1,6%	1,60%	19,0%	6,86%
MP	89,4%	5,86%	93,6%	4,16%	60,7%	11,27%	21,9%	11,24%	75,6%	9,16%
WC	90,9%	5,71%	73,6%	9,25%	26,0%	9,66%	14,0%	6,24%	34,2%	13,61%
EC	89,9%	7,14%	32,6%	10,04%	15,2%	6,28%	8,8%	4,71%	15,9%	6,52%
FS	26,1%	19,08%	22,7%	16,78%	5,8%	4,75%	3,2%	2,96%	73,5%	19,32%
NC	98,0%	1,60%	75,7%	14,66%	35,7%	15,77%	21,6%	11,64%	25,1%	12,58%
NW	50,3%	22,35%	37,7%	17,52%	31,1%	14,94%	3,1%	2,57%	16,5%	8,87%
Total	75,1%	8,07%	60,5%	6,43%	42,6%	6,72%	10,8%	2,71%	27,6%	5,10%

²⁶ The allocation set aside for cooking facilities, equipment, and utensils is less than 1% of the Conditional Grant allocation each year (DBE, personal communication, 2016). However, a number of schools visited for fieldwork said they get “nothing” in this regard (fieldwork notes).

Cleanliness is non-negotiable when it comes to food preparation. The people who prepare food as well as the food preparation area must always be clean to avoid transference of bacteria. Water, which is essential for cleanliness, enabling the washing of utensils, floors, and surfaces, was unavailable in some schools, as reported by 6% of NSNP Co-ordinators. The most affected provinces were Limpopo (12.3%) and KwaZulu-Natal (9.4%). Water availability was reported as erratic by NSNP Co-ordinators at 43.7% of the schools, with the worst affected provinces being KwaZulu-Natal (64.3%), the Northern Cape (65.6%), and the North West (68.2%). Excellent water availability was reported at 49.4% of the schools, including the majority of schools in the Free State (76.9%), Mpumalanga (72.9%), the Western Cape (68%), and Gauteng (66.7%).

Figure 21: Water availability at school, according to NSNP Co-ordinators

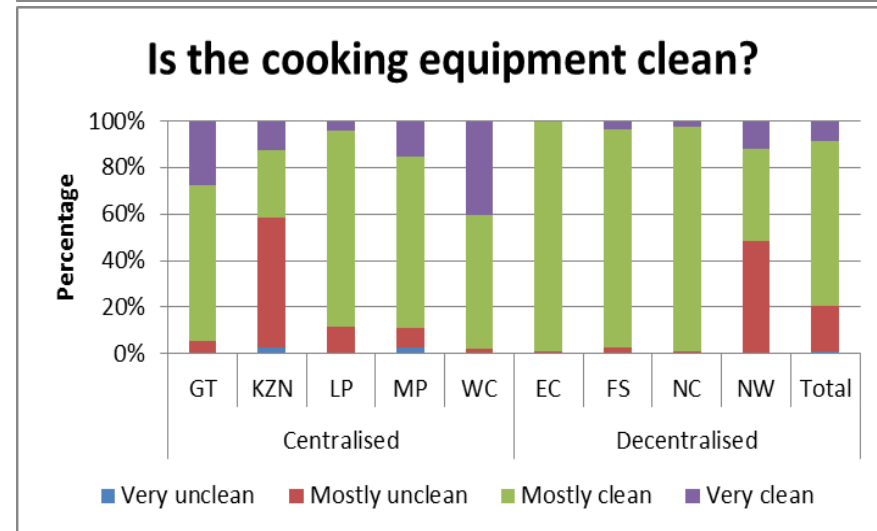
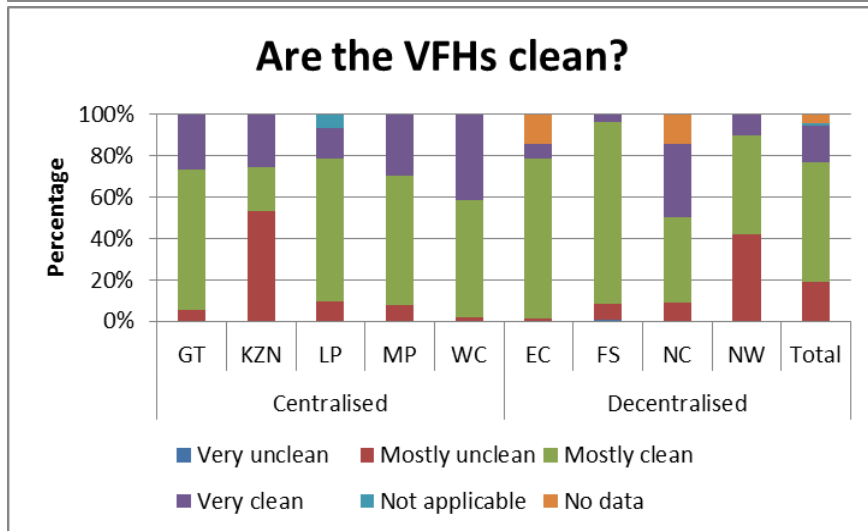
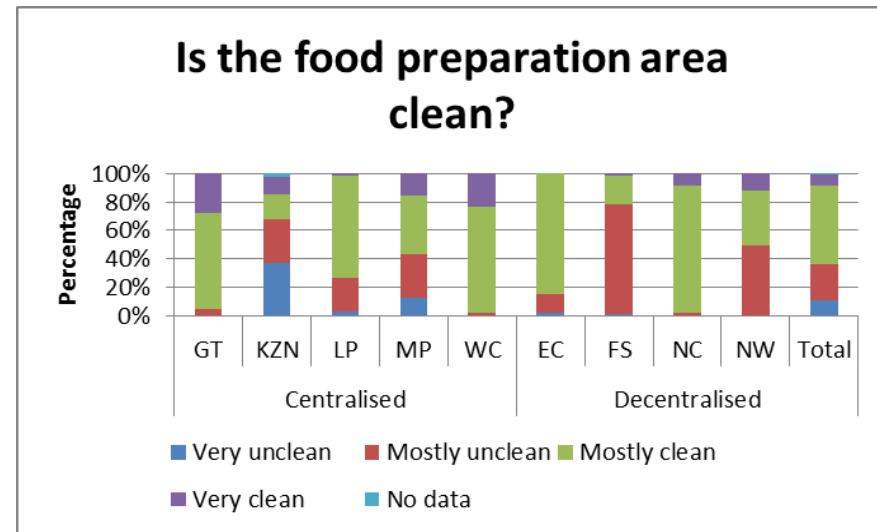
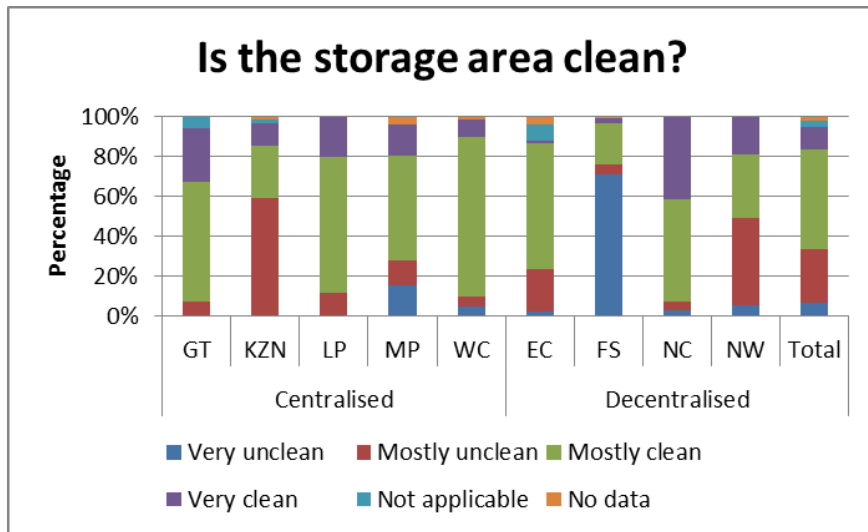


Despite the reported lack of availability and erratic supply of water at some schools, NSNP Co-ordinators at 78.4% of the schools indicated they had enough water for cooking; 87.2% that they had enough for drinking; and 92.0% that they had enough for washing hands.

To evaluate cleanliness during food preparation, fieldworkers rated the cleanliness of: food handlers; the preparation area; cooking equipment; and serving utensils. Figure 22 displays the results. Very unclean preparation areas were mostly prevalent in KwaZulu-Natal (37.5%) and Mpumalanga (12.7%). KwaZulu-Natal also had the highest prevalence of mostly unclean VFHs (53.4%). To assess cleanliness of VFHs, field workers were instructed to look at VFHs' hands and nails while they were talking to them. They also looked at the cleanliness of their clothing, including aprons and headwear.

There seems to be a clear association between water availability and the level of cleanliness of the food storage and preparation areas, cooking equipment and serving utensils, and VFHs. This association is evident in KwaZulu-Natal and the North West – the majority of schools in these provinces had no or erratic water, the greatest number of “mostly unclean” food handlers, and cleanliness ratings of food preparation area, cooking and serving utensils were predominantly “mostly unclean”. This suggests that availability of water is a necessary condition for the clean and safe preparation of food.

Figure 22: Cleanliness in food preparation. Source: Observation



Health and safety are equally important concerns in food preparation. The majority of schools use gas to cook - 66.4% nationally - including all the schools in the Western Cape and Free State. The other main fuel source is wood, which was used by 36.7% of schools, including 96.1% of schools in Limpopo.

A major safety concern is that only 35.9% of the schools using gas kept the gas canisters outside, and only 66.0% of those canisters that were outside were locked in a cage. With regards to storing gas outside, the most exemplary schools were in Gauteng (93.2%), the North West (84.1%), and the Northern Cape (72.1%). The main provinces where there are concerns are the Eastern Cape, Free State, Western Cape, KwaZulu-Natal, and Limpopo; in these provinces the majority of gas canisters were not kept outside²⁷. Good practice in securing the gas canister under lock and key was evident in Gauteng, where 93.2% of schools kept their canisters outside and 97.6% of these were in a cage.

It is a legal requirement to have a fire extinguisher in the kitchen for fire safety. However, only 23.7% of the schools were prepared in this way and had fire extinguishers in their kitchens. Furthermore, only 43.9% of these fire extinguishers had been serviced in the previous 12 months. The majority of schools are therefore unprepared for fire.

Table 24: Health and safety Source: Observation

Province	Gas canisters is outside		Gas canister is in a locked cage		Fire extinguisher available in the kitchen/prep area		Fire extinguisher was serviced in the last 12 months	
	%	SE	%	SE	%	SE	%	SE
GT	93,2%	4,09%	97,6%	2,45%	67,6%	10,74%	34,5%	12,03%
KZN	41,0%	11,85%	39,4%	16,85%	21,9%	10,64%	19,3%	11,69%
LP	47,4%	19,25%	32,5%	23,24%	10,3%	7,38%	10,3%	12,24%
MP	62,9%	14,38%	100,0%	0,00%	28,6%	10,94%	69,4%	16,59%
WC	40,6%	11,91%	100,0%	0,00%	87,7%	6,20%	55,3%	14,67%
EC	3,3%	2,62%	28,8%	29,50%	8,3%	4,18%	45,7%	23,85%
FS	25,0%	18,24%	90,6%	6,92%	18,4%	13,64%	71,9%	12,93%
NC	72,0%	15,96%	45,5%	24,14%	70,8%	15,77%	71,0%	17,43%
NW	84,1%	11,00%	45,9%	23,87%	48,2%	21,59%	59,0%	13,53%
Total	35,9%	5,14%	66,0%	9,31%	23,7%	3,86%	43,9%	6,53%

Section 4.3.1 considers coverage of training for VFHs. Reviewing training data in relation to health and safety practice does not reveal an association. For example, in Gauteng, only 37.5% of VFHs were trained in gas safety, but their practices in keeping the canisters outside and locked were better than in Mpumalanga, where 50.4% of VFHs had been trained. This suggests that training without the provision of adequate infrastructure and equipment and follow up monitoring and support does not lead to better practice.

²⁷ Fieldworkers commented on the safety risk in a number of Western Cape schools, for example: “the gas situation is very unsafe – two 18kg gas bottles were near open flames in the food preparation area. I drew this to the attention of all concerned” (fieldwork notes).

4.2.4 Serving

Utensils are required for serving as well as for learners to eat the NSNP meals. In terms of basic utensils, learners in 76.3% of the schools had a plate to eat from, and the best performing provinces were the North West, Free State, Western Cape, and Mpumalanga in which over 90% of schools had a plate for every child. KwaZulu-Natal performed worst in this regard. In the Western Cape, Free State, North West, and Eastern Cape, the majority of schools provided spoons to every learner. Provinces with the highest proportion of schools in which learners did not have a spoon each to eat with were KwaZulu-Natal (87.7%) and Mpumalanga (86.5%). Fieldworkers reported that in one school, learners were eating their food using their rulers, and in another, food vendors offered a “rent-a-plate” service, provided learners purchased atchar, in another school, bowls for breakfast were sponsored by Kelloggs. Of concern to the fieldwork team, in several schools, plates and utensils were discarded by learners at the end of the meal. In several schools, the fieldworkers reported that lack of plates and utensils meant that learners had to eat in “shifts” and feeding took longer than it should; the latter arrangement may impact on the time available for teaching and learning.

Table 25: Availability and use of utensils Source: Observation

Province	Each child has a plate (O)		Each child has a spoon (O)	
	%	SE	%	SE
GT	75,6%	8,54%	36,6%	11,62%
KZN	40,3%	17,00%	7,5%	5,31%
LP	84,7%	7,48%	22,6%	11,06%
MP	92,9%	4,76%	11,9%	5,41%
WC	95,9%	3,09%	84,8%	6,39%
EC	84,9%	8,52%	61,9%	11,38%
FS	96,4%	3,32%	76,3%	17,44%
NC	75,4%	15,01%	17,9%	9,46%
NW	99,4%	0,71%	67,7%	15,61%
Total	76,3%	7,56%	38,4%	6,35%

Kristjansson et al. (2016), identify supervision of feeding as a critical success factor in ensuring that the targeted children receive and consume school meals.

Serving of food was observed to be mainly carried out by VFHs (72.9%). However, in Limpopo and Mpumalanga, VFHs were observed to be serving food in less than 50% of schools. Teachers and, to a lesser extent, learners were also involved in this activity.

The learners who were surveyed confirmed that serving was mainly carried out by VFHs (61.9%), although a substantial 31.6% said other learners dished up their food. In Limpopo and Mpumalanga provinces, a higher proportion of learner survey respondents reported that learners dished up than reported that VFHs did.

There was some evidence to suggest that there may be gender bias in some schools in relation to the amount of food learners receive; this is likely to be exacerbated if serving is not well regulated. Learners

were asked if they all get the same amount of food: 50.6% said they did, but 45.9% responded in the negative. Fieldworkers who visited schools were asked whether boys in Grade 7 received more food than the girls, and 11.3% responded in the affirmative. Given that this question was not answered in 27.8% of instruments, the actual percentage could be higher.

Table 26: Whether learners get the same amount of food

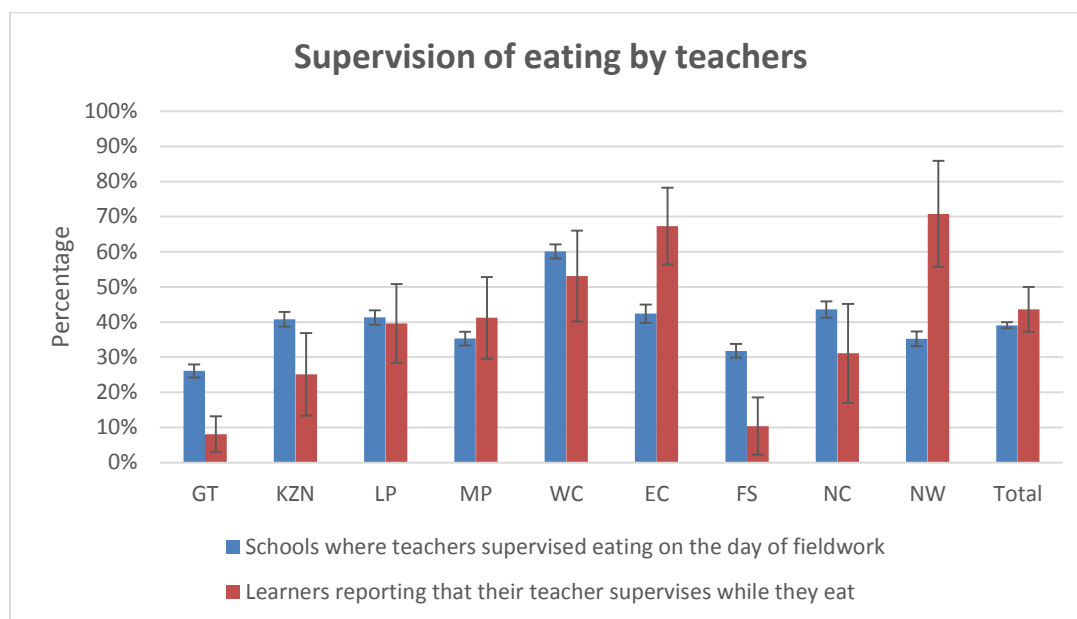
Province	All learners get the same amount of food (LS)		Learners do not get the same amount of food (LS)		Boys in Grade 7 get more food than girls (O)	
	%	SE	%	SE	%	SE
GT	48,6%	2,12%	41,6%	2,09%	26,5%	12,02%
KZN	68,8%	1,96%	28,3%	1,91%	1,3%	1,41%
LP	43,0%	2,04%	53,8%	2,06%	30,8%	11,23%
MP	41,2%	2,02%	55,1%	2,04%	31,0%	10,99%
WC	37,3%	2,00%	57,7%	2,04%	7,5%	4,53%
EC	58,9%	2,57%	39,6%	2,54%	3,5%	2,97%
FS	32,7%	1,98%	66,3%	2,00%	0,9%	1,15%
NC	48,2%	2,36%	48,4%	2,33%	0,7%	0,80%
NW	34,7%	2,23%	62,2%	2,26%	13,0%	7,30%
Total	50,6%	0,85%	45,9%	0,84%	11,3%	2,81%

The fieldwork notes reveal some instances in which learners who are bigger and stronger ended up with more food:

“The boys can run fast and come first and then wash their plates and pretend they are coming for firsts” (reported by a VFH, fieldwork notes).

“I watched a very thin little girl attempt to get some food, but she kept being pushed back in the queue and ended up with no food” (fieldwork notes).

Few teachers are supervising learners when they eat. Only 39.1% of learners who were surveyed indicated that they were supervised by their teachers when they eat (see Figure 23), with the Western Cape having the highest and Gauteng the lowest percentages. During school visits, fieldworkers observed that learners were supervised by their teachers when they ate in 43.6% of the schools. The North West had the highest percentage of schools in which teachers supervised learners (70.8%), whereas Gauteng had the fewest schools in which teacher supervision was observed (8.1%). The implications of mealtimes not being supervised are that children may not all receive the same amount of food; some may receive more than others due to gender and other forms of bias.

Figure 23: Supervision of eating by teachers. Source: Learner survey and observation

4.2.5 Nutrition education and LTSM

One of the objectives of the NSNP is to teach learners about healthy eating and to encourage them to make healthy food choices. As specified in the ToC, learners are supposed to learn about healthy living and making good choices in Life Orientation, with the intention that this knowledge will strengthen nutrition education in communities and lead to learners making healthier food choices.

This component of the programme was allocated - jointly with school food gardens - 0.5% of the Conditional Grant NSNP budget at the time of fieldwork, but in the 2015-2016 Conditional Grant framework no funds are allocated²⁸. Hence the available funding for both of these components is limited.

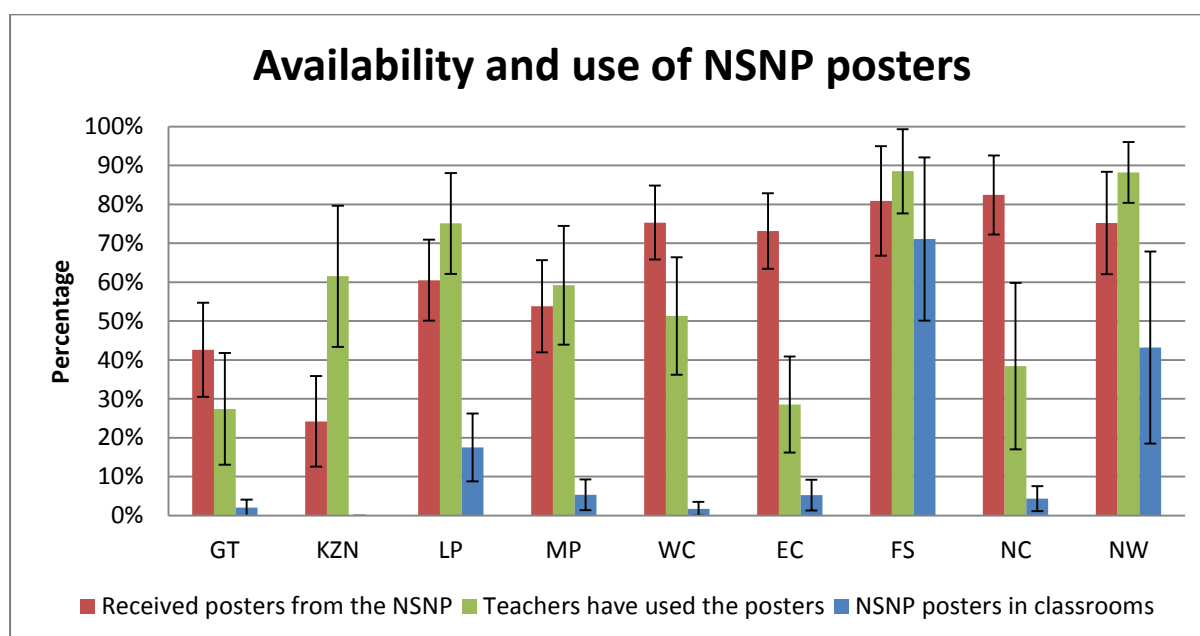
While teachers are offered LTSM materials and lesson plans to support their coverage of the Nutrition Education curriculum, the time allocated to Nutrition Education (as part of Life Orientation) is limited. Additionally, DBE officials from the NSNP Directorate indicated that curriculum issues are driven by a separate branch within the DBE, and the NSNP Directorate does not work closely with these colleagues.

In addition to curriculum materials, posters have been developed which present key messages relating to food preparation and healthy lifestyles, amongst other topics. According to school principals, the majority of schools had received posters supplied by the DBE. Distribution of posters was most extensive in the Free State, Northern Cape, North West, and Western Cape provinces. Good practices encountered were that the Western Cape reported distributing its own materials in addition to those provided by the DBE; and the Northern Cape reported providing workshops during which the materials were introduced: *“we do not simply want to disburse information to them; we need them to explain to them how best to use the information”* (Northern Cape Provincial Official).

²⁸ The DBE advised that, although funds were no longer allocated to nutrition education from the Conditional Grant, provinces were still expected to focus on these activities and had budgeted for nutrition education in their business plans (DBE, personal communication, 2016).

However, the use of posters was not as widespread as their distribution. Both the reported use (by principals) and the display (observed by fieldworkers) of materials was very low. Highest reported usage was in the Free State, North West, and Limpopo, and the least was reported in Gauteng and KwaZulu-Natal. NSNP Co-ordinators confirmed the pattern of low usage of materials – nationally, only 33.4% of Co-ordinators indicated that teachers were using NSNP posters and materials. There was little evidence of posters found in the classrooms, with fieldworkers reporting that only 11.8% of the schools had NSNP posters displayed in the classrooms.

Figure 24: Availability and use of NSNP posters. Source: Principal survey and observation



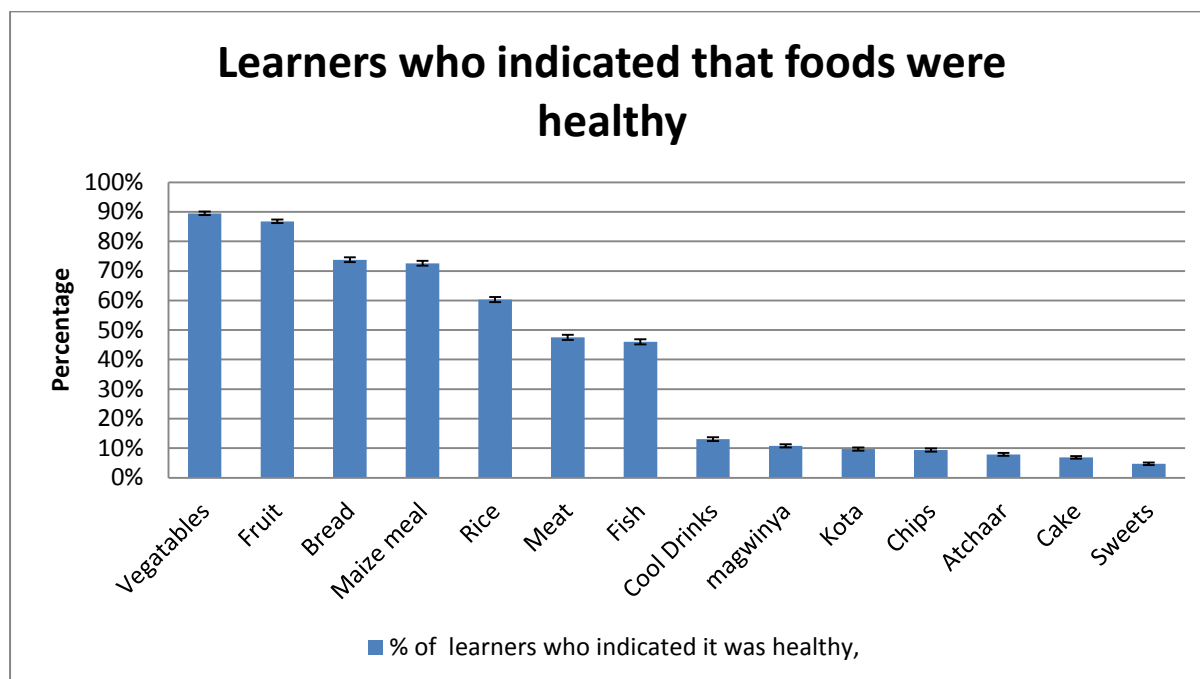
National Nutrition Week (NNW) is reported to be a key pillar of the nutrition education component of the NSNP. The survey asked principals whether they had celebrated NNW in 2014. The province in which most principals responded affirmatively was Mpumalanga (17.6%), followed by the Eastern Cape (13.2%) and North West province (12.9%).

Despite the low uptake of materials by teachers and reported challenges with integrating Nutrition Education into the curriculum, the findings from the learner survey are encouraging. A high percentage of learners said they learned about healthy and unhealthy food in Life Orientation lessons (89.6%), and the average for each province was consistently high, at over 84%. Only 9.4% of the learners indicated they did not learn about both healthy and unhealthy food in Life Orientation – most of these learners were in Limpopo (15.7%) and the Eastern Cape (11.1%). This finding was verified by the NSNP Co-ordinators: 73.5% confirmed that Nutrition Education is covered as part of the curriculum in Life Orientation.

Furthermore, the lessons seem to be effective (or learners are already knowledgeable about healthy foods or are gaining knowledge from other sources). For the most part, learners were able to correctly identify healthy and unhealthy foods as highlighted in the following figure. Awareness was highest regarding vegetables and fruit, and lowest regarding fish being healthy foods. This is in line with the finding by Shisana et al., (2013) that children demonstrate low knowledge regarding knowledge of healthy (and unhealthy) fats. Shisana et al's recommendation in this regard is relevant – that nuanced

nutrition education about different types of fats and their dietary value would help reduce this information gap.

Figure 25: Learners who indicated that foods were healthy. Source: Learner survey



4.2.6 Food production

Food production activities are also intended to be linked to the curriculum for Nutrition Education and skills development. According to the NSNP guidelines, food production activities are relevant for all schools participating in the NSNP (DBE, 2010b, p. 24) and should primarily be used as a vehicle to learn, experience, and practice how to produce food; learner participation in food gardening leading to better knowledge of food production was documented in the ToC. This is in line with international good practice and the recommendation that it is unrealistic to expect food production in schools to sustain a nutrition programme (Bundy et al., 2009, p. 48).

The KPI instrument revealed that many schools are preparing fewer vegetables than they should for the number of NSNP-approved learners (see Section 4.2.1), and the fieldwork notes indicate that schools face challenges with suppliers not delivering vegetables regularly or in the expected quantities and with vegetables going off (due to lack of refrigeration facilities). Thus, there is potential for food grown locally to address some of these challenges and improve the quality of meals. This would be in line with the focus of Bundy et al. (2009), on appropriate local sourcing of food as a core component of a successful school nutrition programme.

The NSNP annual reports indicate that the number of schools with food gardens is expanding in most provinces: in 2012/2013, there were 4,671 school food gardens, and in 2013/2014 there were 8,717 school food gardens. Despite the 2012/2013 data being missing for two provinces, the increase is marked, particularly in the Eastern Cape and KwaZulu-Natal. The ratio of schools to food gardens was lowest in the Free State and the Eastern Cape, indicating that these provinces have the highest number of food gardens in relation to NSNP schools. The annual report data is contrary to the finding by

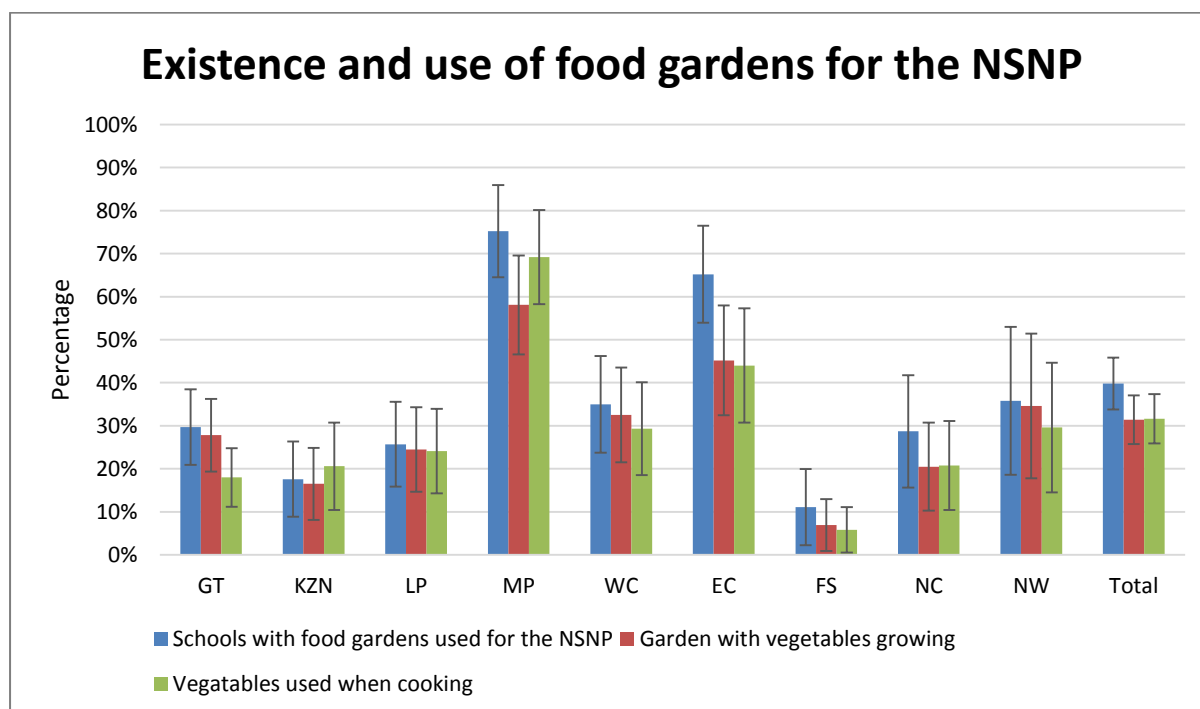
Rendall-Mkosi et al. (2013, p. 23), that the number of school food gardens in South Africa declined in recent years and may indicate a recent revitalisation.

As there is limited funding available to support food production, PEDs have established partnerships with government departments, agricultural colleges, municipalities, and NGOs to drive this component. Some of these partnerships appear to be very beneficial. Some PEDs have established relationships with the Department of Public Works which provides “gardeners” employed by the EPWP to work in the school gardens. However, some challenges were also reported in this regard, with the gardens not being maintained as they should be by the Expanded Public Works Programme (EPWP) workers. A few schools had taken the initiative to involve unemployed community members in tending the school garden. However, in the Free State, the fieldworkers found that in several schools community members had “taken over” the school garden and it was not being used to benefit the school or the learners (fieldwork notes).

Fieldwork observation established that 39.8% of schools had vegetable gardens which were being used for the NSNP. This is in line with the figures reported in the latest NSNP annual report. Furthermore, 23.9% of schools had gardens that were reported to be well maintained, and 31.4% had gardens with vegetables growing in them. Although not part of the survey questions, it was ascertained (from fieldwork notes) that the main reasons for schools not having functional food gardens were lack of dedicated personnel to work in the garden and lack of water.

The schools that had vegetables in their gardens were growing an assortment, including spinach, cabbage, pumpkin, butternut, potatoes, sweet potato, and beetroot. The most common vegetables, as reported by fieldworkers and NSNP Co-ordinators, were spinach, cabbage, and pumpkin.

Figure 26: Schools with food gardens, gardens with vegetables growing in them, and use of vegetables for the NSNP. Source: Observation and VFH survey

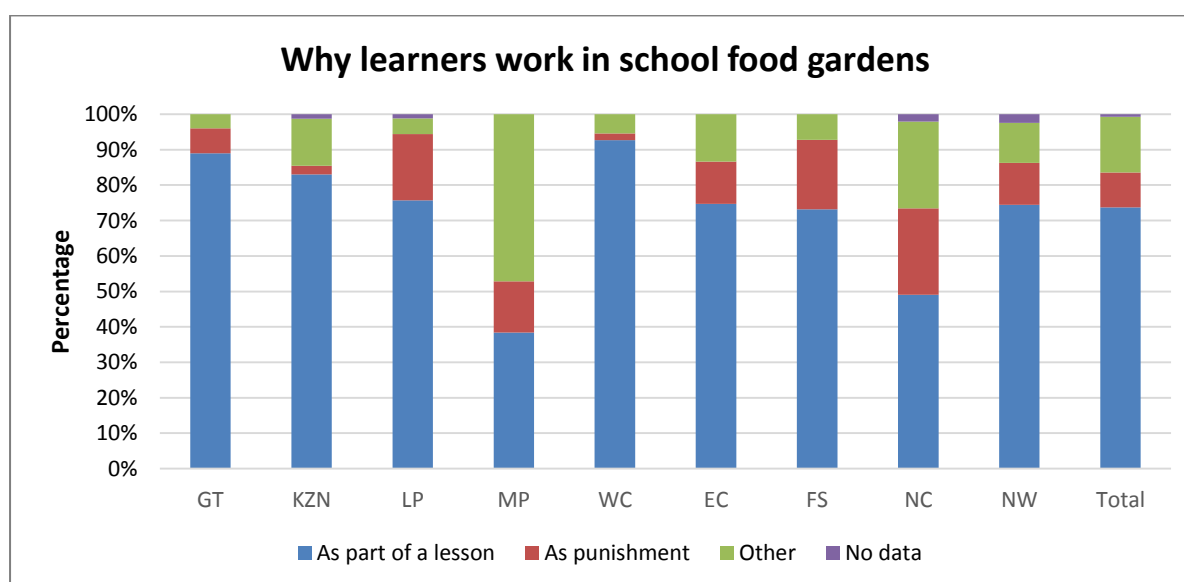


Regarding the use of vegetables grown in the school garden to supplement the NSNP, 37.2% of NSNP Co-ordinators said the school garden was being used in this way. This was confirmed by 31.6% of VFHs who said they used vegetables from the school food garden when cooking. There was considerable provincial variation: these figures were highest in Mpumalanga and the Eastern Cape and lowest in the Free State. However, cross-referencing data regarding the quantity of food (vegetables) against this does not show that schools that supplement from their gardens are preparing greater quantities of vegetables.

Less encouragingly, only 11.5% of NSNP Co-ordinators indicated that the school food gardens were used for teaching and learning. In Gauteng and the Western Cape, 21% and 20.8% of NSNP Co-ordinators respectively indicated that school food gardens were being used in this way. Provinces in which the fewest gardens were used in this way were KwaZulu-Natal (0%), Free State (1.8%), and the Northern Cape (2.4%).

Learning from the school food garden need not only be didactic – learners can develop skills needed to start their own gardens at home or develop an interest in agriculture through experiential learning, working in the garden. However, the learner survey revealed that the chances of this happening are slim. Only 22.2% of the surveyed learners indicated that they helped in the school food garden. Of those learners who said they worked in the garden, 70.7% did so as part of a lesson. Of concern, 9.4% of learners who said they worked in the garden did so as punishment – which means they would associate gardening with corrective action rather than something enjoyable which they can benefit from. This percentage was highest in the Northern Cape, where 21.4% of learners who worked in the food garden said they did so as punishment.

Figure 27: Why learners work in school food gardens. Source: Learner survey



4.2.7 Deworming

The literature review highlighted the value and cost-efficiency of de-worming in terms of health and nutritional benefits for children. Deworming was reintroduced as part of the NSNP in 2015 and the CGF for 2015/2016 stipulates that 0.5% of the funding received should be spent on deworming (National

Treasury, 2015). However, the deworming component of the NSNP was in its very early implementation stages at the time of the evaluation.

4.2.8 Summary

This section addressed the question of whether the NSNP is effective to the extent that learners receive quality meals and services, the key output being serving of **a nutritious meal on time every day**. A key finding is that learners are – for the most part – receiving NSNP meals, but there is room for improvement regarding the composition of the meals (food groups and quantities). Few schools are managing to serve NSNP meals by 10:00 am, negating the value of the meals in improving learner concentration, and a number of challenges lead to meals not being served every day in some schools. This is of concern as a substantial proportion of learners (22.7%) do not eat breakfast at home before they come to school and are reliant on the meals which they receive at school for energy.

Only half (50.2%) of schools visited served three food groups on the day of fieldwork. Some provinces were better than others in this regard, namely Gauteng, the Free State, Limpopo and the Western Cape in which the majority of schools served three food groups. The worst performing provinces were the Northern Cape and KwaZulu-Natal in which just one third of schools served three food groups. The food group most likely not to be served was fruit/vegetables.

The NSNP meals aim to provide 25-30% of the RDA of energy for primary school learners. However, literature recommends that if children spend half a day at school, school meals should provide more and meet 30-45% of children's energy requirements (Bundy et al., 2009). Literature also recommends that feeding be combined with micronutrient supplementation to enhance the nutritional value of food.

The energy and nutritional content of the NSNP meals was not assessed, except in so far as the quantity of food prepared was analysed in relation to the number of learners approved for NSNP feeding and the approved provincial menus. Via this, a tendency was found to prepare more starch than is required, except in certain provinces (the Western Cape, Gauteng, and Mpumalanga). Conversely, there was a tendency to prepare fewer vegetables than were required, except in the Free State. With regards to protein, some provinces (Free State, Mpumalanga, KwaZulu-Natal, and the Northern Cape) prepared more than the required amount, whilst the other provinces prepared less. Cognisance must be taken that the *actual* number of learners who eat the NSNP meals may be more or less than the number *approved* for the NSNP. It seems that in certain provinces and schools learners are receiving less than the specified amount of certain food groups, particularly vegetables. This is of concern as outside of school, South African children's diets are carbohydrate rich, but contain limited fresh fruit and vegetables and animal protein (Steyn, et al., 2006).

In a number of schools it was reported that learners do not enjoy soya and this reduces protein intake and leads to wastage on days when soya is served. This was confirmed by the learner survey: less than half (44.8%) of learners indicated that they like soya. Learners not liking soya may be related to the high proportion of schools (41.7%) serving soya which does not meet the NSNP soya mince specification. The majority of learners (68.3%) who ate reported that they enjoyed the NSNP meal, but, of concern is that 24.8% of learners who ate were "still hungry" afterwards.

Literature recommends that learners be fed in the morning - preferably before the start of school – to maximise the benefits for concentration and learning (Adelman et al., 2008; Bundy et al., 2009; CCBR,

2008; McLaughlin et al., 2002). NSNP feeding should be completed by 10:00 am, except in provinces and schools which serve breakfast as well as lunch. In all provinces except Limpopo, the majority of schools did not complete feeding by 10:00 am. The median and mean times by which the last learner finished eating was after 10:00 am in all provinces. The Eastern Cape, Free State and Gauteng schools which did not serve breakfast performed worst in this regard. The key reported challenge is that VFHs are unable to prepare and cook the NSNP meals in time. This will compromise the extent to which the NSNP is able to improve learners' concentration in class.

Meals were not served on the day of fieldwork in a number of schools, including schools in the Eastern Cape (3), KwaZulu-Natal (2), the Northern Cape (2), Gauteng (1), Mpumalanga (1), and the Free State (1). School stakeholders confirmed that there are days when feeding does not take place: this was more common in centralised (48.2%) than decentralised (26.5%) provinces. The worst province in this regard was KwaZulu-Natal. The main reasons for feeding not occurring were late delivery by the supplier and funds not being received in time. In the worst cases, days or months were reported to have passed with no NSNP feeding occurring; such reports are troubling and require further investigation.

Schools in several provinces face challenges with respect to a lack of basic infrastructure – water, storage facilities, food preparation areas – and limited food preparation and serving equipment – which impedes health and safety. These challenges have been consistently noted in other evaluations of the NSNP (Graham et al., 2015; PSC, 2008, p. 45ff; Rendall-Mkosi et al., 2013). Infrastructural challenges are most evident in KwaZulu-Natal, Gauteng and Mpumalanga. Of concern also are the poor health and safety practices - primarily with respect to the safe storage of gas - and existence of fire extinguishers.

Supervision of feeding has been identified as a critical success factor in ensuring that the targeted children receive and eat school meals (Kristjansson et al., 2016). Teachers should supervise learners when they eat but teacher supervision was observed in less than half (43.6%) of the schools visited for fieldwork.

The nutrition education and food production components are expected to improve and enhance knowledge which is believed to contribute to making healthy food choices. Relatively low uptake of LTSM developed by the NSNP was found. But despite this, a high percentage of learners (89.6%) reported learning about healthy and unhealthy food in Life Orientation lessons and the majority of learners are able to correctly identify healthy and unhealthy foods.

Food gardens are not present in the majority of schools: 39.8% have vegetable gardens which are being used for the NSNP, and Mpumalanga and the Eastern Cape are the strongest in this regard. The primary use of school food gardens is supporting the NSNP: only 11.5% of NSNP Co-ordinators indicated that school food gardens are used for teaching and learning, and 22.2% said they help in the school food garden.

4.3 Programme fidelity and efficiency

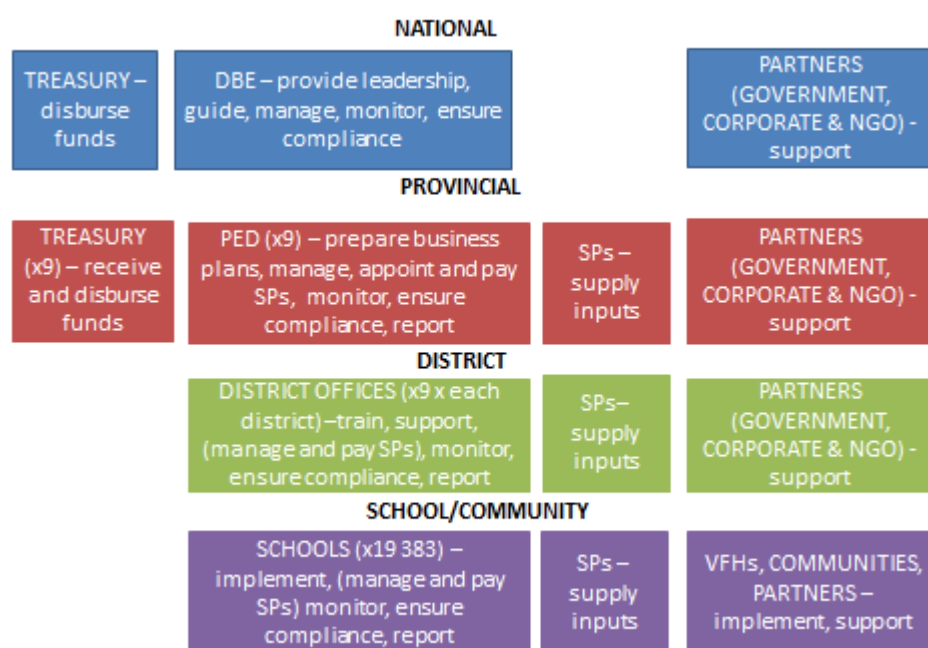
The section discusses issues of fidelity (whether the programme is being implemented as planned), operational efficiency, and variations in implementation between provinces and the centralised and

decentralised models. The main focus is on the efficiency²⁹ of the key NSNP business processes. The discussion in the preceding Section (4.2) identified some challenges which impact on programme **effectiveness**, and this section builds on that.

4.3.1 Roles and responsibilities and capacity

The NSNP is a multi-stakeholder programme operating and involving stakeholders at four levels: national, provincial, district, and school. The institutional arrangements pertaining to implementation were presented in Section 1.1.5; Figure 1 from this section is reproduced below. As was discussed, the institutional arrangements vary somewhat between provinces and more substantially between models (centralised and decentralised). The key difference is that in the centralised model PEDs are responsible for appointing, managing and paying service providers whereas in the decentralised model this responsibility is devolved to schools. International literature highlighted that an array of options are possible in terms of procurement and logistics for a school nutrition programme and no particular arrangement is infinitely superior; contextual factors matter. Importantly, if procurement and logistics are decentralised, adequate capacity must be built, to ensure implementers, managers and other role players can execute their roles and responsibilities adequately (Drake et al., 2016).

Figure 28: Institutional arrangements for the NSNP. Source: JET 2015.



SP=Service provider

²⁹ Key evaluation question 2 asks whether the operational procedures are effective to ensure the timely delivery of food., We have chosen to locate this in the section on efficiency and consider the extent to which the business processes are working efficiently and thereby contributing towards achieving programme results (effectiveness).

From the interviews which were conducted, all national, provincial, and district stakeholders displayed a good understanding of their roles and responsibilities, as outlined in the NSNP guideline documents (DBE, 2010b, p. 26; National Treasury, 2014a, 2015, and 2016).

Provincial officials lauded the support that the DBE offers them. However, there were mixed feelings from district officials with regards to how the PEDs are executing their responsibilities. District officials from Free State, Mpumalanga, Gauteng, the Western Cape, Eastern Cape, Northern Cape, and North West were all appreciative of the support they received from provincial co-ordinators and managers, citing as positive aspects: the provision of effective monitoring tools; quick response times to queries; open communication; provision of training and support; monitoring visits; provision of materials; and assistance compiling reports. However, some district officials in Limpopo and KwaZulu-Natal were somewhat disgruntled with the way in which provincial co-ordinators executed their duties with respect to the programme, citing lack of capacity and lack of support from national officials as possible reasons for the poor support from provincial officials. It is worth noting that the Limpopo PED was under administration at the time of this evaluation, and provincial officials expressed some frustration in this regard, as their powers had been limited.

Ability to fulfil expectations regarding roles and responsibilities is dependent on having sufficient staff, on supporting resources being in place, and on the staff being adequately skilled and capacitated. There are no national guidelines regarding staff and resource allocations for the NSNP. As was noted in Section 1.1.5, the number of staff working on the NSNP and the organogram (i.e., level, structure, and specific responsibilities of staff) varies greatly between provinces.

In the Free State and the Northern Cape, challenges were noted relating to the NSNP being located and managed at a more junior level than interviewees thought it should be:

“I must liaise with the [Deputy] Director who is at my level and expect him to take my concerns through the ranks but I have to follow protocol. If I want to speak to the Director at the Department of Agriculture I cannot do that because I am a Deputy Director. At my level it is not easy to reach other Directors in my unit because people are conscious of their titles” (Northern Cape Provincial Official).

District officials who were interviewed noted a number of staffing and resource challenges which they felt interfered with fulfilment of their roles and responsibilities and, specifically, their ability to support schools. Additionally, shortages of finance staff and data capturers were reported at district level, impacting on PEDs’ ability to pay suppliers timeously (in centralised provinces where payments are approved or made at district level), compile accurate data on NSNP feeding, and prepare reports. PEDs have different targets in terms of school monitoring visits, and districts have different ratios of monitors to schools. In some districts, the ratio of NSNP monitors to schools was said to be very high.

“While the other districts in the Free State have an average of about 31-32 schools per monitor, we have double the work load compared to the others” (Free State District Official).

“In an area where there are 72 schools we only had 40 days in which to cover them which was a very difficult and timeous task. Sometimes you go to a school that is not complying and they need your support. That means you sit at the

school and you check because they are struggling to do the right thing. Then you have to revisit them and that means other schools are going to suffer because they are not going to be monitored. We have a problem with revisiting the schools that are not performing well” (North West District Official).

In some provinces – notably the Eastern Cape and Gauteng - it was reported to the fieldwork team by school stakeholders that there was a high turnover of district officials working on the NSNP due to the low salaries offered and the posts not being permanent. Further, it was reported some NSNP monitors were themselves not adequately capacitated and were thus challenged when supporting schools (fieldwork notes).

Lack of vehicles was a challenge reported by district officials in KwaZulu-Natal, the Free State, Gauteng, the North West and Limpopo. Only officials from the Western Cape indicated they did not have transport problems. A North West provincial official indicated that the province had made provision for purchasing new vehicles in the 2014/2015 financial year, and the Department of Transport would fund these. Some districts appeared to have sufficient monitors, but their movements were hampered by lack of regular vehicle access.

“Each district has two people and two vehicles. We used to hire vehicles but we managed now to purchase vehicles per districts. We recently purchased a vehicle for the office. The fieldworker also has a vehicle, so we are covered with transport” (Western Cap Provincial Official).

“Three circuits have only one bakkie and we are two [monitors]. That would mean if they have to visit a farm school, one must go to the farm school and the other one has to go to the nearest school” (North West District Official).

Training of school level stakeholders - which is a key responsibility of districts – was found to be a weak area in other reviews of the NSNP (; Langsford, 2012; PSC, 2008, p. 45ff; Rendall-Mkosi et al., 2015). This study found a similar challenge. Limited training at school level may be related to the human resource capacity challenges at district level discussed above. The main reasons cited by provincial and district officials who were interviewed for school-level stakeholders not being trained were: inadequate funds; lack of staff to run the training; and high turnover of stakeholders involved in the NSNP (particularly VFHs) annually:

“We planned for financial management workshops, we have the meal planning and food preparation workshops and we have 20 workshops planned for our 20 municipalities, but in reality only about 10 of the 20 workshops will be conducted. Due to lack of staff they [district officials] are unable to train as required so there is insufficient training on all levels” (Free State Provincial Official).

The NSNP training that had been offered at school level included financial management (in decentralised provinces), procurement (in decentralised provinces), meal planning, food safety, health and hygiene, and cooking and food production (DBE, 2015c, and survey findings). The following was found:

- According to around 60% of school principals, the school had received some training on the NSNP. This percentage ranged from 80-90% in the Northern Cape, Free State, Mpumalanga, and Limpopo to a low of 32.2% in KwaZulu-Natal.
- NSNP Co-ordinators and principals were most likely to have participated in training on how to manage the NSNP, with lower levels of participation from administrative clerks, SGB members, and other school stakeholders. The most attended training session was meal planning and food production.
- These findings were verified by NSNP Co-ordinators: 63.4% confirmed that they had attended training. The main training sessions they had participated in were: “Completing Food Handler’s Forms” (35.9% of respondents) and “Utilisation of Gas” (27.2% of respondents).
- There were substantial variations per province: in all provinces except KwaZulu-Natal and the Western Cape, the majority of NSNP Co-ordinators reported attending training. Participation in training was highest in provinces using the decentralised model - more than 80% of NSNP Co-ordinators in the Northern Cape, Free State, and North West had been trained.
- VFH’s should be rotated annually and the new cohort of VFHs should be trained before they commence work. Low uptake of training by VFHs was reported – nationally, only 41.9% of VFHs reported having received training. Mpumalanga had the highest proportion of VFHs who had been trained (86.9%), whereas in the Free State, only 5.2% of VFHs had received training. The training offered and the percentage of VFHs who said they had attended was as follows:
 - Practical cooking (39.8%);
 - Health and hygiene (35.1%);
 - Food safety (25.1%);
 - Gas safety (24.1%);
 - Practical gardening (3.2%).

A good practice was identified in Mpumalanga: a provincial official explained that some VFHs had benefitted from intensive training:

“Many food handlers were taken for intensive training for two weeks at a hotel school, and this appears to have had a positive influence on the food preparation at those schools” (Mpumalanga Provincial Official) .

However, in the same province, concern was expressed by some district stakeholders regarding the limited training of other VFHs, which was said to affect their ability to prepare and serve meals:

“The food handlers are not properly trained because they are newly contracted each year, and they are not properly orientated, nor do they have experience from previous years and training workshops. As such they often cook below levels expected” (Mpumalanga District Official).

Learners at a number of schools in several provinces complained that their food was not well prepared by VFHs (fieldwork notes).

The low level of training of VFHs is of concern: health and safety in the storage and preparation of food, preparing the right foods in the right quantities, preparing tasty meals, and serving meals on time are, to a large extent, dependent on VFHs being knowledgeable and skilled; new VFHs should receive

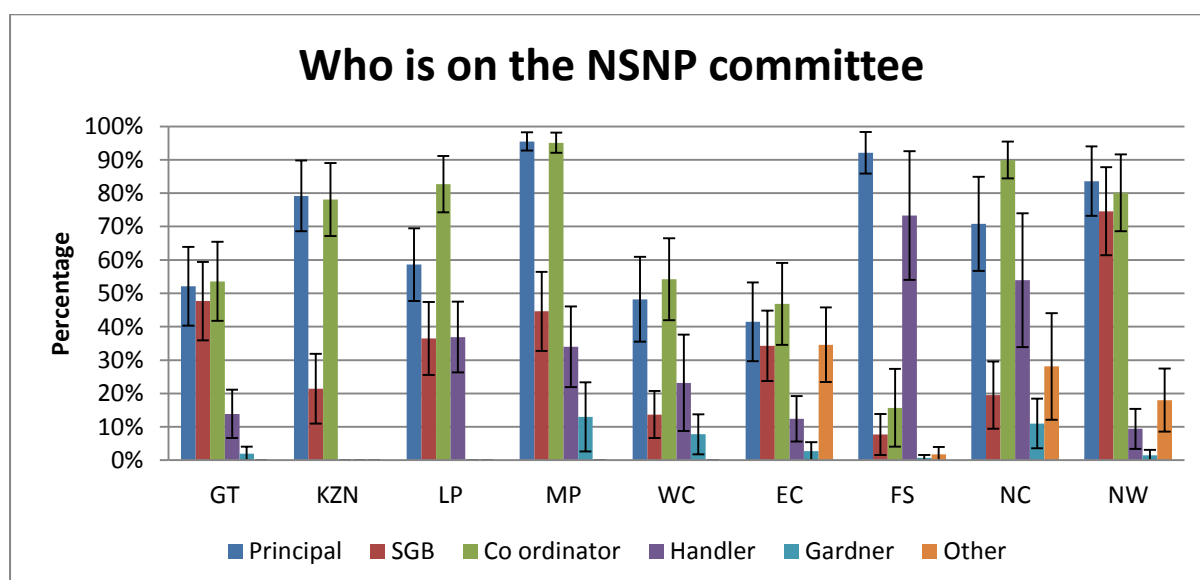
training in all of these areas. Incidents of food poisoning were reported in three provinces in the past year and, in the worst case, resulted in death (DBE, 2015b).

VFHs should be rotated annually so that the opportunities can be offered to others. However, there were a number of schools visited for fieldwork – particularly in the Western Cape and Limpopo – in which at least one VFH had been engaged for more than one year. Some schools had VFHs who had been working for the NSNP for up to 10 years (fieldwork notes). This practice is not in line with the NSNP guidelines. However, there are some advantages of retaining VFHs for more than one year, particularly if training opportunities are limited: VFHs who have been with the NSNP for some time will have more experience and are likely to be more knowledgeable and skilled.

The NSNP should be overseen by an NSNP or nutrition committee, which is a sub-committee of the SGB. In schools using the decentralised model, the finance committee – another sub-committee of the SGB – should have oversight of NSNP funds. The NSNP committee should include at least: SGB members, a VFH, educators responsible for the NSNP, and SMT members responsible for the NSNP (DBE, 2014b).

Strong participation by principals and NSNP Co-ordinators (educators) was evident, but participation – which can be considered an indicator of ownership - by community stakeholders - was weaker. In all provinces except the Eastern and Western Cape, in the majority of schools the principal participated in the NSNP committee. In all provinces except the Free State and Eastern Cape, in the majority of schools the NSNP Co-ordinator participated in the NSNP committee. However, in only 30.9% of centralised and 36.2% decentralised schools was an SGB member reported to be part of the NSNP committee. The participation of VFHs was even lower, at 23.2% and 21.8% in centralised and decentralised schools respectively.

Figure 29: Participation in the NSNP committee, according to school principals. Source: Principal survey



4.3.2 Core business processes and implementation variations

The core business processes of the NSNP have been identified as: planning and budgeting; disbursement of funding; procurement; ordering, delivery and payment; food preparation and serving;

and monitoring and reporting. These are the inputs, activities, and outputs in the NSNP ToC (Chapter 2) and occur at various levels (i.e., national, provincial, district, and school). In the case of funding disbursement, procurement and ordering, and delivery and payment, the levels and stakeholders involved depend on the model followed by the province (i.e., centralised or decentralised). There are also some variations in how different provinces implement the models. Table 27 summarises the “standard” implementation processes for provinces following the centralised and decentralised models and highlights the variations in implementation in different provinces.

Table 27: Implementation of business processes in provinces. Source: Stakeholder interviews, verified by survey data

	Planning and budgeting	Funding disbursement	Procurement	Ordering, delivery and payment	Food preparation and serving	Monitoring and reporting
Centralised	DBE and PEDs discuss the CGF; PED develops a business plan which is approved by the DBE and forwarded to Treasury; the business plan forms the basis for budgeting.	Funding disbursed from National to Provincial Treasury in tranches as per the CGF; Some provinces disburse funds to districts to make payments.	SPs are appointed following a tender process; province develops tender specifications; a procurement committee oversees the tender process; PED develops an SLA and trains the SPs; SPs are rotated periodically.	PED orders for schools; Schools are provided with a delivery schedule (products, quantities, dates); schools check deliveries and sign a note to confirm they are correct; SPs submit invoices with supporting documents to the district or PED.	VFHs prepare food daily, following the prescribed menu; meals should be served by 10:00 am; food is served by VFHs and teachers supervise eating.	National, provincial, and district officials visit schools; the major part of monitoring occurs at district level; monitors visit schools to check stock, health and safety, food preparation and serving, and NSNP files; schools maintain files and report monthly to the district; districts report monthly to PEDs on feeding days and number of learners fed; PEDs report quarterly to the DBE on performance and financials.
Decentralised	As above, but business planning is cascaded down to districts and, in some cases, schools;	Funding disbursed from National to Provincial Treasury in tranches as per the CGF; Provinces disburse funds to schools to make payments;	SPs are appointed following the quotation model; province assists schools to define requirements; schools obtain 3 quotations; a school-based procurement committee selects SPs; districts approve SPs; schools develop SLAs with their SPs; SPs are rotated every 3-12 months;	Schools order from SPs; schools check deliveries and sign a note to confirm deliveries are correct; SPs submit invoices with supporting documents to schools; schools make payments and file invoices.	As above	As above, but school reports include financials.
Gauteng		Funds are disbursed to schools to buy fuel and pay VFHs; schools should receive a "resource	Procurement includes site visits to suppliers' and subcontractors' warehouses and offices; contracts are usually	The majority of schools report not having delivery schedules; delivery is monitored (mainly by schools) using	Breakfast is served by 07:30 am and lunch by 12:30 pm.	The first week of the month is set aside for PED monitoring, and random visits are also conducted; the PED and the district use the same tool

	Planning and budgeting	Funding disbursement	Procurement	Ordering, delivery and payment	Food preparation and serving	Monitoring and reporting
		allocation” document which specifies their quarterly allocation.	awarded for 3 years, but SPs were appointed in 2015 for 18 months; SLAs are shared with districts who are supposed to share the information with schools; SMME suppliers are mentored by “big brothers”.	a tool developed by FUEL; districts are involved if there are problems with delivery; payments are made monthly at provincial level.		when monitoring; each district has a “co-ordinator” for the NSNP and scholar transport; district reports are not verified; challenges are discussed at inter-district meetings.
KwaZulu-Natal		VFHs are paid by service providers.	Procurement is co-ordinated by districts; procurement favours SMMEs and women-owned suppliers; SPs were last appointed in 2013; contracts have expired, but are extended every 3 months.	Monitoring is supposed to be done by districts and districts address challenges; the majority of schools did not have delivery notes filed; payments are made at provincial level, except in four districts which check payments and process invoices.		PED is not able to monitor schools due to lack of capacity; a standard monitoring tool which uses a colour coding system is used; the Strategic and Monitoring Directorate of the PED verifies reports.
Limpopo	Districts develop district budgets which feed into the business plan.	Funds are transferred to districts and then schools to buy fuel and pay VFHs; schools receive a “budget” which shows their allocated funding; schools participating in a pilot receive funds to buy food.	SPs are appointed by the Administrator currently; SPs were appointed for 2 years; 11 “wholesalers” supply schools, there are no SLAs in place currently.	The majority of schools report not having delivery schedules; in the majority of schools delivery notes were signed even though there were shortages; invoices are checked at circuit and district level and payments processed at district-level.		There should be one monitor per circuit, but there are 27 vacancies currently; the PED has an annual monitoring plan and a standard monitoring tool.
Mpumalanga		Funds are disbursed to schools to pay VFHs and purchase	Favours SMME and women-owned suppliers; SP contracts are renewed	Schools are provided with delivery schedules; the PED has developed		

	Planning and budgeting	Funding disbursement	Procurement	Ordering, delivery and payment	Food preparation and serving	Monitoring and reporting
		equipment/utensils; schools receive a "budget" at the beginning of the year.	every 3 years.	implementation guidelines which cover most aspects of delivery; invoices are checked and payments processed at district-level.		
Western Cape		Funds are disbursed to schools to pay VFHs; SPs provide funds to schools to buy gas; schools participating in a pilot receive funds to buy fruit and vegetables.	SPs are appointed every 2 years; principals are invited to a briefing meeting at the beginning of a new tender.	The majority of schools report not having delivery schedules; districts intervene if there are challenges; payments are made at provincial level weekly.	Breakfast (flavoured maize meal or sorghum) is served by 07:30 am and lunch by 12:00 pm; raisins are provided instead of fruit in summer; 10 schools in a deep rural area do not serve cooked meals.	Each district has a district co-ordinator and a fieldworker and 2 vehicles for monitoring; schools are monitored termly; district plans and reports are verified.
Eastern Cape		Funds are disbursed to schools to buy food and fuel and pay VFHs; schools receive specific budgets.	Some schools do not understand the procurement process and have a list of items rather than quotations; schools are supposed to rotate SPs every 3 months, but some schools have used the same SP for many years.	Schools have specific budgets and menus which provide guidance re quantities; schools have a "checklist" which helps monitor deliveries; schools pay SPs.	Schools may request permission to deviate from the provincial menu.	The province has 54 monitors; the Monitor, Respond, Report (MRR) model is used which has a standard instrument; district reports include reflection on partnerships.
Free State		Funds are disbursed to schools via districts around 2-3 weeks after province receives funds from National Treasury;	Schools are supposed to obtain 3 quotations and rotate SPs every 3 months; schools have MoAs with SPs and manage the relationship with their SPs.	Districts manage the ordering and delivery of food to farm schools, farm schools sign delivery notes as per the centralised model;	Schools may deviate from the provincial menu.	The province and the district use the same monitoring tool; reports are not always received regularly (monthly) from districts; the province conducts regular internal

	Planning and budgeting	Funding disbursement	Procurement	Ordering, delivery and payment	Food preparation and serving	Monitoring and reporting
		schools receive budgets.		delivery is monitored by schools using a tool.		audits; the anti-corruption unit visits schools if mismanagement is reported.
Northern Cape	Schools “apply” annually to be part of the NSNP; the SGB signs a declaration form to confirm the funds will be used for the intended purpose.	First quarter funding is usually delayed; province disburses funds to schools “as cash flow allows”; schools receive “allocation” letters which defines their budget; schools do not receive notification of funding.	The province invites suppliers to send quotations to schools; SPs are appointed annually by schools and approved by districts; schools have SLAs with their suppliers;	There is a (national) policy for monitoring delivery which specifies how to order and what should be checked during delivery; monitoring is done by schools and districts; schools pay SPs monthly in arrears.	Schools have leeway in terms of designing their own menu, as long as they adhere to designated food groups and quantities; some schools cook too little or too much or do not cook 3 food groups daily.	The province uses a monitoring tool developed by FUEL; schools are “rated” using a colour code system – red, amber, green; province verifies reports submitted by districts (using schools’ reports), but does not have capacity to do this consistently.
North West		Province transfers funds to schools monthly; schools have NSNP-specific accounts; schools receive budgets.	Many schools chose SPs without getting 3 quotations; schools are provided with a “quotation requisition” form; schools sign “agreements” instead of SLAs; schools terminate agreements when they no longer suit them.		The menu is standard in all schools.	The number of monitors per district varies; a standard monitoring tool (red, amber, green) is used; circuit office verifies school reports; Education, Management and Governance Development (EMGD) unit visits schools to assess financial management (including of NSNP funds); internal audits are conducted “where things go wrong”.

4.3.3 Operational efficiency

This section discusses operational efficiency in relation to five core business processes: **funding disbursement; procurement; ordering, delivery and payment; food preparation and serving; and monitoring and reporting.** The overall effect of the programme on the core business of the school, namely teaching and learning - to the extent that it could be determined - is also discussed at the end. Where relevant, comparisons are made regarding efficiency of the business processes in provinces using the decentralised and centralised models, leading to observations about the overall efficacy of the models.

4.3.3.1 Funding disbursement

Timeous disbursement of funding is critical if PEDs and schools are to be able to pay their service providers and VFHs on time, resulting in and nutritious meals served daily. The transfer of funding timeously to schools is particularly important in the decentralised model in which schools are responsible for purchasing food.

In Section 4.2.2 it was seen that funding not having been received in time was one of the key reasons given by principals, NSNP Co-ordinators, and VFHs for schools being unable to feed on certain days. This was most commonly reported by stakeholders in KwaZulu-Natal, the Eastern Cape, and the Northern Cape.

Funds for the NSNP are disbursed from National to Provincial Treasury, and in decentralised provinces, funds are then disbursed to schools. In some centralised provinces (Limpopo and Mpumalanga), funds are disbursed to districts as districts are responsible for making payments. In both models, funds are disbursed to schools to pay VFHs stipends in all provinces except in KwaZulu-Natal where service providers pay the VFHs.

Disbursement of funding from National to Provincial Treasury in both centralised and decentralised provinces was reported to be challenging in the first quarter due to: delays in submission and approval of business plans; funds from the previous year not having been accounted for; and other compliance issues. In KwaZulu-Natal a particular challenge referred to as “cash blocking” was noted:

“There is an issue of cash blocking, where each department had to manage their own bank accounts. So you can only pay to the value of what is in your pot for that month - anything above that, you cannot pay. We had challenges with paying service providers; some had to wait for the next month. It was decided at a meeting that the funds for NSNP should be ring-fenced, so we always have money to pay suppliers. Last year was a nightmare. I was told that it was cash blocking, and you have to pay salaries first, so if you have R3 billion, and salaries are R2.8 billion, you only have R2 million for all the rest. So you can't pay it all” (KZN Provincial Official).

In the subsequent quarters, disbursement from National to Provincial Treasury was said to work relatively well. More challenges were reported with the disbursement of funds from Provincial Treasury to schools. Comparing the efficacy of the different funding mechanisms utilised by provinces and comparing different provinces suggests that overall, provinces using the decentralised model are better able to transfer funds to schools in time. However, there are striking differences between provinces

using the same model, suggesting that efficiency depends – to a large extent – on province-specific systems.

Amongst provinces using the centralised model, Gauteng and Western Cape schools had not experienced any cases in which the funds for buying gas and paying VFH stipends were not paid in time during 2014. Most Principals indicated that the funds were always paid in time. These two provinces also had the highest percentages of schools whose funds for fuel were paid on the first day of school and whose funds for VFH stipends were paid in time for the VFHs to be paid at the end of January 2015. Limpopo and Mpumalanga had persistent problems with poor transfer of funds to the schools, while transfers in KwaZulu-Natal were unreliable and were generally paid in time “sometimes” during 2014; in the largest share of schools, transfers were not paid in time for buying fuel on the first day or paying VFHs at the end of January 2015

Amongst provinces using the decentralised model, the majority of schools in the North West and Eastern Cape Provinces always received funds in time to purchase food during 2014. Receipt of funds was erratic for 64.8% of the schools in the Northern Cape. In 2015, 88.4% of all schools in decentralised provinces received funding in time to purchase food on the first day. However, in 2015, there were some apparent problems in the Free State and Northern Cape, where a substantial percentage (around 12.5%) of schools did not receive their funds in time.

Table 28: Transfer of funds to schools to buy food, fuel and pay VFHs. Source: Principal survey

Province	In 2014, were funds deposited in time to purchase gas and pay VFH stipends?						In 2015, were funds deposited in time to pay for fuel on the first day?				In 2015, were funds deposited in time to pay VFHs at the end of January?			
	Never		Sometimes		Always		Yes		No		Yes		No	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
GP	0,0%	0,00%	11,1%	4,96%	76,0%	9,88%	67,4%	11,32%	12,1%	5,85%	75,0%	10,90%	5,9%	3,57%
KZN	1,7%	1,43%	40,8%	23,29%	2,9%	2,44%	7,5%	4,54%	39,2%	23,85%	7,5%	4,54%	39,2%	23,85%
LP	39,9%	11,48%	45,1%	10,74%	9,3%	6,79%	30,9%	10,67%	62,8%	10,92%	30,9%	10,67%	62,8%	10,92%
MP	31,4%	11,19%	22,2%	11,24%	35,2%	10,96%	28,0%	10,80%	64,1%	11,15%	28,0%	10,80%	64,1%	11,15%
WC	0,0%	0,00%	7,5%	4,00%	90,5%	4,59%	84,9%	8,63%	2,2%	2,28%	85,4%	8,55%	4,0%	2,92%
Total	16,7%	4,90%	34,7%	11,14%	21,2%	4,45%	27,3%	5,83%	44,9%	9,86%	28,0%	5,90%	44,4%	9,92%
	In 2014, were funds deposited in time to purchase food?						In 2015, were funds deposited in time to purchase food on the first day?							
EC	0,0%	0,00%	30,7%	13,06%	66,6%	12,98%	87,4%	5,89%	8,8%	4,96%				
FS	0,7%	0,87%	11,7%	8,89%	15,2%	11,42%	87,5%	9,51%	12,5%	9,51%				
NC	0,0%	0,00%	64,8%	15,80%	35,2%	15,80%	80,0%	11,01%	12,4%	7,92%				
NW	0,8%	0,90%	16,3%	10,39%	82,9%	10,60%	96,8%	2,82%	1,0%	1,07%				
Total	0,2%	0,16%	27,8%	9,59%	60,9%	10,46%	88,4%	4,17%	8,3%	3,49%				

The Table below indicates what principals did in instances in which funds were not transferred in time. In centralised provinces, the largest share of schools dipped into school funds. This was reported to be occurring among 37.5% of schools in KwaZulu-Natal, 52.5% in Limpopo, and 63.2% in Mpumalanga. In decentralised provinces, 37.7% of principals reported negotiating for credit with the service providers and paying them when funds were received, whilst 15.4% diverted other school funds.

Table 29: If funds were not transferred in time: what did you do? Source, Principal survey

Province	Use school funds		Did not buy fuel		Did not pay VFH	
	%	SE	%	SE	%	SE
GP	100,0%	0,00%	0,0%	0,0%	0,0%	0,00%
KZN	95,8%	5,73%	0,0%	0,0%	0,0%	0,00%
LP	83,5%	8,67%	0,0%	0,0%	6,7%	6,63%
MP	95,5%	3,43%	0,0%	0,0%	1,9%	1,97%
WC	100,0%	0,00%	0,0%	0,0%	0,0%	0,00%
Total	90,8%	5,04%	0,0%	0,0%	3,1%	2,97%
	Use school funds		Did not purchase food		Supplier gave us credit	
EC	48,3%	27,77%	0,00%	0,00%	51,7%	27,77%
FS	55,0%	15,96%	5,60%	5,70%	31,4%	14,36%
NC	16,7%	16,70%	0,00%	0,00%	83,3%	16,70%
NW	100,0%	0,00%	0,00%	0,00%	0,0%	0,00%
Total	48,2%	20,23%	1,10%	1,16%	49,2%	20,11%

The decentralised model appears to give schools more options when dealing with disbursement delays, although these still create challenges. The fact that schools can negotiate with their service providers signals that good working relationships have been established; this was corroborated by district officials who were interviewed.

Having a separate bank account for NSNP funds can assist with accountability and financial management. However, it may result in schools accruing additional bank charges. A decision regarding whether or not schools can have a separate bank account is usually taken at provincial level. The provinces in which principals reported having separate NSNP bank accounts were predominantly Limpopo (97.2%) and the North West (58.8%) and, to a lesser extent, Mpumalanga (20.4%). Very few principals in the other provinces reported having a separate bank account for NSNP funds.

4.3.3.2 Procurement

Procurement refers to the appointment of service providers who supply schools. Appointing service providers who will supply good quality food reliably is an important link in the food delivery chain. The literature review identified possible benefits and potential pitfalls of different procurement systems: centralised procurement can result in economies of scale; decentralised procurement is more adaptable to local preferences, can reduce delivery costs (as shorter distances are typically travelled), and support LED, but can give rise to risks in terms of contracting, reliability, and quality of food products which need to be carefully monitored and managed (Bundy et al., 2009; Drake et al., 2016). The literature review also demonstrated that mixed models are possible – for example, central procurement of dry goods and local procurement of perishable goods – and such an arrangement may harness the benefits of both models (Bundy et al., 2009; Drake et al., 2016).

Broadly, the NSNP accommodates two procurement systems: in the centralised model, the PED appoints service providers following a standard tender process. In the decentralised model, schools obtain quotations and appoint service providers for a period of three to six months, after which time they should be rotated and new service providers appointed (DBE, 2013a). In both models, a service-level agreement (SLA) which confirms terms and conditions and can hold service providers accountable should be in place.

The majority (80.8%) of the service providers who were surveyed said they had supplied quotations for all of their services via a tender process. Service providers who indicated they had not done so were supplying services in the Eastern Cape, Gauteng, and Limpopo. Slightly fewer service providers (65.4%) indicated that they had signed an SLA with respect to all of the services they provided to schools. Service providers who had not signed SLAs were predominantly supplying services in the Northern Cape and Free State (two out of three service providers) and to a lesser extent in the Eastern Cape, Gauteng, and Limpopo (one out of three service providers). A similar proportion (61.5%) of service providers said they provided a quotation each time their contract was renewed. Those who said they did not were predominantly from Gauteng and Limpopo.

Amongst the centralised provinces, the process is managed centrally, with little district involvement, except in KwaZulu-Natal where districts review applications and make recommendations regarding suppliers. Evidence presented below suggests that the process in KwaZulu-Natal is not efficient.

It was reported that Gauteng carries out extensive checks prior to appointing service providers:

“During the procurement process there are various checks that are made, which include site visits to the suppliers’ warehouses, the office location, human capacity etc. If the service provider will be outsourcing their goods and services from a third party, we also visit the third party’s warehouse facilities to make sure that they are compliant. Only after all these checks do we recommend the bidder” (Gauteng Provincial Official).

Amongst the decentralised provinces, procurement is managed at school level. All decentralised provinces reported providing training to schools on how to appoint service providers and in two provinces – the Northern Cape and North West – districts provide explicit support to schools in terms of selecting suppliers.

Stakeholders at schools using the decentralised model were asked how suppliers/service providers were selected. In response, the largest share of principals, NSNP Co-ordinators and SGB members indicated that they evaluate quotations and select the cheapest. Anomalous provinces in this regard were the Eastern Cape and the Northern Cape, where a considerable proportion of respondents said they chose the only supplier in the area. In terms of who makes the final decision regarding selection, school stakeholders were most likely to report that the school nutrition committee makes the final decision; this is in line with the NSNP Guidelines (DBE, 2014b). However, a substantial 24.5%-34.3% of school stakeholders said the principal makes the final decision regarding appointment.

Few schools in the decentralised provinces reported having received training on procurement. Whilst 60.6% of principals reported that their school had received training on the NSNP (see Section 4.3.1),

only 18.8% said the training had covered procurement selection. A slightly higher percentage (47.2%) of NSNP Co-ordinators indicated that the school had received this training. The North West and the Northern Cape were the provinces in which training on selecting service providers was reported to be most widespread, with 86.5% and 54.3% of NSNP Co-ordinators respectively reporting that the school had received training on this aspect.

Tender processes not having been completed was not commonly reported as a reason for school feeding not occurring on some days in schools (see Section 4.2.2), except in KwaZulu-Natal where 11.9% of principals who said there were days when no feeding took place cited this as the reason.

The majority of service providers expressed a high level of satisfaction with the tendering and quotation process. Satisfaction regarding the renewal of contracts was lower: 50% of the service providers who had experienced this process rated it as “positive”, with the remaining 50% rating it as “positive with manageable challenges”, “more negative than positive with many challenges” or “completely negative”. Two out of three KwaZulu-Natal service providers who were surveyed rated the renewal of contracts as completely or predominantly negative.

Challenges reported with procurement via the tender system in centralised provinces related to the process being extremely time consuming. An upshot was that in some centralised provinces (KwaZulu-Natal and Limpopo) existing contracts were being extended rather than new service providers appointed (interviews).

Challenges identified with procurement via quotation in the decentralised provinces in some schools were that: schools in remote areas may fail to obtain three quotations because there are few local suppliers; some schools lack capacity to evaluate and select service providers (reported in the Eastern Cape and North West); in the Free State, SGBs involvement in selecting service providers is minimal; schools do not always sign SLAs with their service providers (reported in Northern Cape); using small, local suppliers is expensive (reported in North West); retailers inflate their prices (reported in Eastern Cape); and some schools keep their service providers for many years instead of the recommended three to six months (reported in the Eastern Cape), although this may be because there are few local suppliers (interviews).

The number of NSNP service providers per province varies immensely, even amongst provinces using the same implementation model. This has implications for the processing of payments in provinces using the centralised model and is discussed in Section 4.3.3.3.

Service providers were asked about the length of their contracts and how long they had been providing services to the NSNP: 26.9% had contracts of up to 12 months, and a further 26.9% had contracts of between one and three years. Just one Gauteng service provider reported having a contract of more than three years’ duration. However, some service providers had been providing services to the NSNP for many years: 19.2% had been providing services for less than one year; 26.9% had been service providers for one to three years; three service providers (11.5%) had been supplying services for between three to five and five to ten years respectively; and four (15.4%), including respondents from the Free State, Western Cape, Eastern Cape, and Gauteng, had been service providers for more than 10 years. Retaining the same service providers for many years may be beneficial if good quality services are provided; however, the opportunity and benefits of supplying the NSNP should be rotated, and

having the same service provider for many years may create conditions conducive for collusion and corruption.

Corruption during the procurement process was alluded to by some interviewees in relation to both the centralised and the decentralised models, as indicated below:

“Some provinces have not adopted the decentralised model as certain officials are benefitting on a great scale as some of the officials and service providers are connected persons and receive “commission” from service providers” (DBE Official).

“Schools are conniving with suppliers as they show them what their budgets are so, that certain suppliers can get the business.” (Free State District Co-ordinator).

Some evidence of possible corruption in relation to procurement was uncovered during fieldwork. One school in the Northern Cape was reportedly told by the district office to use a certain supplier; the school had used the supplier for several years, despite being dissatisfied with the service provided, and had now changed to a different supplier, but was afraid of the consequences. Another school in the Northern Cape reported that the district office had changed the supplier without notifying the school.

4.3.3.3 Ordering, delivery and payment

The next steps in the NSNP implementation chain – which are fundamental for ensuring that nutritious meals are served on time - are ordering, delivery, and payment. Late delivery by the supplier was reported as the main reason schools did not always follow the menu (see Section 4.2.1) and the primary reason schools were unable to feed learners on certain days in Limpopo, the Eastern Cape, Gauteng, and Mpumalanga (see Section 4.2.2).

In provinces using the centralised model, orders are placed centrally by the PED and schools are provided with a delivery schedule which specifies the products, quantities, and delivery dates. In provinces using the decentralised model, schools place their own orders. In both models, schools should check their deliveries against delivery schedules or orders and sign to confirm that the deliveries are correct. Service providers present signed delivery notes along with their invoices which are submitted for payment to schools (in the decentralised model) or district offices or PEDs (in the centralised model). Payment should be made monthly (DBE, 2014b; DBE, 2013a).

Ordering and delivery

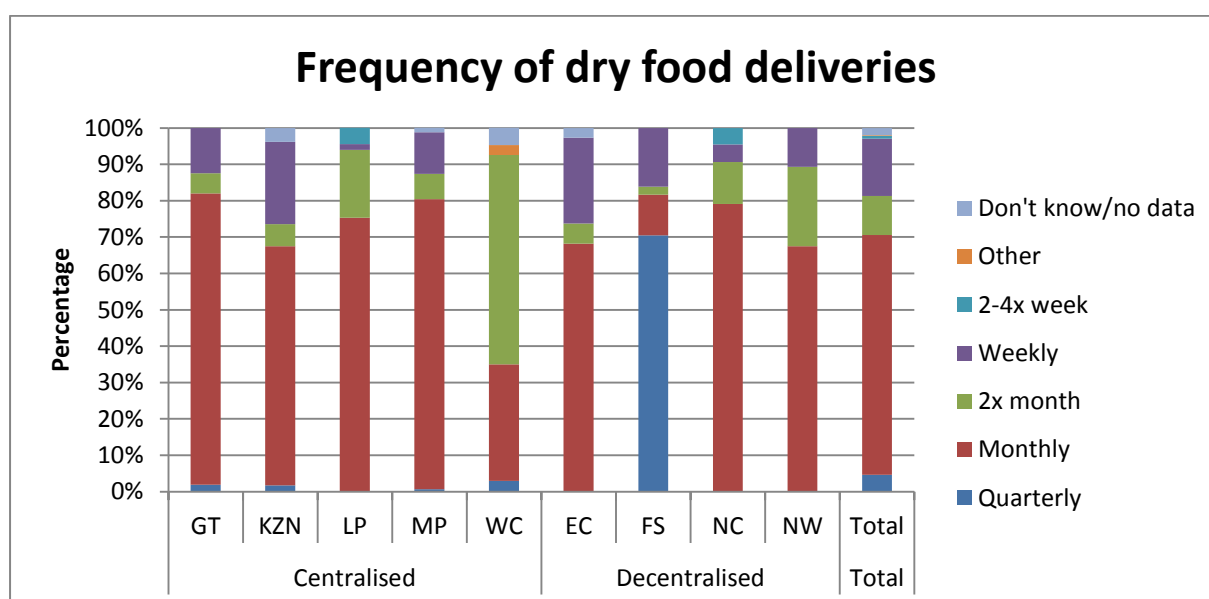
Service providers had positive experiences with the ordering process: 88.5% indicated that ordering was entirely or mostly positive, and no respondents indicated that it was completely or mostly negative.

In the centralised provinces, only 28.2% of NSNP Co-ordinators indicated that they had delivery schedules indicating quantities which the supplier would deliver. Mpumalanga was the only province in which the majority of NSNP Co-ordinators (53.2%) indicated that they had such a schedule. The majority of those NSNP Co-ordinators without a schedule (74.4%) said they did not know what quantities to expect. Limpopo and the Western Cape were the worst provinces in this regard. This is of concern, as schools will be unable to monitor delivery effectively if they do not know what goods they should receive, in what quantities, and when.

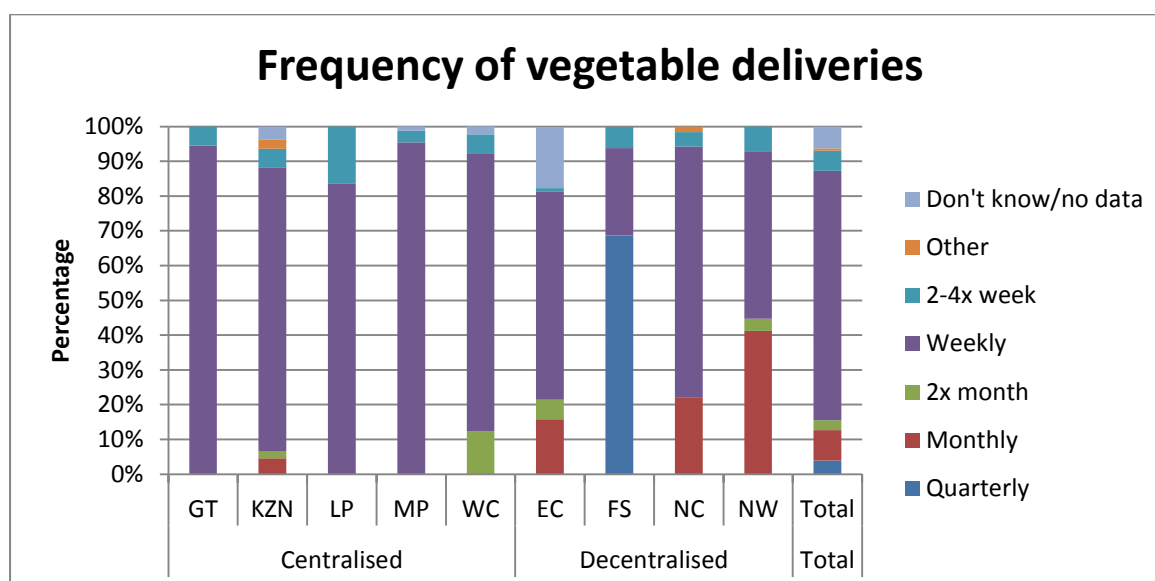
The frequency of deliveries was reported to vary depending on the supplier, the type of goods being delivered (i.e., dry goods or perishables), the location of the school, and other factors. As was noted in Section 4.2.3, few schools have refrigeration facilities. Thus, in most schools, perishables, such as fruit, vegetables, milk, and meat (if delivered) must be delivered frequently and may only be served during a short window period close to the date/time of delivery. The nutritional value of food deteriorates if it is stored for a long time; thus, even dry goods should be delivered frequently.

The figures below indicate the reported frequency of deliveries of dry food and vegetables per province, according to NSNP Co-ordinators. The responses from school principals (which are not displayed) are similar. The most common frequency of dry food deliveries is monthly, except in the Free State where deliveries are most often quarterly and the Western Cape where they are most likely to be twice a month.

Figure 30: Frequency of dry food deliveries. Source: NSNP Co-ordinator survey



Vegetables were most likely to be delivered weekly, except in the Free State where the most common frequency of deliveries is quarterly. This is a concern, as vegetables are perishable food items. In the Eastern and Northern Cape and North West province, a considerable proportion of schools receive vegetable deliveries monthly. Deliveries of dry goods and vegetables in particular are more frequent in provinces utilising the centralised model.

Figure 31: Frequency of vegetable deliveries. Source: NSNP Co-ordinator survey

Service providers had positive experiences with the delivery process: 88.5% indicated that it was entirely or mostly positive, and no respondents indicated that it was completely or mostly negative.

School stakeholders were also asked to rate the delivery system; the responses from NSNP Co-ordinators are presented below. The largest proportion rated both the dry goods and vegetable delivery system as “good”, followed by “excellent”. However, 14.5% of NSNP Co-ordinators rated the vegetables delivery system as “poor”. This proportion was highest in KwaZulu-Natal, Mpumalanga, and the Northern Cape – interestingly not in the Free State, although deliveries in that province were less frequent. A similar pattern is evident in relation to the ratings of principals. Principals were less likely than NSNP Co-ordinators to rate the dry goods delivery system as “poor”, and 70.8% of Northern Cape principals rated it as “excellent”; however, 69.8% of KwaZulu-Natal principals rated the vegetable delivery system as poor. Despite the deliveries being less frequent, NSNP Co-ordinators from the decentralised provinces were more likely to rate their delivery systems as “good” or “excellent” than NSNP Co-ordinators from centralised provinces.

Figure 32: Rating of the delivery system. Source: NSNP Co-ordinator survey

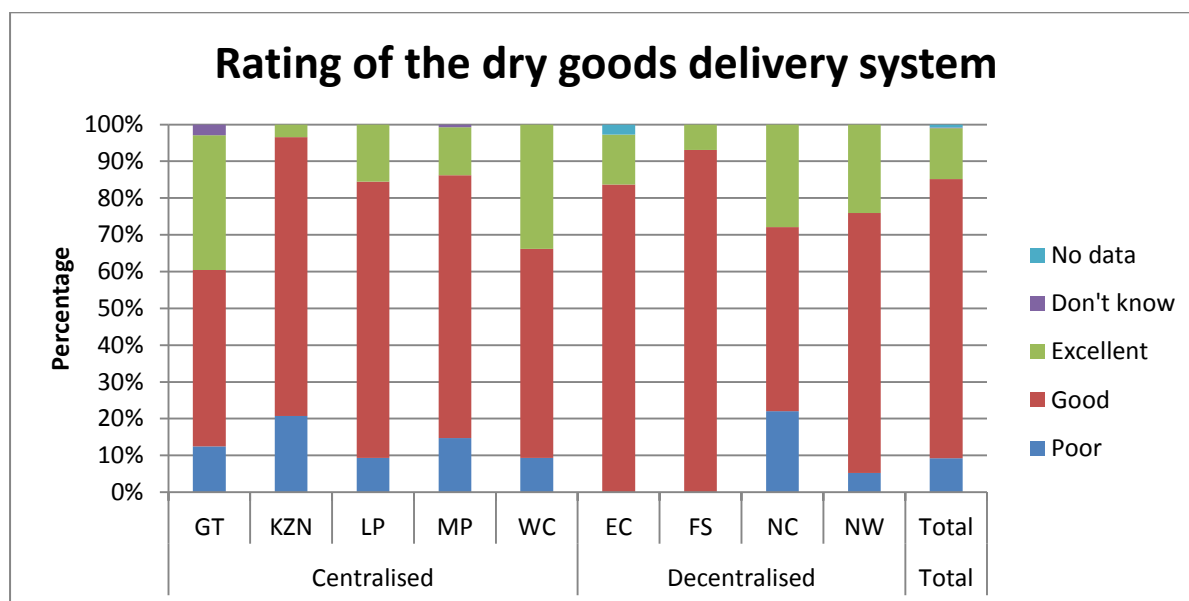
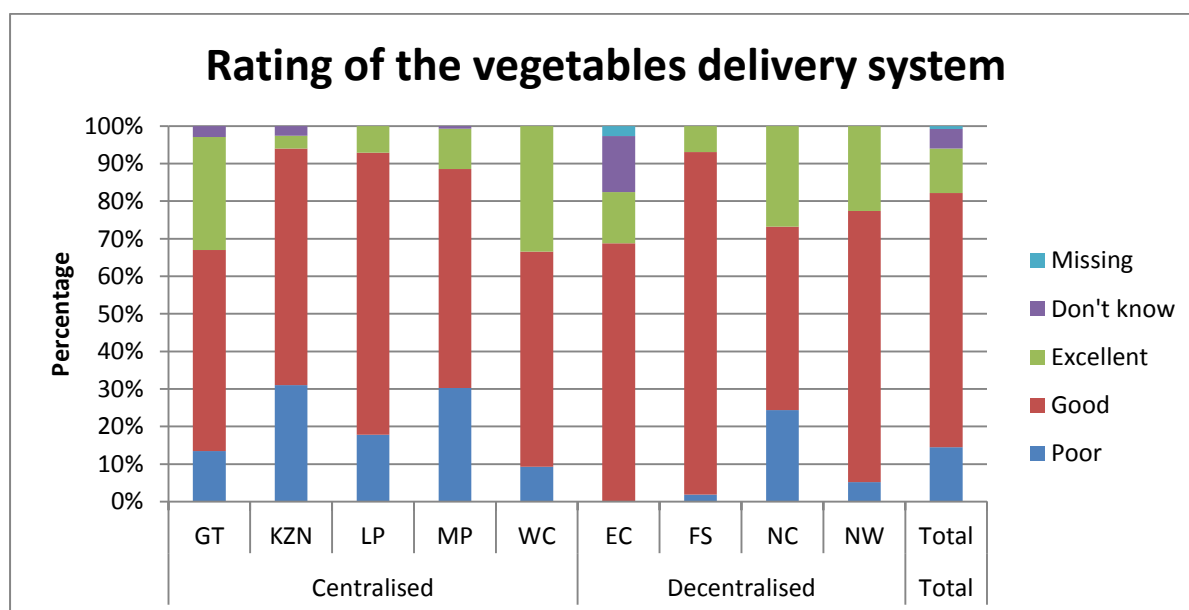


Figure 33: Rating of the delivery system. Source: NSNP Co-ordinator survey



The VFHs were asked whether deliveries were usually made on time: half (53.5%) indicated that dry food deliveries were “always” on time and a slightly higher percentage (60.8%) that deliveries of vegetables and fruit were “always on time”. Problems were indicated with dry food deliveries in KwaZulu-Natal and, to a lesser extent, in the Western Cape and Mpumalanga. Problems were also evident with vegetable/fruit deliveries in the same provinces and in Gauteng. The VFH data indicates that deliveries were more often on time in the decentralised provinces, in which schools may be better able to hold service providers accountable for delivering on time as the schools are the contract holders and responsible for making payments.

Figure 34: Extent to which dry food deliveries are on time. Source: VFH survey

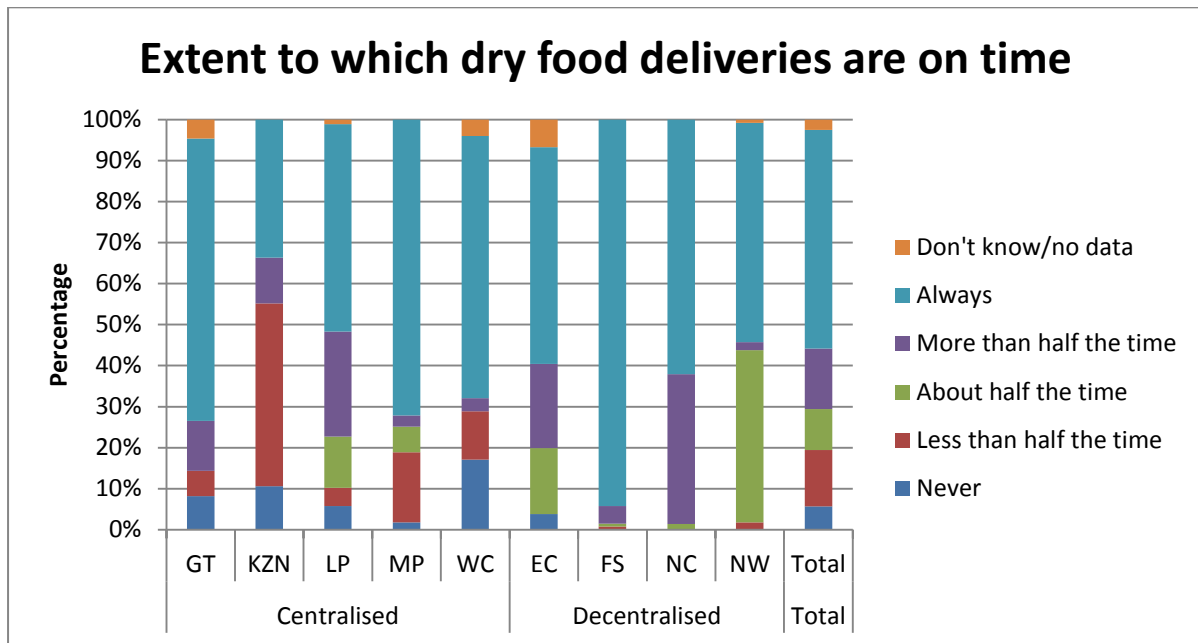
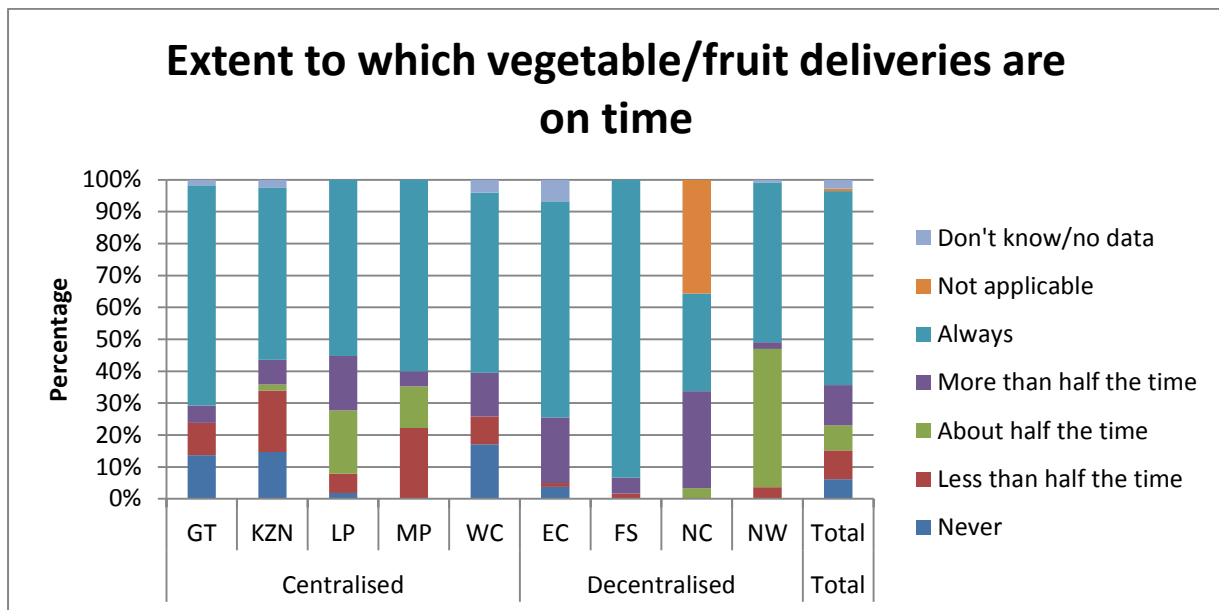


Figure 35: Extent to which vegetable/fruit deliveries are on time. Source: VFH survey



NSNP Co-ordinators were asked whether there were any challenges with delivery. Few challenges were reported in decentralised provinces. Some 17.6% of Eastern Cape NSNP Co-ordinators reported challenges with the delivery cost, and NSNP Co-ordinators in the North West reported challenges with the delivery of expired food (fieldwork notes). On the other hand, NSNP Co-ordinators in centralised provinces reported experiencing challenges such as: goods not arriving when expected (38.7% in Mpumalanga, 34.7% in KwaZulu-Natal, and 19.9% in Gauteng); incorrect quantities being delivered (66.2% in KwaZulu-Natal and 22.9% in Limpopo); deliveries being made after hours (37.8% in Limpopo, 27.9% in Gauteng, and 23.3% in Mpumalanga); and the delivery of food which is past the expiry date (fieldwork notes). NSNP Co-ordinators in KwaZulu-Natal reported experiencing the most challenges. Few delivery challenges were mentioned by in the survey NSNP Co-ordinators in the Western Cape, as indicated below, although some were recorded in the fieldwork notes.

Table 30: Challenges with the delivery system, according to NSNP Co-ordinators

Province	Incorrect goods delivered		Goods do not arrive when expected		Incorrect quantities are delivered		Delivery after hours		Delivery is expensive		Other	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
GT	12,9%	6,08%	19,9%	7,76%	7,6%	4,10%	27,9%	12,48%	0,0%	0,00%	18,5%	7,28%
KZN	5,6%	3,92%	34,7%	15,25%	66,2%	14,85%	10,0%	5,73%	0,0%	0,00%	4,1%	2,70%
LP	0,0%	0,00%	11,1%	5,79%	22,9%	9,64%	37,8%	11,04%	0,0%	0,00%	26,0%	9,65%
MP	5,2%	3,94%	38,7%	11,98%	16,6%	10,62%	23,3%	11,60%	0,0%	0,00%	28,4%	10,60%
WC	0,0%	0,00%	8,9%	5,50%	7,1%	4,32%	7,2%	5,17%	0,0%	0,00%	13,9%	6,14%
EC	0,0%	0,00%	2,4%	2,48%	6,2%	3,91%	0,0%	0,00%	17,5%	13,17%	5,2%	3,28%
FS	1,6%	1,62%	3,9%	3,73%	8,3%	6,86%	5,9%	4,78%	0,0%	0,00%	6,0%	5,03%
NC	0,0%	0,00%	4,7%	3,52%	0,0%	0,00%	0,0%	0,00%	0,0%	0,00%	26,1%	17,38%
NW	0,7%	0,82%	4,4%	3,20%	2,5%	2,21%	7,2%	5,18%	0,0%	0,00%	5,6%	4,39%
Total	2,5%	0,93%	15,8%	3,17%	23,9%	7,40%	12,9%	2,94%	5,2%	4,32%	11,5%	2,57%

The challenges indicated in Table 30 were verified by fieldworkers, who reported encountering schools not receiving fruit and vegetables on time or in the expected quantities; deliveries which were short; deliveries which were late; deliveries which schools said were based on “outdated” enrolment figures (i.e., 2013 or 2014); deliveries of food which was beyond the expiry date; deliveries of “rotten” vegetables; deliveries of food without an expiry date; and deliveries of food via cars and uncovered bakkies which raises health and safety concerns (fieldwork notes).

Of the service providers who were surveyed, 23.1% said they had problems with the delivery of goods and services to schools; these service providers were from Limpopo, the Eastern Cape, Gauteng, the Western Cape, and Northern Cape. The problems, according to the service providers, were to do with the poor condition of roads (7.7% - service providers from Limpopo), schools rejecting the goods (7.7% - service providers from Gauteng and the Western Cape), and the high cost of delivery to some schools (3.8% - service providers from Northern Cape). A similar proportion, 26.9%, of service providers reported that they often have shortages when they deliver and the main reason cited for this was that they sometimes don’t have enough supplies. A further 23.1% said there were occasions in which they were unable to deliver or delivered late.

The challenges outlined may be exacerbated for schools in remote, rural areas. It was reported in interviews with provincial and district officials that remote, rural schools receive deliveries less frequently which can impact on the quality of meals that can be prepared and may lead the schools to make alternative plans to transport food which has resource implications. Officials also reported that service providers are less willing to deliver to remote, rural areas and the delivery charges are higher.

It was noted by one interviewee that rural schools were more likely to receive deliveries late (Limpopo District Official), although a respondent in another province denied that this was an issue (Mpumalanga Provincial Official). In the case of one school in the North West, it was reported that, because the deliveries were done after hours, the stock was delivered to a VFH’s home which is problematic for stock control and accountability.

“Schools nearer the service providers will get deliveries on time but those far away will get deliveries late. If they start at 6 o’clock in the morning it means that the last deliveries will be after 3 o’clock and there will be no people at the school” (Limpopo District Official).

A possible advantage of decentralised models identified in the literature is that decentralisation can reduce delivery costs. However, the evaluation findings do not support this. Of the service providers that were surveyed, 76.9% said that they did not charge for delivery, and 19.2% (including two out of three service providers in the Eastern Cape and Free State - both provinces using the decentralised model) said they charged for delivery³⁰. In the decentralised provinces, principals were asked how food gets to the schools: 46.8% said service providers deliver, but an equal percentage (46.9%) said local transport was used. Several schools, particularly in the Northern Cape and North West, were found to rely on school staff and volunteers to collect food and the schools then reimbursed them for their travel costs (fieldwork notes). This leads to an increased burden of time in addition to the financial cost.

³⁰ It is possible that although service providers do not explicitly charge for delivery, it is built into the cost structure in other ways.

Monitoring delivery

Deliveries should be checked at the school for correctness and quality.

According to the service providers, extensive monitoring of delivery takes place. Almost all service providers that were surveyed confirmed that the goods they deliver are usually checked at the school. Goods were reported to be checked by NSNP Co-ordinators, VFHs, and “other” school officials. Service providers confirmed that the goods and services they deliver are monitored by schools (65.4%), the district office (38.5%), and, to a lesser extent, the PED (11.5%). The following monitoring was reported to take place:

- 26.9% of service providers, including all service providers in Gauteng, said the PED checks their storage/warehouse facilities;
- 15.4% of service providers, including all service providers in Gauteng, said the PED checks the condition of their goods while in transit;
- 15.4% of service providers, including all service providers in the Western Cape, said the PED checks the correctness of costing on invoices;
- 23.1% of service providers reported that the district checks their storage/warehousing facilities, quantities delivered, the quality of goods delivered, and that the products delivered match those ordered;
- 19.2% of service providers reported that districts check that brands delivered match those ordered (19.2%), that goods are delivered on time/according to schedule (19.2%), the correctness of costing on invoices (15.4%); and the storage conditions of goods in transit (11.2%). The Western Cape and Limpopo were highly rated in this regard.
- 88.5% of service providers said schools check the quantities and quality of goods delivered; 76.9% said schools check that goods are delivered on time and according to schedule, and that the products delivered match those that were ordered, and 69.2% check that the brands delivered match those ordered. A further 61.5% of service providers said schools check the correctness of costing on invoices. Not surprisingly, schools in the decentralised provinces were more highly rated in this regard.

The findings reported by school stakeholders agree with those above: 87.2% of NSNP Co-ordinators said they count quantities received; 87.2% said they compare quantities received against the delivery note; and 55.2% said they sign or don't sign the delivery note, depending on whether the delivery is correct.

However, the findings from observations are less encouraging: in only 20.8% of schools was there evidence in the NSNP file that the schools checked the quantities delivered against the order. However, there is a high occurrence of no data (46.5%), especially in the centralised provinces, notably Limpopo, the Western Cape, Gauteng, and Mpumalanga. Decentralised provinces were better in this regard, with between 18.8% (the Free State) and 69.2% (the North West) checking the quantities delivered and a greater proportion checking than not checking the quantities delivered in all provinces except the Northern Cape. In 11.1% of cases, a delivery note was signed even though there were shortages. The worst province in this regard was KwaZulu-Natal (39.6%), and the best provinces were Gauteng, Limpopo, Mpumalanga, and the Western Cape where this had not happened at all.

District and provincial officials who were interviewed confirmed that, by and large, monitoring occurs at school level when deliveries are made and, to a lesser extent, at district level in some provinces (KwaZulu-Natal, Gauteng, Mpumalanga, the Northern Cape, and Western Cape). In a number of provinces, schools are provided with an instrument to assist with monitoring deliveries, and district officials use the same instrument when they visit schools. Limited monitoring of deliveries by the PED and no monitoring by the DBE was reported.

“It’s more difficult for the districts and province to monitor the delivery of food because we need to coincide with the delivery at the school, which is highly unlikely that it will happen often. The school is therefore the main party involved in monitoring delivery” (Gauteng Provincial Official).

There was some confusion around whether or not there were national guidelines for monitoring deliveries. PED officials that were interviewed in several provinces indicated that there were no guidelines, but an official from the Northern Cape indicated that the DBE provides guidelines and that there is also a policy. If such documents exist, it seems that they have not been well communicated in all provinces. Some provinces had developed their own policy and guidelines.

It was reported that service providers are not always held accountable for delivering the correct products, of good quality, and in the correct quantities, on time. This is particularly a challenge in centralised provinces, where service providers are primarily accountable to the PEDs with whom they have contracts which was reported to “disempower” schools.

“The big issue with delivery is the lack of accountability from the suppliers, because there are no consequences when they do not provide quality service”
(Gauteng District Official).

Corruption was discussed in relation to delivery in a few interviews, and further comments were made off the record to the evaluation team in addition to the comment below:

“At times they do not deliver the food, they deliver poor quality meals, vegetables are rarely delivered, and they do not deliver the sufficient amount of ingredients to prepare the food such as one vegetable per delivery, this has taken place in Kwa-Zulu Natal. At times they threaten schools with political intervention if the schools do not approve the invoices” (DBE Official)

At school level, fieldworkers encountered reported incidents where someone purporting to be the supplier arrived to take away food which had been delivered and signed for³¹; schools being given and asked to sign for “short” deliveries; and the service provider “overcharging” the school (fieldwork notes).

Invoicing and payment

Service providers prepare and submit invoices and attach supporting documents (signed delivery notes) with their request for payment. In the centralised model, payments to service providers are

³¹ Two incidents were reported in the Western Cape: one school acquiesced; the other refused and reported the incident to the supplier who denied any involvement.

made by PEDs (Gauteng, KwaZulu-Natal, and the Western Cape) or districts (Limpopo, Mpumalanga, and four districts in KwaZulu-Natal). In the decentralised model, payments are made by schools. VFHs are paid directly by schools, except in KwaZulu-Natal where service providers make the payments. These payment systems need to function effectively to avoid instances in which service may not be delivered.

The number of service providers per province varied considerably, as indicated below. The provinces with the greatest and least number of service providers both use the centralised model – KwaZulu-Natal with 2,029 and the Western Cape with two service providers respectively. The Eastern Cape, which uses the decentralised model is the other province with a high number of service providers (1,308). Surprisingly, the centralised provinces (except the Western Cape) seem to have a higher number of service providers than the decentralised provinces.

Table 31: Number of service providers per province

Province	# Service Providers
GP	146
KZN	2,029
LP	343
MP	66
WC	2
EC	1,308
FS	218
NC	294
NW	11
Totals	4,417

Source: DBE, 2015c, p. 14.

The majority of service providers expressed a high level of satisfaction with invoicing, but dissatisfaction was reported by some in relation to payment. Whilst 46.2% of service providers said that their experience with payment was “positive”, 19.2% said it was “mostly positive with manageable challenges” or “more negative than positive, with many challenges”. Service providers whose experience with payment was “completely negative” and “more negative than positive” were overwhelmingly from particular provinces: KwaZulu-Natal and Gauteng. All three Kwa-Zulu Natal service providers who were surveyed reported that their payment experience was mostly or completely negative and said they were “never” paid on time. Consequently, two out of three service providers indicated that there are occasions when they are unable to deliver or deliver late, and non-payment of a previous invoice was one of the reported reasons for this.

These are serious findings. They are corroborated by the interviews with provincial and district officials:

“Weaknesses of the NSNP implementation in our district would include the delay in delivery of food sometimes, which is usually a consequence of late payment to suppliers. Schools can go for the whole week without food, which is a major hurdle considering the background of the learners in most of these schools” (Gauteng District Official).

“Payment of service providers – that is really a problem for us, it is just not working for this to be done at the level of head office, because it is too much: the creation of an order for 1,750 SPs, and the level of problems – it takes two months to do that! Because we have to check whatever the district has submitted, and most of the time it is wrong, so we send it back, and by that time the supplier is waiting for their payment... if you don’t pay a SP then they can’t deliver – it is as simple as that. You need to pay them within 30 days, and most of these people are poor people as I have said, so they don’t have capital, so they go to loan sharks, some of them have had their vehicles repossessed. It is really not working” (KwaZulu-Natal Provincial Official).

VFH’s stipends should be paid monthly by cheque, and VFHs should sign to confirm receipt of their honorarium (DBE, 2014b). The considerable majority (82.2%) of VFHs confirmed that their stipends get paid on time. This percentage was highest in the Western Cape where 100% of VFHs said their stipend is paid on time, and lowest in Limpopo where 58.4% of VFHs said their stipend is paid on time, followed by KwaZulu-Natal (71.2%). The payment of VFH’s stipends by service providers was reported to not be working well. The most common reason for VFHs stipends not being paid on time – cited in 45.6% of cases – was that schools did not have the funds (see Section 4.3.3.1). This accounted for all cases of VFHs not being paid on time in Mpumalanga and the Free State.

4.3.3.4 Food preparation and serving

The modalities of preparing and serving food are the same in both the centralised and decentralised models.

The NSNP is premised on the “provision of nutritious meals to all learners in quintile 1-3 primary and secondary schools” daily. This influences several aspects of programme implementation:

- The allocation of funding by PEDs to schools is based on the number of learners enrolled in quintile 1-3 schools at the time of the SNAP survey in the previous school year.
- In centralised provinces, the ordering and delivery of food for schools is based on the quantities required to feed the number of NSNP-approved learners (i.e., learners enrolled the previous school year, as specified in the business plan and budgeted for).
- School specific menus and food preparation guidelines are based on the number of NSNP-approved learners in the school.
- However, schools record the number of learners who *actually eat* every day and report this to districts. In some centralised provinces, it was reported that service providers’ invoices are paid based on the number of learners who actually ate the food and may be adjusted downwards if fewer than the expected number of learners ate NSNP meals.

The fieldwork ascertained how many learners were approved for the NSNP, how many learners were enrolled in school at the time of the SNAP survey in the current school year, and how many learners were typically cooked for (according to principals and VFHs). The findings are summarised below. In all but two provinces, the average number of learners enrolled at the time of the SNAP survey was greater than the average number of learners approved for the NSNP. However, the average number of learners fed on the day of fieldwork – according to principals – was lower than the average number of learners

approved for the NSNP, except in KwaZulu-Natal, the Northern Cape and North West. The average number of learners VFHs said they cooked for was, in most cases, lower than the average number of learners approved for the NSNP except in Mpumalanga and the Eastern Cape.

Table 32: Number of learners approved for the NSNP, enrolled and cooked for on the day of fieldwork, according to Principals and VFHs

Implementation model	Province	Ave learners approved for NSNP		Ave learners enrolled at the time of SNAP		Ave learners fed today according to Principals		Ave learners cooked for daily according to VFHs	
		No.	SE	No.	SE	No.	SE	No.	SE
Centralised	GP	973	89,59	1,003	72,60	873	97,58	878	94,01
	KZN	606	66,65	613	71,35	618	74,12	561	68,76
	LP	651	74,56	648	75,04	599	81,18	611	77,30
	MP	798	74,33	876	109,61	778	76,72	803	79,27
	WC	940	62,77	998	69,34	904	68,73	873	70,60
Decentralised	EC	495	66,58	498	67,73	480	69,30	497	87,56
	FS	1,009	68,98	1,017	67,36	947	72,05	986	71,24
	NC	775	78,49	790	84,18	836	87,09	769	89,62
	NW	725	71,82	715	70,90	798	67,50	648	71,55

Source: Principal and VFH surveys numbers

Enrolment varies from year-to-year and may even fluctuate within the year, based on seasonal factors. That the NSNP business planning and allocation of funding is determined based on the previous year's enrolment creates challenges for provinces, districts, and schools in which enrolment increases.

"In January there are new learner numbers as it is a new annual year for schools. It can be that in a certain year that in January the school has grown this might cause the province to have inadequate funding. We cannot accommodate for those numbers because we do not have extra funding as we work according to a business plan and the budget catered to that school" (DBE Official).

Section 4.1.3 considered the proportion of learners who reported eating the NSNP meals on the day of fieldwork as well as how often the learners reported eating NSNP meals. Whilst the uptake is substantial, a considerable proportion of learners did not eat the main meal provided (24.0%) on the day of fieldwork, and less than half (47.4%) indicated that they always eat the main meal. Fieldwork notes confirm that, in a number of instances, schools cooked for fewer learners than had been approved for the NSNP, and the number of learners meals were prepared for depended on the menu of the day and how many learners were expected to eat the meal. In many schools, on days when soya is served it is expected that fewer learners will eat, and therefore less food is prepared.

These findings show that certain design features of the NSNP can lead to inefficiencies in terms of food preparation, delivery of food (in centralised provinces), and funding (in decentralised provinces). The programme is planned, budgeted, and implemented based on the assumption that all learners attending schools with an NSNP eat the meals every day, but our findings indicate that this is not the case. If more food is prepared than is eaten by the learners, wastage may be occurring or other unintended beneficiaries may be benefitting from the food (see Section 4.1.4). Similarly, if schools receive food (in centralised provinces) and funding (in decentralised provinces) based on a higher number of learners (enrolled) than the number of learners who actually eat the meals, then these schools will be advantaged in terms of food or funding as compared to schools in which all learners eat the meals every day.

4.3.3.5 Monitoring and reporting

The literature review identified accountability and quality assurance mechanisms as a key factor underpinning effective implementation of school nutrition programmes, albeit a mechanism identified as “weak” in many programmes (Drake et al., 2009).

In the NSNP, extensive monitoring and reporting cutting across all levels is required in line with the requirements for Conditional Grant funding: school stakeholders monitor daily feeding (daily feeding registers are kept), and reports are submitted monthly to districts (in provinces using the decentralised model, these include financial reports); districts report monthly and quarterly to PEDs; and PEDs report quarterly to the DBE on the utilisation of Conditional Grant funding.

The main burden of responsibility for monitoring falls at district level: district officials fulfil a key role in monitoring implementation and supporting schools to implement the NSNP. Targets are set at provincial or district level, varying between provinces, for how often schools should be visited and how many schools a monitor should visit in a day/week/month. District officials explained that these targets were not always achievable due to challenges (discussed in Section 4.3.1) which include an inadequate number of staff, high turnover of staff, and limited access to vehicles. Monitoring was an issue of concern to NSNP officials at all levels who were interviewed. Challenges with monitoring were reported to cut across both implementation models.

The extent of the monitoring undertaken – in terms of what monitors do at the schools – was described somewhat differently by officials from different provinces. The quotation below describes the extensive monitoring said to be conducted in the Western Cape:

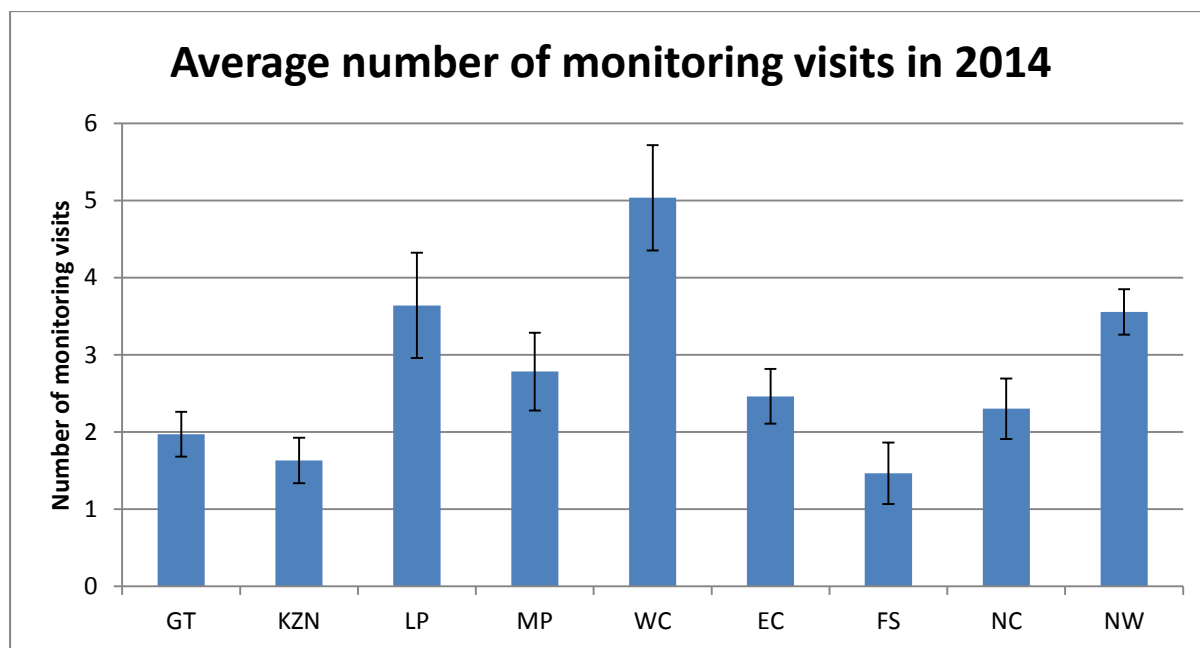
“I look at the menu to see if they are preparing the correct menu for the day. I also look at the portions to see if they’re preparing the correct portions. I also look at the personal hygiene of the volunteers i.e., the cooks. Also look at the gas

safety where the gas cylinders should be outside the kitchen in cages that are galvanised. After the kitchen I visit the store room where food is kept and look at how the food is packed. What is important is the expiry dates. They need to serve food that is within the feeding time, not food that has already expired... All this information is filled out in the provincial monitoring tool. I leave the last page of the monitoring tool with the school, which covers the challenges, plan of action and the achievements of the programme” (WC District Official).

Officials in some provinces reported using a monitoring instrument developed with the assistance of the NGO FUEL which “rates” schools using a colour code system (red, amber, or green) according to their performance in serving **a nutritious meal on time every day**. The system was referred to as monitor, respond, report (MRR). Responding to challenges which are identified underpins this approach.

Principals were asked how often their school had been visited by an NSNP monitor in 2014 and 2015 to date. The figure below indicates that in the previous school year (2014), Western Cape schools received an average of five visits from NSNP officials - the most of any province. Monitoring visits were fewest in KwaZulu-Natal and the Free State in which an average of less than two visits was achieved.

Figure 36: How often did the NSNP monitors visit your school in 2014? Source: Principal survey



Overall, at the time of fieldwork (March-May 2015), 31.1% of the schools in centralised and 42.2% of schools in decentralised provinces had been visited by an NSNP monitor in 2015 at least once to date. The largest share of these schools had received one visit. Variation was evident between provinces, with schools in the Western Cape, Free State and North West being most likely and those in Gauteng and KwaZulu-Natal being least likely to have been visited by NSNP monitors.

Reporting templates are provided at all levels: by the DBE for quarterly reporting and by PEDs for quarterly and monthly reporting by districts and schools. Schools report monthly on outputs and

financial spends (in the decentralised model). Schools in the Western Cape also report on food stock (which the province compares to delivery lists and number of learners fed), and Gauteng schools report on progress and challenges. District officials verify the reports received from schools when they carry out monitoring visits. Challenges were reported by officials in some provinces with the timely and accurate reporting by schools (in the Free State, KwaZulu-Natal, the Eastern Cape and Western Cape). Observation during fieldwork found that amongst schools using the decentralised model, 54.8% had expenditure reports in their NSNP files for the previous month. The North West province (95.6%) was best and the Free State (20.2%) the worst in this regard.

In some provinces (Limpopo and the North West), an additional reporting layer exists as school reports are collated by circuits before being submitted to districts. Districts then compile monthly (financial and output) and quarterly (narrative) reports: challenges were reported in the Free State regarding the regular submission of monthly reports (attributed in part to challenges with districts receiving reports from schools) and in KwaZulu-Natal regarding the quality of narrative reports. Officials in some provinces – the Northern Cape, KwaZulu-Natal and the Western Cape - confirmed that the PED verifies reports which are submitted by districts. But other provinces (notably Gauteng) did not have sufficient capacity to do this. Provincial officials from the Free State, Mpumalanga and the North West reported that internal audits are conducted periodically.

Reports received from districts form the basis for PEDs quarterly reporting on the use of Conditional Grant funding to the DBE. The reports sent to the DBE cover expenditure, implementation of activities, and key performance indicators.

Interviewees had varying opinions regarding the efficiency of the monitoring and reporting systems, as expressed below. The system is paper based and requires education officials at all levels to expend a great deal of time and effort gathering, capturing, and verifying data:

“We have an elaborate monitoring regime, where we know for instance that at district A there are so many monitors, and we know that this one went to 10 schools, this one went to these schools... we have a really, really tight monitoring regime. We have thousands worth of monitoring tools that I have submitted now for the auditor general. The system of reporting is working well” (Mpumalanga Provincial Official).

“We are still following the manual route, but if we use the social networks and whatever connections we have, then it will be very easy. Imagine a situation whereby at the end of the month, the circuit monitor has to receive reports from 45 schools and then compile a report and submit the report to the district co-ordinator who will compile a report for all the 673 schools in the district... It means he must drive to the district to submit that report. Then the district must compile that report and immediately after compiling he must drive to the province to submit that report” (Limpopo District Official).

A challenge identified in relation to reporting was lack of standardisation in terms of the indicators and report templates which are used in different provinces and at different levels. The MRR instrument (in use in some provinces) gathers very useful performance information which does not appear to be fed

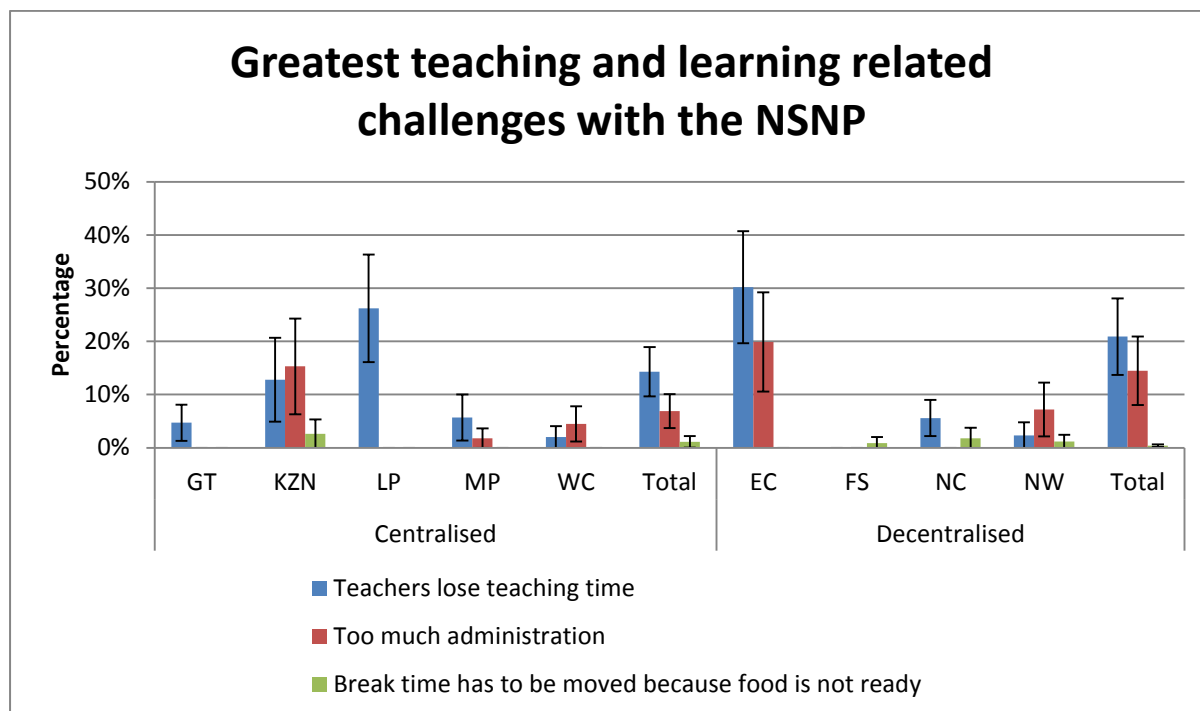
up to higher levels. The reporting to national is heavily compliance driven – of necessity due to the nature of the Conditional Grant funding but more emphasis on gathering and using monitoring information for improvement purposes (which is occurring in some provinces at school and district level) and documenting and sharing good practices (of which there are many) would be worthwhile.

4.3.3.6 Effect on teaching and learning

A key consideration is the extent to which school nutrition programmes take time away from teaching and learning. The literature review found some evidence that decentralisation places a greater burden on school staff and can take teaching staff away from their core responsibilities (Ali and Akbar, 2015; Bundy et al., 2009). The effect of the NSNP on teaching and learning time – to the extent that it could be determined – is discussed below.

School stakeholders were asked to identify the three greatest challenges they faced in relation to the NSNP. Teachers losing teaching time and too much administration featured quite prominently, as indicated below: 14.3% of principals in centralised and 20.9% of principals in decentralised provinces said that “teachers lose teaching time” was one of the greatest challenges they faced. Similarly, 6.9% of principals in centralised and 14.5% in decentralised provinces indicated that “too much administration” was a key challenge for them. Respondents from decentralised provinces were more likely to cite these challenges. However, the challenges were fairly province specific: loss of teaching time was reported mainly in the Eastern Cape, Limpopo, and KwaZulu-Natal, and too much administration was reported in the Eastern Cape and KwaZulu-Natal. A similar percentage (18.4%) of NSNP Co-ordinators identified loss of teaching time, and 11.4% identified too much admin as the greatest challenges which they faced with the NSNP. NSNP Co-ordinators from decentralised provinces (24.4%) were more likely than those from centralised provinces (13.8%) to cite loss of teaching time as a key challenge, but too much administration was of equal concern to NSNP Co-ordinators in provinces using both models.

Figure 37: Greatest teaching and learning-related challenges with the NSNP, according to school stakeholders. Source: Principal survey



The figures below summarise the allocation of responsibilities relating to the NSNP in decentralised and centralised provinces. In both models, the main responsibility in terms of managing the programme falls on NSNP Co-ordinators (fieldworkers found that the NSNP Co-ordinators were always teachers) who took on extra responsibilities relating to the NSNP in addition to their core duties. In centralised provinces, NSNP Co-ordinators were largely responsible for managing the NSNP; this responsibility was more often shared with principals in schools using the decentralised model. Appointment of the NSNP Co-ordinator was largely undertaken by the principal - more so in centralised provinces. In the majority of schools using both models, SGBs were responsible for the appointment of VFHs. In close to 50% of schools using the decentralised model, the NSNP Co-ordinator was responsible for liaising with suppliers, placing orders, liaising with the delivery company, and completing the expenditure report. Schools principals were next most likely to have these responsibilities. The responsibilities were less in centralised provinces and related main to delivery: it was found that 83.1% of NSNP Co-ordinators were responsible for liaising with the delivery company.

The evaluation team was not able to gather data on the extent of the time required to undertake the NSNP responsibilities as indicated above. This could be ascertained via a focused, in-depth time-use study conducted in a small sample of schools.

Figure 38: NSNP responsibilities in decentralised provinces. Source: Principal survey

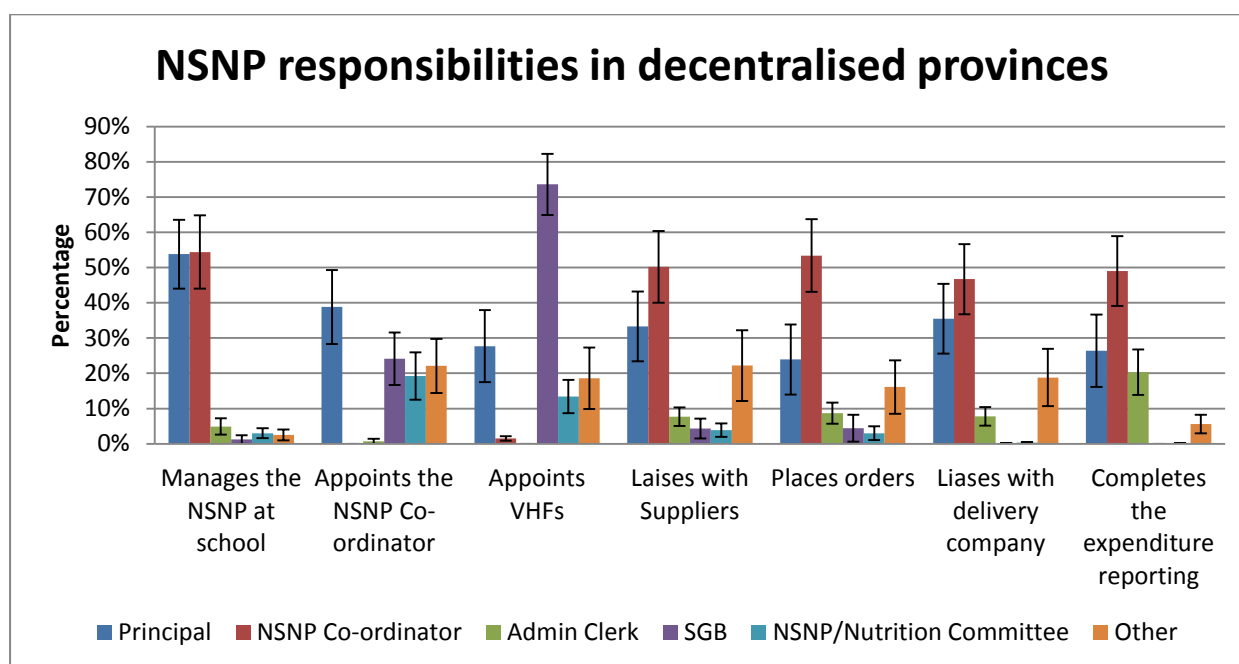
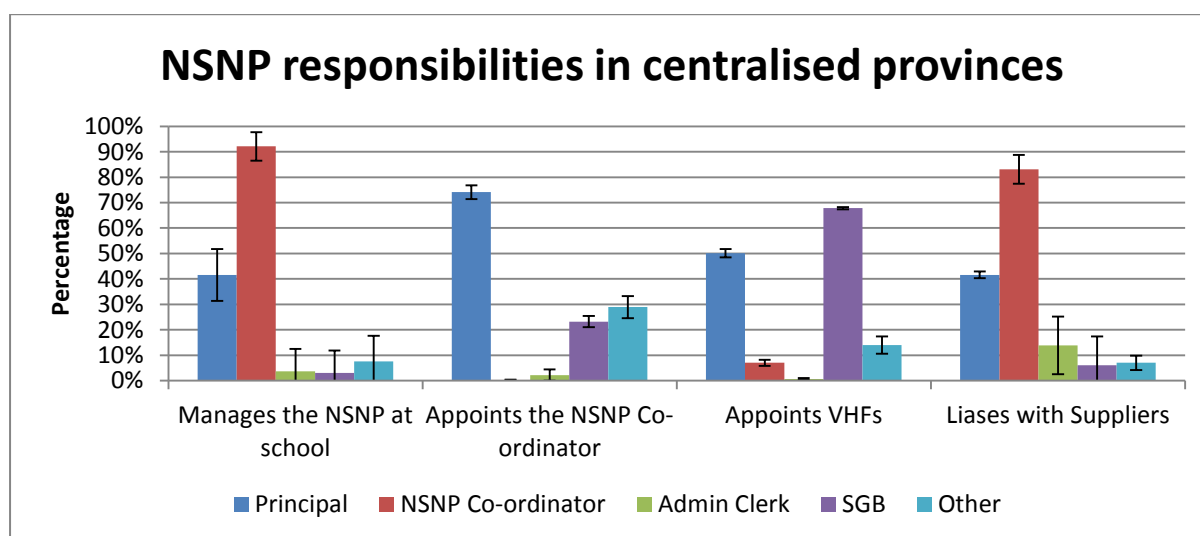


Figure 39: NSNP responsibilities in centralised provinces. Source: Principal survey



Provincial and district officials who were interviewed confirmed that managing the NSNP can impact on teaching and learning time and that there may be a trade-off between adequate/sufficient monitoring of delivery and serving at school level and disruption to teaching and learning processes. This was reported in provinces using the centralised and decentralised models, but the responsibilities of managing the NSNP were greater in the decentralised model:

“At the school level, the Administrator at the school accepts the groceries, if not, then the food handler will be called to accept delivery. Monitoring is not adequate because there are no dedicated Administration clerks who can oversee delivery and stock control; we end up using educators sometimes which disturbs teaching and learning” (Northern Cape Provincial Official).

“The difficulty is that the teachers and admin staff already have important school and education related duties to fulfil and the monitoring of delivery etc. adds to their workload” (Mpumalanga District Official).

“There’s a lot to do every day. There’s a stock form that they have to complete every day – how many quantities they use. They check that the volunteers sign in daily. They are also supposed to check how many learners eat but they don’t usually do this because it’s very time consuming. A lot of teachers are involved in the feeding, particularly at the bigger schools, to monitor the feeding” (Western Cape District Official).

To ascertain whether the NSNP feeding eats into the school day, fieldworkers compared the time it took to serve the NSNP meal³² to the start and end of break according to the school timetable. The results per phase (i.e., Foundation and Intermediate/Senior phase) are presented below. Most of the time differences are positive, meaning that the break time was longer than the time spent serving the main meal. However, in all provinces except Mpumalanga, there were some schools where serving took longer than break. In extreme cases the time difference was up to 136 minutes. Fieldworkers noted that large schools mitigated this challenge by serving the NSNP meals in “shifts” (fieldwork notes). Schools in the centralised provinces seem to be somewhat more efficient than those in the decentralised provinces in terms of serving being completed during break time.

Table 33: Break time – serving of main meal (FP) Source: Observation

Implementation model	Province	Median	Mean	Standard deviation	Minimum	Maximum
Centralised	GP	7	8,55	26,14	-30	125
	KZN	15	18,10	11,54	-4	65
	LP	19	22,27	7,35	9	39
	MP	23	22,46	7,93	6	43
	WC	10	6,37	12,73	-50	22
	Total	18	18,62	12,69	-50	125
Decentralised	EC	0	3,07	26,48	-30	115
	FS	27	22,85	9,80	-35	27
	NC	20	8,52	24,85	-100	25
	NW	20	15,98	15,56	-90	45
	Total	9	8,21	24,35	-100	115
Overall	Total	15	14,20	19,26	-100	125

³² Fieldworkers recorded the start time as the start of the meal being served and the end time as the time when the last learner was served. It may take slightly longer for the last learner to finish eating and for plates and utensils to be removed.

Table 34: Break time – serving of main meal (IP) Source: Observation

Implementation model	Province	Median	Mean	Standard deviation	Minimum	Maximum
Centralised	GP	3	9,69	23,96	-15	136
	KZN	20	15,53	12,29	-33	33
	LP	22	18,59	10,85	-18	35
	MP	20	20,15	9,03	0	45
	WC	7	8,11	8,99	-20	22
	Total	19	16,22	13,42	-33	136
Decentralised	EC	0	-7,21	29,82	-65	115
	FS	27	22,99	11,17	-45	35
	NC	20	9,77	21,86	-80	50
	NW	20	14,31	18,11	-90	45
	Total	0	1,63	28,43	-90	115
Overall	Total	12	9,61	22,75	-90	136

4.3.4 Implementation index and variations

An implementation index was constructed to summarise performance in key aspects of NSNP implementation identified as important in the literature review and ToC developed for the NSNP to facilitate comparison across provinces and models. Caution should be exercised when comparing the results per province, keeping in mind that the margin of error per model and province is higher than is generally recommended (see Section 1.3.3). The indicators which the index is based on are summarised in the table below.

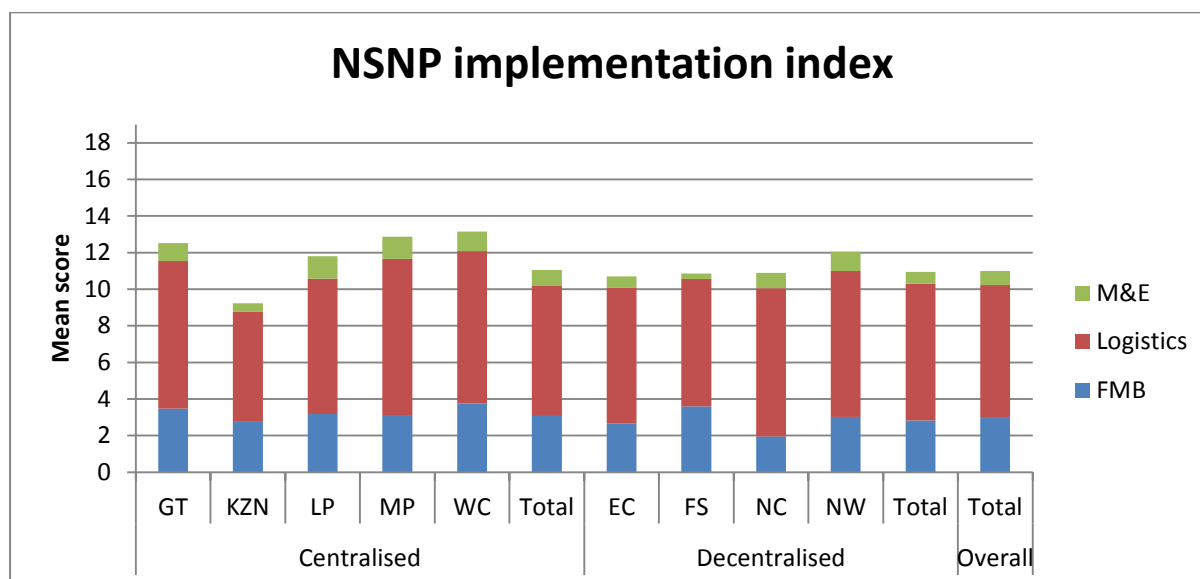
Table 35: NSNP implementation index indicators

Data collection instrument	Question/indicator	Rating scale
Food modalities and basket		
KPI	# of food groups prepared and served	3 food groups, 2 food groups, 1 food group
KPI	% of the required protein served	80-100+%, 60-79%, 40-59%, 25-39%, 0-24%
KPI	% of the required vegetables served	80-100+%, 60-79%, 40-59%, 25-39%, 0-24%
KPI	% of the required starch served	80-100+%, 60-79%, 40-59%, 25-39%, 0-24%
KPI	Time by which the last learner was fed	By 10:00 am, after 10:00 am
Procurement and logistics arrangements		
<i>Funding disbursement</i>		
Principal questionnaire (centralised)	In 2014, were the funds deposited in time to purchase gas and pay the food handlers' stipend?	Always, sometimes, never
Principal questionnaire (decentralised)	In 2014, were the funds deposited in time to purchase food? (Q39 principal decentralised)	Always, sometimes, never

Data collection instrument	Question/indicator	Rating scale
<i>Ordering, delivery and payment</i>		
VFH	Does your stipend get paid on time?	Yes, no
NSNP Coordinator	Please rate the delivery system: dry food	Excellent, good, poor
NSNP Coordinator	Please rate the delivery system: vegetables	Excellent, good, poor
VFH	Are deliveries made on time? Dry food	Always, more than half of the time, about half of the time, less than half of the time, never
VFH	Are deliveries made on time? Vegetables/fruit	Always, more than half of the time, about half of the time, less than half of the time, never
<i>Food preparation and serving</i>		
Observation	Rate the NSNP preparation facilities	Excellent, good, poor, very poor
NSNP Co-ordinator	How is the water availability at the schools?	Excellent, erratic, there is no water
Observation	Is dry food stored off the floor?	Yes, no
Observation	Are fruit and vegetables stored off the floor?	Yes, no
VFH	Have you attended training on food handling?	Yes, no
NSNP Co-ordinator	Were there any days that no feeding took place this year?	Yes, no
M&E systems		
Observation	Is there evidence that the school checked the quantities delivered against the order?	Yes, no
NSNP Co-ordinator	How often did the NSNP monitor/s visit your school in 2014?	8+ times, 4-7 times, 3 times, 2 times, 1 time, 0 times

The figure overleaf presents the mean score out of 19 per province, model, and overall. Three provinces using the centralised model - the Western Cape, Mpumalanga and Gauteng - and one province using the decentralised mode - the North West - scored best, achieving scores above 12. There is considerable room for improvement however, as the maximum score is 19. A province using the centralised model - KwaZulu-Natal - also scored worst, achieving an overall score of 9.22. The overall score of each model is very similar, with the centralised model scoring marginally better with a mean score of 11.05 as compared to 10.95 for the decentralised model. There is less variation amongst provinces using the decentralised model, with the North West performing best and the Eastern Cape, Free State and Northern Cape performing similarly with mean scores of 10.69-10.90.

Figure 40: NSNP implementation index: Source: JET, 2016



Overall performance per province and model is disaggregated per component and sub-component in the table below. There are some differences per component which reflect the efficiencies discussed in Section 4.3.3 and overall programme effectiveness in terms of serving nutritious meals on time daily (see Section 4.2.1-4.2.2).

Provinces using the centralised model and the Free State scored slightly better in terms of food modalities and basket, whilst provinces using the decentralised model and KwaZulu-Natal tended to score slightly worse in terms of serving a nutritious meal by 10:00 am daily. On the other hand, provinces using the decentralised model scored better in terms of procurement and logistics, specifically in disbursement of funding to schools and ordering delivery and payment. However, on the procurement and logistics indicators related to food preparation and serving, provinces using the decentralised model performed best. Performance in the area of M&E was similar for both models. It is also evident that there is more variation between different provinces using the same model than between models, indicating that province specific factors account for the greatest part of the differences.

Table 36: NSNP implementation index, score per province and model per component and sub-component Source: JET, 2016 (derived from survey data)

	Province	Food modalities , basket (5)	SD	Funding disbursement (1)	SD	Ordering, delivery, payment (5)	SD	Food preparation and serving (6)	SD	M&E (2)	SD	Total (19)	SD
Centralised	GP	3.47	0.98	0.82	0.35	3.58	1.18	3.69	0.90	0.97	0.44	12.52	2.49
	KZN	2.80	0.53	0.25	0.28	2.75	1.11	2.97	1.20	0.46	0.567	9.22	2.13
	LP	3.18	1.18	0.32	0.32	3.13	0.92	3.95	1.48	1.22	0.46	11.80	2.39
	MP	3.13	0.88	0.46	0.44	3.44	0.98	4.63	0.83	1.20	0.42	12.86	1.65
	WC	3.75	0.82	0.94	0.19	3.60	0.97	3.79	1.17	1.06	0.61	13.15	1.64
	Total	3.08	0.92	0.39	0.39	3.09	1.08	3.62	1.36	0.87	0.62	11.05	2.67
Decentralised	EC	2.67	0.88	0.83	0.24	3.49	0.92	3.09	1.09	0.62	0.49	10.69	1.81
	FS	3.60	0.81	0.20	0.37	3.98	0.33	2.78	0.54	0.31	0.40	10.87	0.82
	NC	1.96	1.33	0.74	0.29	3.55	0.95	3.82	1.26	0.84	0.50	10.90	2.99
	NW	3.03	0.62	0.91	0.20	3.68	0.85	3.38	1.39	1.05	0.57	12.05	1.95
	Total	2.83	0.93	0.75	0.34	3.59	0.87	3.12	1.18	0.65	0.53	10.95	1.85
Overall	Total	2.98	0.93	0.54	0.41	3.30	1.03	3.41	1.28	0.78	0.59	11.01	2.36

The maximum score per component and overall is indicated in brackets

Drawing on findings presented in this section thus far in terms of the core business processes of the NSNP and variations, fidelity, and efficiency in terms of implementation, the table below summarises the strengths – where implementation is working best – and weaknesses – where implementation is not working well – with respect to the two models and implementation variations by province and other factors.

Table 37: Strengths and weaknesses in implementation of business processes Source: Interviews and surveys

Business Process	Strengths	Weaknesses
Planning and budgeting	<ul style="list-style-type: none"> In general, business plans are developed collaboratively (by PEDs with support from the DBE) and finalised before the start of the financial year. Some provinces (Limpopo and decentralised provinces) cascade business planning down to district or even school level, which demonstrates ownership. In the Northern Cape, schools apply annually to be part of the NSNP and SGBs sign a declaration to confirm funds will be used for the intended purpose which demonstrates commitment. 	<ul style="list-style-type: none"> Finalisation of business plans does not account for new enrolments at the beginning of the year, so schools, districts, and provinces may have more or fewer learners to feed than their business plans cater for.
Funding disbursement	<ul style="list-style-type: none"> Funds are usually disbursed timeously by National Treasury. Provinces using the decentralised model and the Western Cape and Gauteng usually transfer funds to schools on time. In decentralised provinces, schools receive school-specific budgets, with figures presented per month and expenditure category. In Limpopo and the North West, schools have NSNP-specific accounts which helps keep NSNP funds separate. 	<ul style="list-style-type: none"> The first tranche disbursement from National Treasury to provinces is sometimes delayed. The timely disbursement of funds from provinces to schools varies and is particularly challenging in Limpopo, Mpumalanga, and KwaZulu-Natal. In decentralised provinces, some schools are aware of only their annual allocation whereas others are aware of their monthly allocations. Schools are not always notified when funds are deposited (the Northern Cape is working to improve this).
Procurement	<ul style="list-style-type: none"> In centralised provinces, long term contracts with service providers range from 18 months to 3 years and provide a consistent routine in dealing with the same service provider. Extensive checks are carried out prior to the appointment of SPs in Gauteng. Some centralised provinces (Western Cape) cascade information re suppliers down to school level. In the Northern Cape and North West, districts provide considerable support to schools in the appointment of SPs. Some provinces (KwaZulu-Natal, Gauteng, Mpumalanga, and the Northern Cape) support SMMEs and 	<ul style="list-style-type: none"> Procurement via the tender process in centralised provinces is time consuming and may lead to contracts being extended rather than new SPs appointed. Some SPs in the Free State, Western Cape, Eastern Cape, and Gauteng, have been providing NSNP services for more than 10 years. This means that the potential benefit is not shared and may create conditions for collusion. Free State schools rotate SPs every 3 months, which may be burdensome administratively. The majority of schools in the Eastern Cape and Free State have not received training on procurement.

Business Process	Strengths	Weaknesses
	<p>women-owned suppliers.</p> <ul style="list-style-type: none"> In decentralised provinces, schools can make use of small suppliers and support economic development in their communities. 	<ul style="list-style-type: none"> Some schools lack capacity to evaluate and select service providers: SGB involvement in selecting SPs is limited in the Free State. Schools in remote areas may fail to obtain three quotations. Schools do not always sign SLAs with SPs. Some schools in decentralised provinces do not have SPs and instead buy foodstuffs from local shops.
Ordering, delivery and payment	<ul style="list-style-type: none"> The majority of NSNP Co-ordinators in Mpumalanga do have a delivery schedule and know what quantities to expect. School-specific budgets and menus provide guidance re quantities for ordering in decentralised provinces. Dry foods are delivered monthly or more frequently to the majority of schools in most provinces. Vegetables are delivered weekly to the majority of schools in most provinces. Stakeholders in the majority of schools in most provinces rated the delivery system as “good”. Delivery systems in decentralised provinces (except the Northern Cape) are generally more highly rated. Deliveries in decentralised provinces are more likely to be on time. In centralised provinces, pilots whereby schools purchase their own fruit and vegetables were reported to be working well. A number of provinces (Gauteng, the Eastern Cape, Free State and Northern Cape) provide tools to schools to help with delivery monitoring. Schools in decentralised provinces seem better able to hold SPs accountable for delivering quality services on time. The Western Cape has two service providers, which makes payment quick, and processes invoices weekly. The Western Cape monitors deliveries by checking delivery schedules against stock during school visits. 	<ul style="list-style-type: none"> The majority of schools in centralised provinces do not have delivery schedules: only 28.2% of NSNP Co-ordinators said they did, and the majority did not know what quantities to expect. Dry foods are delivered quarterly to most schools in the Free State. Vegetables are delivered quarterly to most schools in the Free State and monthly or twice monthly to a considerable proportion of schools in the North West, Northern Cape, Eastern Cape, and Western Cape. A considerable proportion of school stakeholders rated the delivery system as “poor” in KwaZulu-Natal, Mpumalanga, and the Northern Cape. Deliveries are often late in centralised provinces. Delivery challenges are exacerbated for schools in remote, rural areas. Monitoring of delivery seems to be a weak area. Little evidence was found in the NSNP file that schools had checked deliveries. Centralised provinces and the Northern Cape were worse in this regard. Payment of SPs is a weakness in KwaZulu-Natal (in particular where there are 2029 SPs) and Gauteng. This impacts on SPs’ ability to deliver food and schools’ ability to serve NSNP meals daily. In KwaZulu-Natal, VFHs are paid by SPs and this arrangement does not work well.
Food preparation and serving	<ul style="list-style-type: none"> The Western Cape and Gauteng make provision for breakfast as well as lunch. School specific menus provide guidance in terms of quantities that should be prepared. In some decentralised provinces, schools 	<ul style="list-style-type: none"> School specific menus are based on the previous year’s enrolment (number of learners approved for the NSNP), and the actual number of learners eating may be more or less. Some schools are preparing considerably

Business Process	Strengths	Weaknesses
	<p>may design their own menus (which must be in line with the FBDGs and approved by the PED) and can design menus which are more palatable to learners.</p>	<p>more or less of food than is required to feed the number of learners approved for the NSNP (see above).</p> <ul style="list-style-type: none"> • In a number of schools there are unintended beneficiaries who also eat the NSNP meals (and are not budgeted for). • In a number of schools learners do not eat the NSNP meal every day. • In a number of schools there is leftover food and wastage, whilst in others not enough food is cooked for all learners who want to to eat adequate portions.
Monitoring and reporting	<ul style="list-style-type: none"> • There are sufficient vehicles in the Western Cape for NSNP monitors to visit schools regularly. Schools were visited an average of five times in 2014. • Random and non-random monitoring is conducted from multiple levels (national, provincial, district, and school). • Provinces and districts have targets re number and frequency of monitoring visits, and in many cases these are achieved. • A comprehensive monitoring tool and colour coding system – red, amber, green – is available and used in many provinces. • Almost all North West Schools (95.6%) have expenditure reports in their NSNP files. • Some provinces (the Western Cape, Free State, KwaZulu-Natal, and Northern Cape) verify reports submitted by districts and schools. • Some provinces (the Free State, Mpumalanga, North West) conduct internal audits periodically. • Comprehensive, systematic monitoring and reporting is carried out to fulfil the Conditional Grant requirements. 	<ul style="list-style-type: none"> • Staff shortages/vacancies are reported to prevent some provinces (KwaZulu-Natal) and districts (in the Free State, Limpopo, and the Northern Cape) from undertaking regular monitoring. • Lack of vehicles was reported to hamper school monitoring in KwaZulu-Natal, the Free State, Gauteng, North West and Limpopo. • Challenges were reported with timely and accurate reporting by schools in some provinces. • There are concerns with the quality of some reports and plans of some districts among both centralised and decentralised provinces. • Not all provinces (Gauteng) were reported to have capacity to verify district and school reports. • Templates and indicators are not standardised across all monitoring and reporting levels and provinces. • Reporting is heavily compliance driven.

4.3.5 Summary

The multiple stakeholders involved in the programme appear to understand their roles and responsibilities and are to a large extent fulfilling them, particularly at national level. At lower levels, there are no guidelines regarding staff and resource allocations, and institutional arrangements vary considerably between provinces. At provincial level, capacity challenges in some provinces (notably KwaZulu-Natal) prevent officials from being able to visit schools to monitor implementation. At district level, the reported challenges in some districts were shortage of finance staff to process payments,

data capturers (to compile NSNP reports), shortage of NSNP monitors to visit schools, and shortage of vehicles.

Weaknesses were identified with the provision of training to school stakeholders, which is in line with the findings of other studies (Langsford, 2012; PSC, 2008; Rendall-Mkosi et al., 2015). Whilst around 60% of schools reported that some stakeholders had received some training, uptake was poor at 41.9% amongst VFHs. This is a concern; it is critical that VFHs are adequately trained and are able to prepare food safely and efficiently.

Strong participation in the NSNP committee by principals and NSNP Co-ordinators (educators) was found, but participation by community stakeholders (SGB members and VFHs) was less common.

The core NSNP business processes which were identified are: planning and budgeting; funding disbursement; procurement; ordering, delivery, and payment; food preparation and serving; and monitoring and reporting. As much as there are two distinct models – centralised and decentralised – there is considerable variation in implementation between provinces utilising the same model.

Disbursement of funding from national to Provincial Treasury can be challenging in the first quarter due to the approval of business plans and rollover of funds from the previous year. It is relatively smooth in subsequent quarters. More challenges are evident with the disbursement of funds from provincial Treasury to schools. Provinces utilising the decentralised model are better able to transfer funds to schools on time, but the challenges appear to be province specific. Schools in decentralised provinces have more options if their funding is late as they can negotiate credit with service providers. Funding not having been received on time was one of the key reasons given for some schools being unable to feed on certain days.

Procurement follows two different models: by tender (in centralised provinces) and quotation (in decentralised provinces). Each model has strengths and weaknesses: some schools in decentralised provinces have difficulties appointing service providers - due to not having suppliers or lacking capacity to select and appoint them – and not having SLAs in place. District officials in the Northern Cape and North West provide substantial support in this regard. In centralised provinces, procurement can be very lengthy, leading to contracts being renewed rather than new providers appointed. Tender processes not having been completed was cited as a reason for some schools being unable to feed on certain days in KwaZulu-Natal. The length of time for which some service providers have been providing services (10+ years) is of concern as this may create conditions conducive for collusion and corruption.

Late delivery by service providers was reported to be the main reason schools do not always follow menu and the primary reason why some schools were unable to serve NSNP meals on some school days. Broadly speaking, delivery logistics seem to work better in decentralised provinces: the majority of schools in centralised provinces (except Mpumalanga) do not have delivery schedules or know what quantities to expect; dry goods and vegetables tend to be delivered more frequently in centralised provinces. However, but the delivery system was more highly rated by schools stakeholders and deliveries were less likely to be late in decentralised provinces, suggesting that schools using the decentralised model are better able to hold service providers accountable. Challenges with delivery tend to be province specific and include: late deliveries, delivery of expired/poor quality food; incorrect quantities; and deliveries after hours. Monitoring of delivery occurs primarily at school level and the

processes are inconsistent across provinces. Challenges with the timeous payment of invoices were evident in two provinces using the centralised model – KwaZulu-Natal and Gauteng – leading in instances to service providers not being able to deliver food and NSNP meals not being served.

Budgeting and guidelines in terms of food preparation and serving are based on the previous year's school enrolment. Enrolment fluctuates between - and even within – years. Furthermore, in some schools, not all learners eat the NSNP meals or eat the NSNP meals daily. All of this means that the number of learners for whom NSNP meals should be prepared may be different to the official approved figure, leading to VFHs preparing either more food than is required (leading to wastage) or not enough, with the result that learners do not receive adequate meals. There is scope to improve targeting and efficiency in this regard.

Extensive monitoring and reporting is undertaken in accordance with the requirements for Conditional Grant funding. The main burden of responsibility falls at district level and district officials fulfil a key role in monitoring and supporting implementation in schools. In the decentralised model, schools are required to report on expenditure monthly. Reports are collated and cascaded upwards (i.e., to district, provincial, and national levels). The monitoring and reporting system is a strength, but is demanding as the system is to a large extent paper-based. The indicators and report templates used at various levels and in different provinces could be better streamlined, and more emphasis on the formative use of monitoring data and documenting and sharing good practices (of which there are many) would be worthwhile.

Some school stakeholders have concerns that the NSNP impacts on teaching and learning – by eating into teaching and learning time and requiring increased administration; the responsibilities of the NSNP Co-ordinator - a teacher - in relation to the programme are many, particularly in the schools using the decentralised model in which ordering, liaison with suppliers, and financial reporting is required. On average, the NSNP did not eat into teaching and learning time, although there were some schools in which serving the meal lasted longer than break.

An implementation index was constructed to summarise performance in key aspects identified as important in the literature review and ToC to facilitate comparison across provinces and models. Three provinces using the centralised model - the Western Cape, Mpumalanga, and Gauteng –and one province using the decentralised model – the North West - scored best, achieving scores above 12. KwaZulu-Natal scored worst - achieving an overall score of 9.22. The overall score of each model was very similar, with the centralised model scoring marginally better with a mean score of 11.05 as compared to 10.95 for the decentralised model. Disaggregating the index by component shows that the Free State and provinces using the centralised model scored slightly better in terms of food modalities and basket. Provinces using the decentralised model scored better in terms of procurement and logistics, specifically in disbursement of funding to schools and ordering, delivery, and payment. Performance in M&E was similar for both models. There was more variation between different provinces using the same model than between models, indicating that province specific factors account for the greatest part of the differences.

4.4 Additionality

The primary objective of the NSNP is to provide nutritious meals to learners daily, but the NSNP also stimulates economic activity and brings benefits to people who prepare and cook the food (VFHs) and service providers contracted to deliver food, utensils, and gas.

The literature review found that school nutrition programmes have the potential to stimulate local agricultural development as well as LED, but there are some risks relating to decentralised procurement which need to be managed.

This section details these “additional” benefits and related challenges and considers the extent to which there are “other spinoffs” of the NSNP.

4.4.1 VFHs

VFHs are usually parents or community members who are engaged to cook meals for the learners. They are appointed by schools and should serve for a period of one year, with the intention that the opportunity is then provided to others. As was noted in Section 4.3.1, there are challenges with training a new cohort of VFHs every year, and some schools keep VFHs for a period of longer than 12 months. The reported practice in some larger schools was that one “senior” VFH is kept on and the other VFHs are rotated annually (fieldwork notes). A few schools - predominantly in the Western Cape - had created some additional positions for VFHs as gardeners and “admin volunteers” assisting with NSNP deliveries and record keeping (fieldwork notes).

The table below indicates the number of VFHs in each province (as reported by the DBE in 2013/2014) and the ratio of VFHs to learners (as ascertained via the school surveys). The figures vary substantially based on the number of schools with an NSNP and learners receiving NSNP meals in each province. The CGF recommends a ratio of 1 VFH to 200 learners and a lower ratio of 1 VFH to 120 learners in schools with enrolments below 250 (National Treasury, 2014a, 2015, and 2016). The ratio of VFHs to learners is higher than recommended in Gauteng and Mpumalanga.

Table 38: Provincial breakdown of VFHs engaged in the NSNP and ratio of learners to VFHs: Source as indicated

Province	# VFHs*	Ratio [^]	SE	Upper bound	Lower bound
GP	5,622	219.99	10.04	200.21	239.76
KZN	10,257	144.17	20.39	104.00	184.34
LP	10,368	158.53	11.10	136.67	180.38
MP	5,268	204.28	12.46	179.74	228.82
WC	2,852	191.82	12.89	166.43	217.21
Subtotal		170.64	9.31	152.30	188.97
EC	9,437	150.26	11.19	128.22	172.30
FS	3,446	133.19	36.77	60.77	205.62
NC	1,526	160.65	13.16	134.72	186.58
NW	4,222	137.05	20.54	96.59	177.50
Subtotal		145.90	9.98	126.25	165.55

Province	# VFHs*	Ratio^	SE	Upper bound	Lower bound
Totals	52,998	161.54	6.88	147.99	175.09

Source: *DBE, 2015c, p. 14; ^school surveys

The CGF specifies the minimum honorarium which should be paid to the VFHs: in the 2014-2015 financial year this was R900 and in the 2015-2016 financial year this was R960 monthly. Some instances were found of schools which were “topping up” the VFH stipends with their own funds, but these were rare. By and large, schools were paying VFHs the minimum outlined in the CGF. The stipend for VFHs ranged from a low of R600 in Limpopo to a high of R1,400 in Gauteng. The table below refers.

Table 39: VFHs monthly honorarium Source: VFH survey

Province	<R900	SE	R900-R960	SE	>R960	SE
GP	1,1%	1,06%	97,1%	2,2%	1,9%	1,9%
KZN	0,0%	0,00%	100,0%	0,0%	0,0%	0,0%
LP	3,6%	3,59%	96,4%	3,6%	0,0%	0,0%
MP	9,8%	9,28%	90,1%	9,3%	0,0%	0,0%
WC	14,6%	8,55%	77,8%	9,3%	7,5%	4,0%
EC	0,0%	0,00%	92,5%	4,2%	0,7%	0,8%
FS	0,0%	0,00%	100,0%	0,0%	0,0%	0,0%
NC	0,0%	0,00%	99,3%	0,7%	0,7%	0,7%
NW	0,0%	0,00%	99,2%	0,9%	0,0%	0,0%
Total	2,0%	1,06%	95,5%	1,6%	0,6%	0,3%

Source: VFH survey, Note: the fieldwork was conducted from March – May 2015, thus cutting across two financial years, the minimum outlined in the CGF was R900 in 2014-2015 and R960 in 2015-2016.

The cost analysis assessed the extent to which PEDs complied with the minimum honorarium for VFHs specified in the CGF in previous years. Compliance was generally good, with just a few instances where the average monthly honorarium was less than the prescribed minimum. This was the case for Limpopo in 2009/10 (R 450 per month against the minimum monthly honorarium of R500), Gauteng in 2011/12 (R 637.50 versus the prescribed monthly minimum of R 640) and KwaZulu-Natal in 2011/12 and 2012/13 (R 630 and R 693.33 against the stipulated minimums of R 640 and R 720, respectively) (JET, 2015a, p. 18).

In certain policy documents, VFHs for the NSNP are classified as Social Sector EPWP workers. The minimum stipend for Social Sector EPWP workers is set by Ministerial Determination³³ (MD) and is more than the amount specified in the CGF. In the 2013-2014 financial year, the minimum stipend for Social Sector EPWP workers was R70.59 per day, compared to R840 per month specified in the CGF. An evaluation of the EPWP commissioned by the DPME found that NSNP EPWP workers were generally receiving 60% of the prescribed minimum daily amount (EPRI, 2015, p. 9).

³³ The Ministerial Determination (MD) was introduced in 2010, demonstrating the government’s commitment to providing decent work. The MD outlines basic terms and conditions of employment for EPWP workers, including a minimum stipend, maximum work week, and contributions to the Unemployment Insurance Fund (EPRI, 2015, p. 6).

National Treasury and DBE officials explained that the NSNP VFHs are volunteers rather than EPWP workers as the NSNP is not intended to be an employment programme, and therefore the EPWP MD does not apply to the NSNP. However, policy is unclear on this matter (EPRI, 2015, p. 6). National Treasury and DBE officials added that VFHs do not work fulltime (they work for an average of five hours a day), and they do not work during school holidays, but still receive a salary during this time. A number of provincial and district officials who were interviewed for the evaluation said they felt VFHs were not adequately compensated for the work they do, and a district official from the Western Cape reported being challenged by the Department of Labour regarding the VFH stipend amount.

Province-specific challenges relating to the late payment of VFH stipends were noted: in Limpopo, 41.6% of VFHs reported late payment and in KwaZulu-Natal 28.1%.

A benefit which VFHs should receive is opportunity to develop and enhance their skills with a view to being able to find a job or start a business at the end of their 12 month engagement as VFHs (DPW, undated). However, less than half of the VFHs who were surveyed had received training.

As discussed in Section 4.1.4, in the majority of schools VFHs were reported to benefit from the NSNP meal, and in a small number of schools VFHs get to take leftovers home if there are any.

Fieldworkers reported some instances of VFHs being given NSNP supplies to take home, including an instance of a school in which VFHs received supplies instead of their stipends in December (fieldwork notes).

4.4.2 Service providers

The decentralised model is posited to provide greater opportunity for LED as the centralised model usually relies on fewer contractors (DBE National Official). However, a number of provinces implementing the centralised model have appointed a considerable number of service providers (KwaZulu-Natal and Limpopo) and among the decentralised provinces, the North West³⁴ has contracted few. Officials from KwaZulu-Natal, as well as Mpumalanga, Gauteng and the Northern Cape reported efforts to create a supportive environment for SMMEs (provincial and district interviews).

Table 40: Number of service providers per province

Province	# Service Providers
GP	146
KZN	2,029
LP	343
MP	66
WC	2
EC	1,308
FS	218
NC	294
NW	11
Totals	4,417

Source: DBE, 2015a, p. 14.

³⁴ In the North West province it was reported that schools do not all have SLAs with suppliers, and some purchase food from local shops.

In KwaZulu-Natal, the NSNP has been dubbed a poverty alleviation and job creation programme (KZN Provincial Official). To support such aims without compromising the primary objective of the NSNP it is important that strong procurement, payment, and monitoring systems are in place. SMMEs are different from larger suppliers in that they often operate from hand to mouth and do not have savings or capital to rely on if needed. As one respondent explained, when dealing with SMMEs and co-operatives, *“if you do not pay them, they cannot deliver, it is as simple as that”* (KZN Provincial Official). However, logistics systems were found to be weak in KwaZulu-Natal (see Section 4.3), and problems with contracting and payment were reported to be the cause of non-feeding in some instances.

At one school visited for fieldwork in the Northern Cape, a co-operative was found to be running the NSNP. The school transferred funds to the co-operative which did everything from purchasing food, preparing food, and completing the monitoring tool to submitting monthly reports to the district office. However, there was no feeding at this school on the day of fieldwork, and this was reported to be due to the NSNP funds not having been received by the school.

Challenges experienced with the delivery of fresh produce (primarily vegetables) to schools (see Section 4.3.3.30) - i.e., with deliveries being late, short, and the goods of poor quality leading in some cases to vegetables not being served - suggest that local procurement of fresh produce (primarily vegetables) could be beneficial to schools and a potentially lucrative income generating activity for communities surrounding the schools. The literature review demonstrated that this has happened successfully in other countries (Bundy et al, 2009).

4.4.3 Other benefits

Another, *non-education related* benefit of the NSNP for communities, according to SGB members who were surveyed, was poverty alleviation: parental concern is relieved to a certain extent as parents know their children will receive a nutritious meal at school. There is also a saving as households do not have to provide lunch for their children of school-going age. Thus the NSNP was reported to contribute to poverty alleviation in poor communities.

4.4.4 Summary

The NSNP provides opportunities to over 50,000 VFHs annually to cook for the NSNP and earn a stipend of R960 per month. This translates into R576 million rand a year which benefits community members. The stipend is lower than the EPWP social sector minimum wage which is set by MD. DBE and Treasury Officials pointed out that the NSNP VFHs are volunteers, and therefore the EPWP MD does not apply to the NSNP, but policy is unclear on this matter.

VFHs should be rotated annually for the opportunities to be shared. In practice some schools retain a “senior” VFH for longer than one year; the benefit of this practice is that it is difficult to train new VFHs every year. Training is a challenge and a concern: less than half of the VFHs who were surveyed had received training. Training and capacity building is important if the benefits for VFHs of volunteering for the NSNP are to extend beyond receiving a stipend for 12 months.

The NSNP stimulates economic activity: providing daily meals on 194 school days to 9,131,836 learners (as in the 2013-2014 financial year) at a cost of between R2.85 and R3.60 per meal (as in the 2015-2016 financial year) equates to around R5.7 billion or R5.1 billion excluding the honorarium paid to

VFHs. In provinces in which procurement favours SMMEs and co-operatives, these can benefit as service providers. Some centralised and decentralised provinces (KwaZulu-Natal, Gauteng, Mpumalanga and the Northern Cape) are making efforts in this regard. However, if efforts to support SMMEs and co-operatives are not to have a detrimental effect on the primary objective of the NSNP, it is vital for robust procurement, payment, and monitoring systems to be in place. These were found to be weak in KwaZulu-Natal, particularly the timeous payment of 2,029 service providers, leading in some instances to learners not being fed.

An area with the potential to benefit schools and communities and stimulate local agricultural development is through the local sourcing of vegetables. If adequately supported, this may help to address schools' concerns regarding the vegetable deliveries (timeous, sufficient, good quality) and provide a regular market for local agricultural produce.

4.5 Likely impact, funding and sustainability

This section discusses issues relating to the likely intended impact, funding, and sustainability of the NSNP. It draws on the cost analysis which was undertaken as part of the evaluation and addresses the evaluation questions about likely impact, strengthening, and possible upscaling.

4.5.1 Likely impact

The NSNP is likely to have an impact if: 1) the change theory (i.e., links from inputs, activities, and outputs to outcomes and impact) outlined in the ToC presented in Chapter 2 is plausible; 2) important assumptions outlined in the logframe hold true; and: 3) the process theory specified in the ToC (inputs, activities, and outputs) holds true, and the programme is implemented as planned.

Most education-related aspects of the NSNP's change theory are **plausible**, provided that certain fundamentals are in place. From the literature it was found that having a school nutrition programme often leads to increased enrolment and attendance as school meals are a motivation for children to attend school – particularly girls. Such outcomes were found in relation to five African, Asian, and South American school nutrition programmes which were profiled. Over time, and if meals are provided at primary and secondary level, this is likely to lead to improved retention in the education system. It was also found that school meals can relieve short-term hunger – provided meals are provided consistently. Furthermore, if meals are provided at or close to the beginning of the day, through relieving hunger, they may help to improve concentration and cognition in class (Grantham-McGregor, et al., 1998; Tomlinson, 2007), although the evidence is not all positive in this regard (Greenhalgh et al., 2007; McEwan, 2010). There are also mixed findings regarding whether school feeding leads to improved learner performance: improvement is only conclusively evident in well organised schools with good quality teaching (Adelman et al., 2008; Korugyendo and Benson, 2011; Kristjansson et al., 2016; Poswell and Leibbrandt, 2006b; Vermeersch and Kremer, 2004; WFP, 2010).

With regards to the nutritional and health benefits, there are many other determinants, and evidence regarding the impact of school nutrition programmes is inconclusive. Irreversible damage due to malnutrition may occur between the ages of 0 to 3, before children start school (Beesley and Ballard, 2013; Korugyendo and Benson, 2011; Poswell and Leibbrandt, 2006b; Tomlinson, 2007). It follows that a meal which aims to provide 33% of the RDA of energy requirements (as the NSNP aims to do) is

unlikely to shift nutritional and health status alone unless other enabling determinants are in place (Grantham-McGregor, et al., 1998; HST, 1997; Kazianga et al., 2009; Tomlinson, 2007). These determinants include household food security and parent/caregiver education levels - underscoring the value of including a nutrition education component in the NSNP. On the other hand, some studies in South Africa (Graham et al., 2015) and internationally (Greenhalgh et al., 2007; Kristjansson et al., 2016) have found a positive impact of school nutrition programmes on the nutritional status of children who were malnourished at the outset.

The logframe which was developed for the NSNP evaluation (see Appendix A) identified a number of **assumptions** which underpin the logical hierarchy of the programme. The extent to which the evaluation findings found that these assumptions hold true or not is summarised in the table below.

Table 41: Findings regarding key assumptions in the NSNP logframe, in light of the evaluation findings

Assumption	Logical hierarchy level	Comment
NSNP is one of many programmes that <i>contribute</i> to increased enrolment and improvement in results.	Goal	Not assessed via this evaluation.
NSNP is one of many programmes that <i>contribute</i> to improved retention in the education system.	Objective 1; long-term outcome 1	Not assessed via this evaluation.
Parents/family do not skip learners' breakfast knowing they will receive food at school	Objective 1; long-term outcome 2	This is not a problem, provided learners receive breakfast at school (Gauteng and the Western Cape make provision for this, although 10 Gauteng schools did not serve breakfast on the day of fieldwork; thus serving breakfast <i>consistently</i> is an issue in Gauteng). 22.7% of learners surveyed did not eat breakfast at home: this proportion was highest in Limpopo, Gauteng, Mpumalanga, the Western Cape and North West (higher than expected in provinces which make provision for breakfast). Of the learners who had not eaten breakfast at home, the largest share said this was because there was no food at home, suggesting that parents are not withholding food, rather that these learners come from households which are food insecure and rely on the meals they receive at school.
School registers and SNAP Survey contains accurate data	Objective 1; long-term outcome 2	Not assessed via this evaluation.
The meal does not give children too much energy and makes them restless	Objective 1; intermediate outcome 1	Not assessed via this evaluation.

Assumption	Logical hierarchy level	Comment
NSNP is a motivation for children to attend school	Objective 1; intermediate outcome 2	Some feedback from interviewees: Increased enrolment was reported by provincial and district interviewees in quintile 4 and 5 schools which benefit from the NSNP, suggesting that the NSNP is a motivation for enrolling at and attending school. However, in the Western Cape – which makes provision for breakfast - it was reported that learners do not arrive at school on time and miss breakfast; breakfast may not be enough of an encouragement for them to arrive on time or there may be other factors (such as the availability of transport) which influence this.
VFHs use the monitoring forms rather than taking daily attendance figures; VFHs have systems in place to record meals while serving the meals; VFHs records are accurate	Objective 1; output 1	Daily school feeding summaries for the months of January, February, and March were evident in 63.9%-72.2% of schools visited. The accuracy of these records was not verified.
Schools have the capacity to form the NSNP committee; teachers and SGB members are willing to get involved; DBE will determine nutrition committee functionality	Objective 1; output 2	Strong participation by principals and NSNP Co-ordinators, but participation by community stakeholders (SGB members and VFHs) was weaker. In only 30.9% of schools in centralised and 36.2% in decentralised provinces were SGB member reported to be part of the NSNP committee. Participation of VFHs was lower, at 23.2% in centralised and 21.8% in decentralised provinces.
Schools have the capacity to form the NSNP committee; teachers and SGB members are willing to get involved	Objective 1; activity 1	See above
Parents/community members are willing to be engaged as VFHs	Objective 1; activity 2	All schools had VFHs and employment of VFHs was reported - by SGB members - as one of the benefits of the NSNP. Most schools paid the minimum recommended stipend (outlined in the CGF), and a few topped this amount up with school funds (fieldwork notes).
There are sufficient service providers (SPs) willing to apply for tenders; SPs have the capacity to apply for tenders	Objective 1; activity 3	The majority of NSNP service providers supplied quotations via a tender process (SP survey). Challenges were identified with schools in remote areas, some of which fail to obtain multiple quotations or to rotate their service providers due to there being few local suppliers (interviews).
Communication between PEDs and schools and SPs is efficient; SPs do not have cash flow issues which result in delayed procurement of food; SPs are able to deliver on time and in correct quantities.	Objective 1; activity 4	Payment delays in some provinces affect deliveries and, in some cases, has a knock on effect on the serving of meals (particularly in KwaZulu-Natal and Gauteng). Challenges were reported with deliveries - particularly in centralised provinces - with deliveries arriving late, incorrect quantities being delivered, deliveries being made after hours, and poor quality/expired food being delivered.

Assumption	Logical hierarchy level	Comment
PEDs' payment systems do not result in excessive delays in payment; schools can ring-fence NSNP funds for SPs and not spend the money on other items	Objective 1; activity 5	Some challenges were reported with the transfer of funds from provinces to schools, particularly in Limpopo, Mpumalanga and KwaZulu-Natal. Limpopo and the North West are the only provinces in which the majority of schools have separate bank accounts for the NSNP.
Training is appropriate and pitched at the correct level for VFHs	Objective 1; activity 6	Not tested via this evaluation; however, the majority of VFHs reported not having been trained (VFH survey).
Schools have or can create store rooms which can be cleaned and locked	Objective 1; activity 7	The majority of schools have lockable storage areas — except in KwaZulu-Natal (observation).
PEDs' payment systems do not result in excessive delays in payment; schools can ring-fence NSNP funds for VFHs and not spend the money on other items	Objective 1; activity 8	The majority of VFHs receive their stipend on time (VFH survey).
Health and safety standards are available	Objective 1; activity 9	The DBE has developed various documents and posters on health and safety.
Parents/family do not skip learners' breakfasts knowing they will receive food at school	Objective 2; longer term outcome 1	See objective 1; longer term outcome 2.
Schools are able to build time into the school day for practical learning time in the food garden	Objective 2; intermediate outcome 1	The majority of schools do not have food gardens; only 11.5% of NSNP Co-ordinators said school food gardens are used for teaching and learning.
Land, water, seeds, and tools are available for learners to garden at home.	Objective 2; intermediate outcome 2	Not tested via this evaluation.
Gardens are big enough to provide enough food to supplement meals; schools have identified OVCs	Objective 2; output 1	39.8% of schools had food gardens which were being used for the NSNP. 31.6% of VFHs said they use vegetables from the school food garden when cooking.
Land, water, seeds, and tools are available for gardening in the community	Objective 2; output 2	Not assessed via this evaluation.
Community members are willing to be appointed as garden managers	Objective 2; activity 1	Not assessed via this evaluation.
Training is appropriate and pitched at the correct level for garden managers	Objective 2; activity 2	Not assessed via this evaluation.
Funds are sufficient, and schools are able to access seedlings and other inputs required in close proximity	Objective 2; activity 3	Not assessed via this evaluation.
SPs are able to deliver on time and in correct quantities.	Objective 2; activity 4	Not tested via this evaluation. Not assessed via this evaluation.

Assumption	Logical hierarchy level	Comment
Schools have sufficient ground for a garden; schools can locate human resources to assist in the garden; gardens is fenced; garden has water	Objective 2; activity 5	The majority of schools do not have functional food gardens. The main reasons reported for this were lack of human resources and lack of water. Fencing gardens is not part of the NSNP.
Learner time in the garden does not impact negatively on classroom learning time	Objective 2; activity 6	Not tested via this evaluation; however, only 22.2% of learners said they help in the school garden. Of these 70.7% help as part of a lesson and 9.4% as punishment.
Children are able to convince families that healthier food can be served at home; families have sufficient inclination and money to make the changes	Objective 3; longer term outcome	Not assessed via this evaluation.
Children are able to make choices about the food they eat, rather than being told what to eat	Objective 3; intermediate outcome 2	Not assessed via this evaluation.
There is enough time in the Life Orientation curriculum to include nutrition education and teachers are prepared to use the LTSM supplied.	Objective 3; output 1	The majority of learners (89.6%) said they learn about healthy and unhealthy foods during Life Orientation; and the majority of NSNP Co-ordinators (73.5%) said nutrition education is covered in the Life Orientation curriculum.
Nutrition education remains part of the curriculum.	Objective 3; activity 1	Not assessed via this evaluation.
PEDs have good logistics to deliver LTSM; Schools distribute materials to classrooms and teachers, rather than store them.	Objective 3; activity 2	PED logistics not tested as part of this evaluation; distribution of posters/materials varied considerably between provinces; uptake and usage was lower than reported.
PEDs budget for nutrition week celebrations	Objective 3; activity 3	Low reported participation in NNW by school principals – from 1.5% in Limpopo to 17.6% in Mpumalanga.
If the NSNP is implemented as planned, the programme will be efficient	Objective 4; intermediate outcome 1	See Section 4.3
Districts have the capacity to report monthly and quarterly, school reports are received on time	Objective 4; output 1	Challenges reported in the Free State regarding the regular submission of monthly reports (in part due to challenges with districts receiving reports from schools) and in KwaZulu-Natal regarding the quality of narrative reports. Challenges reported in some provinces (the Free State, KwaZulu-Natal, Eastern Cape and Western Cape) with the timely and accurate reporting by schools.
PEDs have the capacity to report quarterly, district reports are received on time.	Objective 4; output 2	Challenges reported with the quality of reports received from some provinces; see also objective 4; output 1.
DBE has the capacity to report quarterly, PED reports are received on time.	Objective 4; output 3	DBE capacity to report not assessed via this evaluation; see also objective 4; output 2.

Assumption	Logical hierarchy level	Comment
Training is appropriate and pitched at the correct level; relevant persons attend training	Objective 4; activity 1	Not assessed via this evaluation, but 60% of schools report having received training.
Schools have the capacity to report monthly	Objective 4; activity 2	See objective 4; output 1
Districts have the capacity to monitor NSNP implementation	Objective 4; activity 3	Challenges reported by district official which impact on their ability to monitor implementation in schools include an inadequate number of staff, high turnover of staff, and limited access to vehicles. The extent of the challenges varies between provinces.

From the table above, assumptions relating to the timeous disbursement of funding to schools (in some provinces), payment of service providers (in some provinces), and on time and accurate delivery by service providers (in many provinces, particularly those using the decentralised model) do not hold true and, in some instances, this impacts on the preparation and serving of NSNP meals on all school days. This is problematic in a context in which 22.8% of learners do not eat breakfast at home before they come to school, and it is expected that learners will receive a meal at school. If NSNP meals are not prepared (as was the case in 3.8% of schools on the day of fieldwork), children are likely to go hungry, and the outcome of relieving short-term hunger will not be achieved consistently.

The evaluation found that learners are – for the most part – *receiving* NSNP meals, but there are challenges regarding the *composition* of the meals – i.e., the extent to which three food groups are being prepared and served in the correct quantities. If food groups are missing or portion sizes inadequate, the nutritional value of the food will be reduced. Conversely, if substantial numbers of learners are opting out of the programme (as is the case in certain schools in some provinces), but meals are still being prepared for them, there will be wastage of food (as was found in some schools).

Despite the challenges outlined above, it seems likely that the NSNP is acting as an incentive for learners to enrol in and attend school regularly (provided meals are provided regularly). Furthermore, if the NSNP is offered in secondary as well as primary schools in a locale, then it is likely to encourage retention in the school system.

A key challenge reducing the likelihood that the NSNP will improve concentration in class and increase engaged learning time is the time when the meals are served. School meals should be served at the beginning of the school day, or as close as possible thereafter, to optimise this. In only one province – Limpopo – did the majority of schools manage to serve NSNP meals by 10:00 am as is recommended – and in two other provinces - the Western Cape and Gauteng – the majority of schools served breakfast. The main reason reported to fieldworkers for this was that VFHs could not prepare and cook the meals in time due to a range of factors, including lack of transport, the time when schools open, and the quantities of food which need to be prepared (fieldwork notes). This is an issue which must be addressed to increase the likelihood of impact in this area.

Key challenges reducing the likelihood of impact in terms of the school food gardening component are that the majority of schools do not have functional food gardens, and levels of learner participation in

food gardening activities are relatively low. Key challenges here seem to be lack of manpower to maintain the school gardens and lack of water (fieldwork notes). Notable exceptions are Mpumalanga and the Eastern Cape, in which the majority of schools do have food gardens, although levels of learner participation in the school food gardens are still low.

In terms of nutrition education, LTSM and posters have been developed and distributed. Levels of uptake/usage are lower, but nutrition education is being taught in the majority of schools, and learners are aware of healthy and unhealthy foods. The extent to which knowledge of healthy eating translates into practice was beyond the scope of this evaluation. There are many determinants, including access to healthy foods outside of school and parental and family eating practices. Literature suggests that, outside of school, South African children's diets consist mainly of carbohydrate rich foods containing limited nutrients and very limited fresh fruit, vegetables, and animal protein (Steyn, et al., 2006). It is beyond the mandate of the NSNP to effect dietary changes outside of school. The programme can aim to enhance knowledge and ensure that the meal served whilst children are at school contributes in terms of providing the variety and nutrients which may be lacking in the meals children eat outside of school.

4.5.2 Funding parameters

The literature review found that the cost of school meals varies considerably across countries. South Africa is at the lower end of the spectrum, with cheaper meals than a number of other African countries (Aliyar et al., 2012).

In the 2013-2014 financial year, the NSNP cost R5.3 billion (DBE, 2015c). The funding allocation for the NSNP is determined in line with the Medium Term Expenditure Framework (MTEF) which is aligned to the policy objectives of government as set out in the NDP, the government outcomes system, and the Medium Term Strategic Framework (MTSF). The MTEF is updated annually, taking into account inflation and government income and expenditure projections, and finalised between October and February each year. The CGF is developed as part of this process (National Treasury, 2014b, p. 16). Information about the cost of food and fuel and learner enrolment in schools are key inputs into developing the CGF.

The MTEF Guidelines from National Treasury advise that given the current fiscal climate, government departments should strive to improve efficiency and effectiveness, and quality improvements and expansion will "largely need to be financed from within existing allocations", (National Treasury, 2014b, p. 4). This is important when considering possible up-scaling of the NSNP (see Section 4.5.4).

Provinces "top up" the Conditional Grant funding with funding from the equitable share and other sources, including donor funding and counterpart funding by other government departments. This practice should be lauded. However, the amount allocated from other funding sources and how it was spent was not provided to the evaluation team and thus was not part of the cost analysis which was undertaken (see Section 1.3.6).

The allocation of Conditional Grant funding is based on the 2008 National Poverty Distribution Table³⁵ (PDT) provided by Treasury and published in the National Norms and Standards for School Funding (DoE, 2008) and total enrolment per province at the time of the SNAP survey in the previous school year. The table below summarises the proportion of learners per province in quintile 1-3 schools according to the National PDT, the total number of learners in Grade R-12 enrolled in ordinary, public schools in 2014, and, based on these, the number of learners for whom NSNP meals were budgeted in 2015.

Table 42: National PDT, school enrolment and number of learners

Province	Quintile 1*	Quintile 2*	Quintile 3*	Total quintiles 1-3*	Enrolment Grade R-12 in ordinary public schools^	Number of learners budgeted for+ in 2015
GP	12,7%	15,4%	19,3%	47,4%	1,933,460	1,068,169
KZN	20,9%	22,2%	21,1%	64,2%	2,825,997	1,845,933
LP	28,1%	24,7%	23,9%	76,7%	1,664,941	1,318,544
MP	25,3%	22,4%	21,0%	71,6%	1,032,054	724,750
WC	9,5%	13,6%	16,9%	40,0%	1,024,250	428,400
EC	28,2%	21,7%	19,7%	69,6%	1,879,004	1,346,002
FS	19,7%	22,0%	21,8%	60,6%	655,575	406,667
NC	22,3%	22,6%	21,6%	66,5%	283,969	191,400
NW	23,5%	23,4%	18,7%	65,6%	783,608	524,459
Totals	20%	20%	20%	60%	12,082,858	7,854, 324

Source: *DoE, 2008, ^2014 SNAP survey, +JET, based on DoE, 2008 and 2014 SNAP survey

The PDT specifies the percentage of poor learners per quintile per province and is used to guide the NSNP budget allocation per province. However, in reality, actual poverty levels are higher in many provinces than suggested in the PDT, resulting in a variance that is addressed by reducing meal costs per learner and/or the number of NSNP feeding days (personal communication, DBE, 2016).

The DBE utilises school enrolment information that is published annually in the School Realities publication in conjunction with the PDT to estimate the number of learners who are covered by a budget allocation for a specific year. School Realities is also used to determine trends in the increase/ decrease in the number of learners. Where major discrepancies between provincial and national numbers arise, provincial databases are sent to the EMIS Directorate for review. This may sometimes result in resubmission of corrected databases by province (personal communication, DBE, 2016).

The CGF makes a number of stipulations regarding how the funds can be used, including: at least 96% must go on school feeding; a maximum of 3.5% can be spent on administration³⁶; funds must provide

³⁵ The National Poverty Distribution Table was updated by Treasury in 2013 but the 2008 version is still used for the purposes of NSNP budgeting. The 2013 table indicates increased poverty in the Free State (3.2%), the North West (3.1%), the Eastern Cape (2%), and KwaZulu-Natal (1.3%); slight increases in Limpopo, Mpumalanga, and the Western Cape; a relative decline in poverty in the Northern Cape (-5%); and a slight decline in Gauteng since 2008 (DBE, 2013b).

³⁶ Administration can include: compensation of employees, office equipment and stationary, vehicles, capacity building workshops (various), monitoring, advocacy, soya testing, and NSNP best schools awards (personal communication, DBE, 2016).

for the average meal cost per learner in primary and secondary schools (inclusive of transport, fuel and VFH honorarium) - this was R2.85 in primary schools and R3.60 in secondary schools in 2015-2016. It is heartening that such a high proportion of the Conditional Grant funding goes on providing school meals, but there are other programme costs that must be funded via other means.

Provinces incorporate the number of learners to be fed into business plans that are assessed against minimum requirements stated in the CGF and allocated budgets for a particular year. The CGF further states that variations may be approved by the transferring national officer based on achievements and/or critical challenges in each province. These are: reduced feeding days; lower feeding cost per learner without compromising meal quality; number of learners that exceed the gazetted quintiles/ in the Poverty Distribution Table; serving of processed vegetables or fruit in remote areas; as well as quintile 1 to 3 schools that do not feed all learners in Gauteng and Western Cape. In these respects, the CGF attempts to address geographic inequalities. Provision is also made for deep rural and farms schools to receive additional funding to cover greater transport costs (National Treasury, 2015; personal communication, DBE, 2016).

At the time of fieldwork, Gauteng and the Western Cape made provision for breakfast as well as lunch utilising the Conditional Grant funds. At the time of finalising the evaluation report, Gauteng was funding breakfast from alternative funding sources and the Western Cape was funding breakfast - at a cost of R0.40 per learner per day - in addition to lunch from the Conditional Grant (personal communication, DBE, 2016).

The entire costs of the NSNP could not be determined as provinces do not report to the DBE on their equitable share spending or the use of other donor funding, and such information was not included in the quarterly reports and business plans which were reviewed. The Conditional Grant funds do not cover all costs associated with the programme. In particular, it was reported in interviews that the 3.5% allocation for administration was insufficient, and some provinces pay for additional staff at provincial and/or district level to manage and monitor the programme (see Section 1.1.5).

The Conditional Grant allocation makes minimal provision for utensils and equipment and does not make provision to fund infrastructure, although space to store, prepare, and serve food, clean running water, and electricity are prerequisites for the NSNP to be implemented safely and efficiently. KwaZulu-Natal and Mpumalanga experienced the greatest challenges in this regard (see Section 4.2.3). PEDs are addressing the existing infrastructure backlog as best they can. Some support is being provided in this regard by partners such as Massmart which supplies “container kitchens” (partner interview), and some of the schools visited for fieldwork had successfully undertaken fundraising to build/extend/maintain facilities for the NSNP.

At school level, the Conditional Grant covers a stipend for VFH’s, but other school staff and volunteers are involved in running the programme; thus schools are also making a valuable contribution, although some evidence was found that this may take NSNP Co-ordinators away from (or become a substantial add on to) their core teaching and learning responsibilities, particularly in decentralised provinces. Some cases were encountered during fieldwork in which schools were utilising “community volunteers” or had used SGB funds to appoint an “NSNP administrator” to share the burden with the NSNP Co-ordinator.

Challenges reported at school level included: working with a budget (in decentralised provinces) or deliveries (in centralised provinces) based on the previous year's enrolment, when enrolment had increased (fieldwork notes). However, our analysis (see Section 4.3.3.4) comparing the number of learners approved for the NSNP with the number of learners enrolled at the time of the SNAP survey and the number of learners principals and VFHs said were cooked for on a daily basis indicates that these seem to be school specific challenges.

Interviewees reported that small schools receive less money than larger schools for fuel and may be unable to cook with gas from the money they receive, leading them to use firewood (which has to be collected) or to take money from the food budget to augment their fuel allowance (NW District Official). This was confirmed at school level. A number of schools reported to fieldworkers that the amount allocated for fuel was not enough, causing schools to top up by using their own funds or to avoid using gas and use alternative fuels (e.g. wood) which are time consuming to collect (fieldwork notes). This was found to be a problem particularly in Mpumalanga: in one school feeding did not take place on the day of fieldwork, reportedly because there was no gas. In several other schools, firewood was mainly used for cooking, and challenges were reported with this (fieldwork notes).

Food production is an area in which some provinces, districts, and schools have successfully leveraged support from partners, but the majority of schools had no food production activities (for various reasons including lack of access to land, water, and labour). This situation is likely to continue if funding is no longer allocated from the Conditional Grant and alternative revenue streams cannot be found.

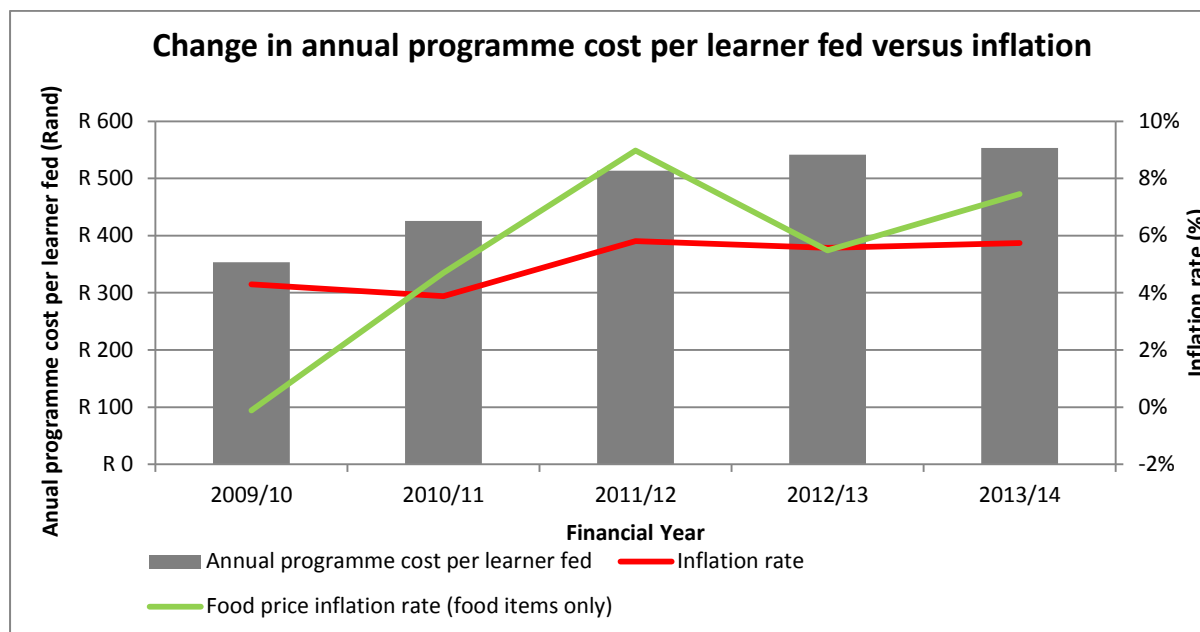
4.5.3 Cost analysis - expenditure over time

There has been a substantial increase in the allocation for the NSNP since 2009/10. The Conditional Grant more than doubled from R2,535,700,000 in 2009/10 to R5,300,000,000 in 2013/2014. National Treasury confirmed that this was largely as a result of a special additional allocation from National Treasury for the 2009 MTEF period to cover expansion of the programme to secondary schools and improvement in the quality of the menu and therefore meals³⁷. The special allocation was broken down as follows: R489 million in 2009/2010; R1.2 billion in 2010/2011, and R2 billion in 2011/2012 (personal communication, DBE, 2016).

Comparison with inflationary trends shows that the increases in NSNP costs broadly followed inflationary trends. However, unit feeding costs (annual programme cost per learner fed and average unit meal costs per learner per day) generally increased at a rate that outpaced food price inflation and overall inflation in South Africa by a considerable margin. There was significant fluctuation in unit meal costs between financial years, with particularly large (and above inflation) increases between the 2009/10 and 2011/12 financial years. This is likely due to the special allocation as indicated above.

³⁷ Meals improved through additions of the following stipulation in the Conditional Grant Framework: fresh fruit/vegetables should be served daily and vary between green and yellow/red; a variety of protein-rich foods should be served per week in line with approved menu options; soya mince should be served not more than twice a week (personal communication, DBE, 2016).

Figure 41: Comparison of changes in NSNP cost per learner fed and inflation trends, 2009/10-2013/14 financial years



Source: Own calculations using data contained in the CGFs 2009/10-2013/14 and Statistics South Africa consumer price index (CPI) data

There is considerable variation between provinces regarding the average unit meal cost. When all five financial years are considered together, the average unit meal cost per primary school learner per day was lowest in the North West (R 2.06), followed by Limpopo (R 2.23), the Northern Cape (R 2.25), and the Free State (R 2.26) and highest in Gauteng and the Western Cape (both R 2.35). The likely cause of these variations is changes in the poverty distribution or learner enrolment in quintile 1-3 schools (see Section 4.5.1).

A comparison of changes in average unit meal costs per primary school learner per day across financial years and provinces shows that average unit meal costs increased by more than 20% in eight of the nine provinces between 2009/10 and 2010/11, with the increases exceeding 30% in KwaZulu-Natal and 50% in the North West. In 2009/10, the average unit meal cost in the North West (at R1.46) was well below that in the other provinces. The large increase in unit meal cost in the North West between 2009/10 and 2010/11 brought the cost more in line with that in other provinces.

Table 43: Percentage changes in average unit meal costs per primary school learner per day between consecutive financial years, 2009/10-2013/14

Model	Province	2009/10-2010/11	2010/11-2011/12	2011/12-2012/13	2012/13-2013/14
Centralised	Gauteng	7,9%	3,9%	0,0%	7,1%
	KwaZulu-Natal	33,4%	5,2%	2,7%	2,9%
	Limpopo	20,1%	23,0%	0,0%	4,1%
	Mpumalanga	21,9%	17,1%	4,1%	1,6%
	Western Cape	28,9%	7,0%	0,8%	9,2%
Decentralised	Eastern Cape	26,9%	5,5%	5,5%	1,0%
	Free State	23,7%	-4,3%	-2,3%	18,3%
	Northern Cape	28,1%	21,0%	4,1%	1,6%
	North West	57,3%	0,0%	0,0%	-15,7%
Average(all provinces)		27,7%	8,4%	1,3%	2,9%

Source: Own calculations using data from NSNP Quarterly Reports 2009/10-2013/14

To assess compliance with the minimum feeding requirements for the NSNP, the average unit meal costs per primary school learner per day in each province were compared with the prescribed average unit meal costs in the CGFs for 2009/10 to 2013/14; the table below reports on this. The average unit meal cost per learner per day calculated across all nine provinces was below the prescribed average unit meal cost in the CGF in all five financial years. However, there is considerable variation at provincial level. No province recorded an average unit meal cost below the prescribed average level in all five financial years, although this was the case in four out of the five years in Limpopo and the North West. In contrast, several provinces registered average unit meal costs that exceeded the average level prescribed in the CGFs in three out of the five financial years.

Table 44: Provincial comparison of compliance with prescribed average unit meal cost in the Conditional Grant Framework, 2009/10-2013/14

		2009/10	2010/11	2011/12	2012/13	2013/14
Prescribed average unit meal cost in Conditional Grant Framework		R 1.80	R 2.30	R 2.46	R 2.56	R 2.60
Centralised	Gauteng	Above	Above	Below	Below	Below
	KwaZulu-Natal	Below	Above	Above	Below	Above
	Limpopo	Below	Below	Above	Below	Below
	Mpumalanga	Below	Below	Above	Above	Above
	Western Cape	Below	Above	Above	Below	Above
Decentralised	Eastern Cape	Above	Above	Below	Above	Below
	Free State	Above	Above	Below	Below	Above
	Northern Cape	Below	Below	Above	Above	Above
	North West	Below	Above	Below	Below	Below
Average(all provinces)		Below	Below	Below	Below	Below

Source: Own calculations using data in NSNP Quarterly Reports 2009/10-2013/14

With the data available for the cost analysis being limited (see Section 1.3.7), it is difficult to make comprehensive conclusions regarding the cost efficiency of the NSNP. This is due to the lack of detailed and disaggregated cost and expenditure data which would allow a thorough analysis of how efficiently funds are allocated and the allocation across the various components. This said, the fact that 96% of

the Conditional Grant funding is channelled directly towards NSNP meals is impressive, and literature suggests that the cost of school meals in South Africa is comparable or less than that of school meals in other Africa countries (Allyar et al., 2015)

4.5.4 Up-scaling and improvements

It is important to keep in mind that the value of school nutrition programmes has been conclusively demonstrated and is not questioned. However, it is relevant to review the design, objectives, targeting, and delivery modalities periodically and refine them where necessary.

All - if not every - country in the world has a school nutrition programme (WFP, 2013). Developing countries typically transition from an external donor-funded programme to an internally funded and institutionalised programme. Identifying internal sources of core funding is essential for sustainability, and donor funding can be used to “top-up” in specific areas and pilot new ideas (Bundy et al, 2009).

The NSNP 2013/2014 annual report notes that, in this financial year, an average of 9,131,836 learners were provided with an NSNP meal on an average of 194 school days. The 2014 SNAP survey reports that 12,082,858 learners were enrolled in public schools in 2014. Based on these data sources, 75.6% of learners were provided with NSNP meals, exceeding the target of 75% by 2019 specified in Action Plan to 2019 (DBE, 2015a). According to the School Monitoring Survey, General Household Survey, and monitoring reports compiled by PEDs, this figure was around 70% in 2011. A steady increase in coverage was found between 2009 and 2011, from 54% to 70%, when secondary schools began to be phased in to the programme (DBE, 2015a). This is a substantial achievement. From 2009, there was also an emphasis on improving the quality of meals i.e., serving of three food groups, including fresh fruit or vegetables and protein, daily. The expansion in terms of coverage and quality was supported by a special allocation of around R3.7 billion over three years (2009/2010-2011/2012). The evaluation has revealed a number of areas in which efficiencies can be tightened to improve and enhance effectiveness within the current funding framework (see Section 4.3), primarily: disbursement of funding to schools (in certain provinces); contracting of service providers (in KwaZulu-Natal); timely payment of service providers’ invoices (in certain provinces); addressing issues with deliveries (primarily in decentralised provinces); improving monitoring of delivery; and better alignment between the number of learners who eat NSNP meals and the quantities of food prepared to avoid shortages and reduce wastage. Specific recommendations in this regard are presented in Chapter 5.

Better alignment between the number of learners who eat the NSNP meals and the quantities of food purchased and prepared could result in cost savings. For example, only 55.4% of learners in Gauteng and 53.9% of learners in the Western Cape ate the NSNP meal on the day of fieldwork, and 11.3% and 8.5% of learners in these provinces indicated that they never eat the NSNP meal. If for example, NSNP meals were no longer prepared for 10% of learners in Gauteng and the Western Cape, the saving would be R383,971 daily or R74.5 million over the year.³⁸ A combination of geographic and individual targeting could be considered in areas in which income and poverty levels are mixed.

³⁸ Calculations based on 2008 poverty distribution table, 2014 SNAP survey data and 2015/2016 Conditional Grant framework.

The same principle could be applied to upscaling to some quintile 4 and 5 schools in which a need has been identified (see Section 4.1.2), i.e., identify and target learners who need the NSNP meals. Some provinces – the Free State, KwaZulu-Natal, and the Western Cape - have already commenced doing this. The cost of providing NSNP meals to 25% of learners attending quintile 4 schools in all provinces would be R298.5 million over the year³⁹.

Another area in which a need has been identified is the provision of breakfast: this is particularly pertinent in light of the considerable proportion of learners (22.8%) who come to school without having eaten at home, challenges identified in serving the NSNP meal by 10:00 am (see Section 4.2.2), and the importance highlighted in the literature of feeding children at the start of the school day to alleviate short-term hunger and maximise the effect of food in terms of improving concentration. The NSNP is – by and large – not managing to provide learners with a meal at the start of the school day, and doing so would increase the likelihood of impact. Gauteng and the Western Cape currently make provision to provide porridge at a cost of R0.41/primary school learner/day and R0.53/secondary school learner/day in Gauteng and R0.40/learner/day in the Western Cape⁴⁰. Our data indicates that the uptake of breakfast is less than that of lunch – 34.7% of learners in Gauteng and 37.8% in the Western Cape ate breakfast at school on the day of fieldwork. It is likely to be higher in the other provinces (as was the uptake of NSNP meals). The cost of providing breakfast at a cost of R0.45c all learners in quintile 1-3 schools over above the NSNP meal would be R685.7 million per year⁴¹. The impact on VFHs – in terms of extending their working day – should also be considered and the stipend reviewed in light of this.

Further considerations in terms of upscaling – which emanate from the literature, but were not, however, investigated via this evaluation are: 1) to increase the RDA of energy provided to be more in line with the internationally recommended 30-45% RDA if children attend school for half a day (Bundy et al, 2009); 2) to consider micronutrient fortification or supplementation to improve the nutritional value of the meals (Adelman et al., 2008). The new focus on deworming in the 2015/2016 financial year is in line with recommendations arising from the literature aimed at reversing nutritional deficiencies (Rajagopal et al., 2014).

It is not recommended that any of the above suggestions regarding upscaling be rolled out at scale. Rather, a series of pilots are proposed, with rigorous M&E running alongside implementation, including impact evaluation and cost effectiveness analysis, where feasible. Funding could be sought

³⁹ Calculations based on 2008 poverty distribution table, 2014 SNAP survey data and 2015/2016 Conditional Grant framework.

⁴⁰ The concern expressed by the DBE was that funding breakfast and lunch out of the same amount per learner (as Gauteng and the Western Cape were doing at the time of fieldwork) may have a negative impact on the quality of meals which are provided. The NSNP implementation index scores all provinces on five indicators relating to food modalities and basket (food groups, quantities of each food group prepared, and time of serving main meal), and Gauteng and the Western Cape did not score worse than the other provinces on these indicators, both scoring above the average of 2.8 out of 5 – the Western Cape with a score of 3.7 and Gauteng with a score of 3.4.

⁴¹ Calculations based on 2008 poverty distribution table, 2014 SNAP survey data and 2015/2016 Conditional Grant framework.

from interested donor/partners in this regard. Options for up-scaling should be thoroughly analysed for relevance, effectiveness, and efficiency in line with available resources.

The constraints outlined in the MTEF make the prospects for greater funding to up-scale the NSNP unlikely, unless substantial benefits can be demonstrated over and above those of the programme in its current format. Reviewing the targeting criteria in some schools (as outlined above) and other recommendations discussed in Chapter 5 are likely to generate some cost savings, but these are unlikely to be sufficient to implement the above-suggested improvement at scale.

It is important to keep in mind that the value of school nutrition programmes has been conclusively demonstrated and is not questioned. But it is relevant to review the design, objectives, targeting, and delivery modalities periodically and refine them where necessary.

4.5.5 Summary

Impact is more likely if: 1) the links from outputs to outcomes and impact outlined in the ToC presented in Chapter 2 are plausible; 2) assumptions outlined in the logframe hold true and: 3) the programme is being implemented as planned.

Literature suggests that school nutrition programmes often lead to increased enrolment and attendance as school meals are a motivation to attend school. Over time, this is likely to lead to improved retention in the education system. In the shorter term, if meals are provided at the beginning of the school day, they can relieve hunger and may help improve concentration and cognition in class.

The evaluation found that assumptions relating to the disbursement of funds on time to schools, payment of service providers on time, and delivery by service providers do not always hold true in all provinces, resulting in some instances in meals not being served on all schools days.

It was also found that learners are largely receiving NSNP meals, but the composition of the meals (serving of three food groups in the correct quantities) should improve. By and large schools do not manage to serve meals by 10:00 am which reduces the likelihood of impact in terms of concentration and cognition in class.

The value of school nutrition programmes has been conclusively demonstrated and is not questioned. International experience demonstrates the need to institutionalise such programmes and commit funding over the long-term.

The NSNP funding allocation is outlined in the CGF, which is updated annually in line with the MTEF. An impressive 96% of funding from the Conditional Grant goes towards NSNP meals (including the costs of fuel and VFHs' stipends), 3.5% can be used for administration, and 0.5% can be used for deworming (the latter since the beginning of the 2015-2016 financial year). This prioritising of NSNP funds for school meals is impressive. The programme is supported via other means: provinces "top up" with funding from the equitable share. Partners make valuable contributions to the programme through donations of money, time, and goods "in kind" in support of infrastructure, equipment, and food production, etc. Additionally, schools and communities also make valuable contributions in terms of staff and community volunteers' time.

In 2014, 75.6% of learners were provided with NSNP meals, exceeding the target of 75% by 2019 specified in Action Plan to 2019. Coverage increased steadily between 2009 and 2011. This is a significant achievement. Expansion from 2009 in terms of coverage and improved quality of meals was supported by a special Treasury allocation of around R3.7 billion over three years. In the current financial climate, government departments are advised to use improved efficiencies to finance quality improvements and expansion of programmes.

The evaluation identified a few areas in which efficiencies can be tightened within the current framework. A combination of geographic and individual targeting could be considered in areas in which not all learners eat the NSNP meals currently, and income and poverty levels are mixed. The same principle could be applied to upscaling the programme to some quintile 4 and 5 schools in which a need has been identified: i.e., identify and target learners within schools who need the NSNP meals.

Another area in which a possible need for upscaling has been identified is the provision of breakfast: The NSNP is not managing to provide learners with a meal at the start of the school day, and doing so would increase the likelihood of impact.

A series of pilots are proposed, with rigorous M&E running alongside implementation, including impact and cost effectiveness analysis, where feasible. Funding could be sought from interested donor/partners in this regard. Options for up-scaling should be thoroughly analysed for relevance, effectiveness, and efficiency in line with available resources.

5. Conclusion and Recommendations

This Chapter answers the evaluation questions and presents recommendations relating to the broad themes which were covered in Chapter 4: relevance and appropriateness; effectiveness and results; fidelity and efficiency; additionality; and likely impact, funding, and sustainability.

5.1 Conclusion

All countries in the world from the least poor to the most developed have a school nutrition programme of some sort (WFP, 2013). In South Africa, the NSNP is an extremely necessary programme which responds to national imperatives to alleviate child hunger and enhance access to and participation in education.

The literature review revealed the need for a school nutrition programme in South Africa: the prevalence of hunger is estimated at between 16.4% and 36.2% (Shisana et al., 2014, p. 146) and child hunger at between 3.8% and 33.5% (Hall et al., 2013, p. 98) per province in South Africa, illustrating the need for such a programme in all South African provinces.

The first three years are the most critical for child nutrition. Irrevocable damage may be done if nutritional intake is inadequate in these early years. Major nutritional problems typically affect younger children, rather than children of school-going age. However, in a context of food insecurity (as described above), the nutritional problems of young children typically continue into school-age or may even be exacerbated (Wenhold et al., 2007). Schools are ideal vehicles for nutrition programmes, because they reach many children, on a regular basis, for many years. Additionally, households and communities may be reached through their children, thereby helping to break inter-generational cycles of hunger and malnutrition.

There is evidence of micronutrient deficiency – specifically iodine, vitamin A, and iron - amongst South African children (Hendricks et al., 2013; Shisana et al., 2014; van Stuijvenberg, 2005). Recent studies show that the nutritional status of South African children - measured in terms of height, weight, and growth (anthropometrics) - has improved somewhat in recent years – except in the case of stunting of children amongst those aged 0-5 (Graham et al., 2015; Hall et al., 2013; Shisana et al., 2014;) however, nutritional status needs to improve substantially further, considering that 21% of children aged 0-9 display symptoms of stunting (Graham et al., 2015). This underscores the importance of the NSNP forming part of a continuum of nutritional support programmes targeting children from birth to adulthood.

The findings of the literature review and primary evaluation research revealed the following answers to the key evaluation questions:

5.1.1 Is the programme reaching the intended beneficiaries?

The intended beneficiaries of the NSNP are learners from low socio-economic backgrounds who attend quintile 1-3 public schools: primary, secondary, and identified special schools (National Treasury, 2014a, 2015, and 2016), that is, the 60% of schools which are the poorest in South Africa. The NSNP uses a

combination of geographic and poverty-based targeting: the meal is provided to all learners attending schools identified as “poor”. Geographic targeting is the most common form of targeting for school nutrition programmes in developing countries (Bundy et al., 2009). Geographic targeting is appropriate if the geographic distribution of the programme mirrors the distribution of poverty and malnutrition and therefore the need for school meals.

Evidence was put forward that there are some needy learners from low socio-economic backgrounds attending quintile 4 and 5 schools which do not provide NSNP meals. No quintile 4 and 5 schools were visited as part of this study, but national, provincial, and district officials indicated that such a need exists. Some provinces (Gauteng, KwaZulu-Natal, Northern Cape and Western Cape) are providing NSNP meals to some quintile 4 and 5 schools - or some learners in some quintile 4 and 5 schools - on some school days. The initiative seems to be appropriate. Indeed, there are likely to be children attending quintile 4 and 5 schools in other provinces also who are in need of school meals.

Individual targeting is the most efficient way to address provision of NSNP meals at schools in which not all learners attending the school are in need of NSNP meals. Concerns were raised that individual targeting gives rise to stigmatisation, but this must be weighed against ensuring the most efficient use of scarce resources by targeting learners in most need who may experience hunger and malnutrition.

In general, the NSNP meals are reaching the intended beneficiaries. Meals were served in the majority - 255 out of 267 (96.2%) - of schools visited on the day of fieldwork. The majority of learners (72.7%) ate the NSNP meal on the day of fieldwork, but a substantial proportion of learners in some schools in some provinces are “opting out” of the NSNP. Close to half (47.4%) of learners said they “always” eat the NSNP meal; a similar proportion (47.6%) reported “sometimes” eating the meal, and a low percentage (4.1%) said they “never” eat the NSNP meal. There are fairly striking provincial variations: learners in Limpopo and the Eastern Cape were most likely and those in Gauteng and the Western Cape were least likely to have eaten the NSNP meal on the day of fieldwork and report eating the NSNP meals regularly.

Gauteng and the Western Cape make provision to provide breakfast as well as lunch. Uptake of breakfast in these provinces was close to 40%, indicating a need, although not universal. Some individual schools in other provinces have their own breakfast initiatives. As Gauteng and the Western Cape have lower prevalences of hunger and child hunger than other provinces (Hall, et al, 2013; Shisana et al., 2014), and the uptake of NSNP meals was lower in these provinces, there are likely to be hungry learners in need of breakfast in other provinces.

In addition to learners, there are *unintended beneficiaries* who are also receiving the NSNP meals, including: VFHs, educators, and other school staff. This was reported to be most widespread in Mpumalanga, the Free State, Limpopo, and the Eastern Cape. This practice is encouraged by the DBE to mitigate possible stigma that may be attached to eating the NSNP meals. However, the Conditional Grant funding does not make provision for the NSNP meals to be eaten by “others”, and the concern is that – unless adequately provisioned – this may reduce the funding and food available for learners.

5.1.2 Are learners receiving quality meals and services?

Learners are – for the most part – receiving NSNP meals regularly, but there is room for improvement regarding the composition of the meals (number of food groups and quantity of food prepared) and the time when meals are served. In just half (50.2%) of schools, balanced meals comprising three food groups were served on the day of fieldwork. The worst performing provinces were the Northern Cape and KwaZulu-Natal in which just one third of schools served three food groups; best in this regard were Gauteng and the Free State in which more than 85% of schools served meals comprising three food groups.

Schools frequently prepare more starch and less vegetables and protein than they should, given the number of learners approved for the NSNP. This is of concern, as outside of school, South African children's diets contain limited fresh fruit and vegetables and animal protein (Steyn et al., 2006). Challenges in interpreting this data are the high incidence of no data (see Section 4.2.1), schools may prepare NSNP meals for more or less learners than have been approved for the NSNP if enrolment has increased or declined compared to the previous school year, or the school does not prepare meals for all learners, as not all learners eat the NSNP meals every day. The majority of schools in the Free State prepared consistently more of every food group than was required for the number of approved learners. Specifically with regards to starch, the majority of schools in the Eastern Cape, KwaZulu-Natal, Limpopo, and the North West prepared more than 100%, whilst the majority of schools in the Western Cape prepared less than the required amount. With regards to protein, the majority of schools in the Northern Cape prepared more, whilst those in Gauteng prepared less than the required amount. In relation to vegetables, the majority of schools in Gauteng and Mpumalanga prepared less than the required amount.

Schools are by and large preparing meals that learners enjoy: 68.3% of learners who ate the NSNP meal on the day of fieldwork confirmed this. Soya is the least popular protein (44.8% of learners like soya), and it was reported that less learners eat the NSNP meal on days when soya is served. A substantial proportion (24.8%) of learners who ate the meal were "still hungry" afterwards. This is of concern, as discussed above: there are *unintended beneficiaries* who eat the NSNP meals and a tendency to prepare less than the required amount of certain food groups in some schools. International literature recommends that if learners are at school for half a day, the meals should provide 30-45% of RDA energy requirements (Bundy et al., 2009), which is somewhat more than the 25-30% which the NSNP menus *aim* to provide (DBE, 2010b) and the 15-26% found by Rendal-Mkosi et al. (2013), in their review of the NSNP menus.

Learners should be fed at the start of the school day if the meal is to act as an incentive for punctual school attendance and to maximise the benefits for concentration and learning (Adelman et al., 2008; Bundy et al., 2009; CCBR, 2008; McLaughlin et al., 2002). NSNP feeding should be completed by 10:00 am, except in provinces and schools which serve breakfast as well as lunch. Providing the NSNP meal on time was a weak area: the median and mean times by which the last learner finished eating was after 10:00 am in all provinces: Eastern Cape, Free State, and Gauteng schools which did not serve breakfast performed worst, with some schools only completing feeding in the afternoon. In all provinces except Limpopo, the majority of schools completed feeding after 10:00 am. The main reason reported for this was that VFHs are unable to prepare and cook the meals on time.

There are days when NSNP feeding does not take place in some schools, for various reasons. Feeding was more likely to not occur on some days in provinces using the centralised model and, in particular, in KwaZulu-Natal, where 70+% of school principals, NSNP Co-ordinators and VFHs said there were days when feeding had not taken place this year. In the worst cases, days or even months were reported to have passed with no NSNP feeding occurring.

Schools, particularly in some provinces, face challenges with respect to a lack of basic infrastructure – water, storage facilities, and food preparation areas – which is essential for the safe preparation of meals. Every *newly built* school should have a food preparation area, but there is a backlog of existing schools without this. Challenges were most evident in KwaZulu-Natal, Limpopo, and Mpumalanga. The preparation facilities in 37.5% of KwaZulu-Natal schools were rated as “very poor”, with food preparation taking place outside in the open; a further 15.4% of schools were rated as “poor”, with a roof only. In Free State the majority (75.1%) of schools did not have lockable storage areas. Half of the schools in KwaZulu-Natal and the North West Province also experienced this challenge, and problems with lack of storage space and “pilferage” were reported in these provinces. The most affected provinces in terms of having no water were Limpopo (12.3%) and KwaZulu-Natal (9.4%).

There are safety concerns in that only 35.9% of the schools using gas keep the gas canisters outside. The most exemplary schools were in Gauteng (93.2%), the North West (84.1%), and the Northern Cape (72.1%), whilst in the Eastern Cape, Free State, Western Cape, KwaZulu-Natal, and Limpopo the majority of gas canisters were not kept outside. Furthermore, less than one in four (23.7%) schools had fire extinguishers in the kitchen.

Supervision of feeding is a critical success factor in ensuring that the targeted children receive and consume school meals (Kristjansson et al., 2016). Teachers are supposed to supervise learners when they eat NSNP meals, but this is not happening consistently. Teacher supervision was observed in less than half (43.6%) of the schools visited for fieldwork. There were large differences between provinces, with teachers in the North West (70.8%) and those in Gauteng (8.1%) being most and least likely to supervise learners when they eat.

The nutrition education and food production components of the NSNP aim to improve knowledge and ultimately contribute to learners making healthy food choices. These components receive minimal Conditional Grant funding (none for 2015/2016).

Nutrition Education LTSM are largely being provided to schools (except in KwaZulu-Natal and Gauteng), but uptake in lessons and classrooms is lower (except in the Free State and North West). Despite this, nutrition education is largely being integrated into Life Orientation lessons (reported by 89.6% of learners, including 80%+ of learners in every province) and appears to be effective, as the majority of learners are able to correctly identify healthy and unhealthy foods.

Less than half (39.8%) of schools have vegetable gardens which are being used for the NSNP, but there are considerable provincial variations: in Mpumalanga and the Eastern Cape, the majority of schools had food gardens which were being used for the NSNP, but this was the case in less than 20% of schools in the Free State and KwaZulu-Natal. The main reasons for schools not having food gardens are lack of staff and lack of water. The main use of the gardens is supplementing the NSNP meal; very few

school food gardens are being used for teaching and learning (16.9% of learners spend time in the garden as part of a lesson). This seems to be a missed opportunity.

5.1.3 Is the programme implemented as planned?

The TOC of the NSNP hinges on four outcomes chains. The primary outcome chain relates to providing nutritious meals in schools on time, every school day. For this to happen, PEDs must prepare business plans which are approved by the DBE. Then National Treasury must release funds to Provincial Treasury. In the decentralised model, Provincial Treasury releases funds to schools.

Schools must create NSNP committees and appoint an NSNP co-ordinator from among the teachers at the school. The school must synchronise the timetable to ensure that food is served prior to 10:00 am daily. PEDs develop menus that are culturally acceptable and affordable, based on the DoHs FBDGs, which aim to provide 25-30% of the RDA energy for children. School specific menus - which specify quantities to be prepared daily, based on the number of learners approved for feeding - are developed by the PED. In provinces using the decentralised model, the NSNP committee may develop a school-specific menu that is culturally acceptable and affordable; school-specific menus need to be approved by the PED. The schools need to engage VFHs to prepare the meals. Districts need to liaise with schools regarding the training of the VFHs, the NSNP co-ordinator, and other relevant nominated persons.

In the centralised model, PEDS appoint service providers via a tender process for a period of 18 months to three years. In the decentralised model, schools receive quotations and appoint a local service provider for a period of three months. SLAs are put in place between service providers and the PED or school. PEDs and schools place orders (in the centralised and decentralised models respectively). Dry and fresh food, utensils, and fuel arrive at the school, on time, and in the correct amounts, and are stored safely. Delivery notes are checked against orders, and actual goods received and any discrepancies noted and reported. On the basis of correct delivery, service providers are paid, either by the PED (centralised model) or the school (decentralised model). VFHs are paid monthly by the school.

The second outcomes chain relates to school food gardens. Funds are released as part of the NSNP Conditional Grant. As minimal funding is available for food gardens, support from partners, including Departments of Agriculture and NGOs, is essential. Land and water are available at the schools for food gardens. Partners assist by providing tools and other inputs, such as infrastructure, equipment, and seeds. The garden is prepared, planted, and watered. A garden manager, who may be engaged from the surrounding community, is critical to this. Learners participate in planting and maintaining the garden. Food from the garden may be used to supplement the school meals, or distributed to vulnerable children, but the primary aim is to stimulate interest, raise awareness, and impart gardening skills.

The third outcomes chain relates to nutrition education. LTSM aligned with the curriculum are created by the NSNP directorate in the DBE. These include leaflets, posters about food groups, and posters about gardening that schools can display on classroom walls. The NSNP Directorate develops lesson plans that teachers can use as support aids. LTSM are delivered to schools and are used by teachers to teach nutrition education during Life Orientation. PEDs allocate funding for school nutrition week, and schools are encouraged to celebrate this.

The fourth outcomes chain relates to administration and monitoring of the NSNP. For this to occur, PEDs prepare and submit annual business plans (as per outcome 1). Schools report monthly to the district office and keep their reports on file. The school reports contain information on the number of learners fed each day and financial records (in the decentralised model). Districts monitor and support schools and prepare monthly and quarterly financial (in the decentralised model), performance, and narrative reports for the PED. PEDs prepare quarterly financial and performance reports. The DBE prepares a national financial and performance report for Treasury on a quarterly basis. This satisfies the requirements for the Conditional Grant funding.

The NSNP involves stakeholders at four levels: national, provincial, district, and school. There are no norms and standards regarding staffing at provincial and district level, and institutional arrangements vary widely. National, provincial, and district stakeholders demonstrated understanding of their roles and responsibilities. National officials were reported to be providing good/strong support. At provincial level, capacity challenges in some provinces (notably KwaZulu-Natal and Limpopo) prevent officials from being able to support districts adequately and visit schools to monitor implementation. Challenges were reported in some districts in terms of a shortage of: finance staff to process payments; data capturers (to compile NSNP reports); monitors to visit schools; and vehicles for school visits. Only in the Western Cape were no capacity challenges reported.

At school level, strong participation of principals and educators was found in the NSNP committee, but participation by community stakeholders was weaker. SGB members were part of the NSNP committee in less than 50% of schools (except in the North West province), and for VFHs this figure was less than 40% (except in the Northern Cape). This indicates a weakness in terms of community support and ownership.

Weaknesses were identified with the provision of training at school level: around 60% of schools said some stakeholders had received some training, but only 41.9% of VFHs had been trained. The challenges were confirmed by district officials. VFHs are rotated annually and need to be adequately trained to prepare food safely and efficiently.

The following core NSNP business processes were identified: planning and budgeting; funding disbursement; procurement; ordering, delivery, and payment; food preparation and serving; and monitoring and reporting. The extent to which the business processes were being implemented as planned and their *efficiency* is discussed below.

5.1.4 Are operational procedures effective to ensure the timely delivery of food?

Disbursement of funding from provinces to schools and service providers can be a problem, particularly at the beginning of the financial year, resulting in late payment of VFHs and service providers, with the consequence that sometimes food does not get delivered and learners do not get fed.

Disbursement of **funding** from National to Provincial Treasury can be challenging in the first quarter due to the approval of business plans and rollover of funds from the previous year. It is relatively smooth in subsequent quarters. More challenges are evident with the disbursement of funds from Provincial Treasury to schools. In the centralised model, schools only receive money to pay VFHs and purchase fuel. The challenges are province specific, occurring mostly in KwaZulu-Natal (where VFHs are

paid by service providers), Limpopo and Mpumalanga. Schools in decentralised provinces have more options if funds arrive late as they can negotiate credit with service providers. Funding not having been received on time is one of the key reasons some schools were unable to feed on certain days.

Procurement follows two different models, each having strengths and weaknesses: some schools in decentralised provinces have challenges appointing service providers due to not having suppliers or lacking capacity to select and appoint them, and not all schools have SLAs in place with their service providers. In the Northern Cape and North West, districts provide substantial support to schools in this regard. In centralised provinces, procurement can be very lengthy, leading to contracts being renewed rather than new providers appointed. Tender processes not having been completed was given as the reason some schools in KwaZulu-Natal are unable to feed on certain days. The length of time for which some service providers have been providing services (10+ years) is of concern.

Late **delivery** by service providers is the main reason schools do not always follow the menu and the reason some schools were unable to serve NSNP meals on some school days. Delivery seems to work better in decentralised provinces: deliveries are less frequent, but the delivery system is better rated (by school stakeholders), and deliveries are less likely to be late in decentralised provinces, suggesting that this model empowers schools to hold service providers accountable. Delivery challenges tend to be concentrated in specific provinces and include: late deliveries (Mpumalanga, KwaZulu-Natal, Gauteng); “short” deliveries (particularly vegetables); delivery of expired/poor quality food or food without an expiry date (the North West); incorrect quantities (KwaZulu-Natal, Limpopo); deliveries after hours (Limpopo, Gauteng and Mpumalanga); and delivery being expensive (the Eastern Cape). Monitoring of deliveries occurs primarily at school level and varies considerably: this is a weakness and area for improvement in both the centralised and decentralised models.

Challenges with the timely **payment** of invoices are evident in two provinces using the centralised model – KwaZulu-Natal and Gauteng – leading in instances to service providers not being able to deliver and meals not being served. Payment of VFHs by service providers in KwaZulu-Natal does not work well.

Budgeting and school-specific NSNP menus (with quantities) for **food preparation and serving**, based on the previous year’s school enrolment, are approved for NSNP feeding. In some schools (particularly in Gauteng and the Western Cape) not all learners eat NSNP meals regularly. Therefore, the number of learners for whom NSNP meals are prepared differs from the approved figure, leading to VFHs preparing more food than is required (resulting in wastage), or not enough (resulting in the food running out or portion sizes being too small). There is scope to improve planning in this regard.

5.1.5 What are the variations at different sites or in different provinces?

The literature review demonstrated that a wide range of options are possible in terms of procurement and logistics, and no particular model is decidedly superior: contextual factors matter. Importantly, if procurement and logistics are to be decentralised, adequate capacity must be built to ensure that role players can execute their roles and responsibilities adequately (Drake et al., 2016).

As much as there are two implementation models – centralised and decentralised – considerable variation in implementation between provinces utilising the same model means that, in effect, there

are nine implementation variations. As indicated above, provinces using the decentralised model appear to be implementing some of the business processes more efficiently: the transfer of funds to schools; contingency planning by schools if funds are not received in time; deliveries which are better rated and more frequently on time; and schools able to hold service providers accountable. This seems to result in fewer disruptions to school feeding in the decentralised provinces. In decentralised provinces, 26.5% of principals said there were days when feeding had not taken place this year, compared to 48.2% of principals in centralised provinces: the worst provinces for non-feeding were KwaZulu-Natal, Limpopo, the Northern Cape, and the Eastern Cape where non-feeding had occurred in between one third and three quarters of schools. The best provinces for uninterrupted feeding were the Free State, North West, Mpumalanga, and Gauteng where no-feeding had occurred in less than 10% of schools.

The downside of the decentralised model is a higher administrative burden in schools. School stakeholders have concerns that the NSNP **impacts on teaching and learning** by eating into teaching and learning time and increased administration. The responsibilities of the NSNP Co-ordinator – who is a teacher – are many, particularly in the schools using the decentralised model in which ordering, liaison with suppliers, receiving deliveries, and financial reporting is required.

An **implementation index** was constructed to summarise performance in key aspects of implementation identified in the literature review and ToC as important to the effectiveness of a school nutrition programme to facilitate comparison across provinces and models. Individual schools were given a score out of 19 for indicators which included: serving of a nutritious meal on time; procurement, delivery and payment; and M&E. Three provinces using the centralised model (the Western Cape, Mpumalanga and Gauteng) and one province using the decentralised model (the North West) scored best, achieving scores above 12. KwaZulu-Natal scored the worst, achieving an overall score of 9.22. The overall score for each model is very similar, with the centralised model scoring marginally better with a mean score of 11.05 as compared to 10.95 for the decentralised model.

Disaggregating the index by component shows that the Free State and provinces using the centralised model scored slightly better in terms of serving a nutritious meal on time. Provinces using the decentralised model scored better in terms of logistics. Performance in M&E was similar for both models. There was more variation between different provinces using the same model than between models, indicating that province specific factors account for the greatest part of the differences.

The province-specific challenges of KwaZulu-Natal in particular in terms of funding disbursement, procurement, delivery, payment of service providers and VFHs, infrastructure for food preparation, serving of nutritious meals on time, and monitoring schools have been extensively documented.

Good practices worth documenting and sharing include: timeous disbursement of funding to schools in the Western Cape; extensive checks undertaken prior to appointing service providers in Gauteng; support provided by districts to schools in the Northern Cape and North West with the appointment of service providers; monitoring deliveries by checking orders and delivery notes against stock in the Western Cape; quick payment of service providers in the Western Cape; serving of meals by 10:00 am

in the majority of schools in Limpopo; preparing nutritious meals in the right quantities in the Free State; frequent monitoring and support to schools in the Western Cape; provision of monitoring instruments to schools (particularly the MMR instrument) and use of the same instrument by provincial, district, and school staff to monitor performance and address challenges in a number of provinces; verification of district reports by some provinces; and regular audits undertaken of the NSNP in the Free State, Mpumalanga, and the North West. The monitoring and reporting system which spans the entire programme and ensures fulfilment of Conditional Grant requirements is a strength, but being largely paper-based, the system is demanding to maintain.

The Western Cape was implementing a pilot whereby 20 schools were given funds to procure fruits and vegetables locally; although not an explicit focus of this evaluation, the pilot was reported to be working well. This highlights that a hybrid model (centralised procurement of dry goods, decentralised procurement of perishable goods), for procurement and logistics is also possible.

5.1.6 Are there other spin offs of the NSNP?

The NSNP stimulates economic activity: providing daily meals on 194 school days to 9,131,836 learners (as in the 2013-2014 financial year) at a cost of between R2.85 and R3.60 per meal (as in the 2015-2016 financial year) equates to R5.7 billion, of which around R576 million is paid to VFHs and the majority of the rest to service providers. In provinces in which procurement favours SMMEs and co-operatives, these can benefit as service providers. Some centralised and decentralised provinces (KwaZulu-Natal, Gauteng, Mpumalanga, and the Northern Cape) are making efforts in this regard. However, to avoid a detrimental effect on the primary objective of serving nutritious meals daily, it is vital for robust procurement, payment, and monitoring systems to be in place. These were weak in KwaZulu-Natal, particularly the timely payment of 2,029 service providers.

The NSNP provides opportunities to over 50,000 VFHs annually to cook for the NSNP and earn a stipend of R960 per month. This translates into R576 million rand a year which benefits community members. The stipend is lower than the EPWP social sector minimum wage which is set by the MD. DBE and Treasury officials pointed out that the NSNP VFHs are volunteers, and the EPWP MD does not apply to the NSNP, but policy is unclear on this matter. The cost to the fiscus of bringing the monthly stipend for VFHs in line with the EPWP minimum wage would be R200 million⁴².

VFHs should be rotated annually for the opportunities to be shared. However, some schools retain a "senior" VFH for longer than this. An advantage of this is that knowledge and skills are retained and can be passed on: training of VFHs was identified as a weakness which this practice could help to address. Training and capacity building is critical if the benefits for VFHs are to extend beyond their participation in the programme and the stipend they receive.

An activity with the potential to benefit schools and communities and stimulate local agricultural development is the local procurement of vegetables, which is being piloted currently in the Western Cape. If adequately supported, this may help to address concerns regarding vegetable deliveries

⁴² Calculations based on 2013/2014 Annual Report (number of VFHs), 2015 EPWP minimum wage and 2015/2016 Conditional Grant framework.

(timeous, sufficient, good quality) and benefit local agricultural development via the development of a new market and stimulation on demand.

5.1.7 Is there evidence that the NSNP enhances learning behaviour (likely impact)?

This was not an impact evaluation and as such it did not investigate the links between inputs, activities, and outputs outlined in the ToC on the one hand and expected outcomes (changes) on the other, or the question of whether the expected changes had occurred and could be attributed to the NSNP.

However, the ToC presented in Chapter 2 outlined a possible process and change theory for the NSNP. If the programme is being implemented as planned (as discussed above), and the change theory is plausible, impact is more likely.

It was found that challenges relating to the disbursement of funds on time to schools, contracting of service providers, timely delivery of the correct goods of good quality and in the correct quantities by service providers, and payment of service providers on time leads to instances in some provinces in which schools do not have the products they need to prepare nutritious meals and are thus unable to serve meals on all schools days. It is important to note that challenges tended to be province specific, and this was the exception rather than the norm: 96.2% of schools did serve an NSNP meal on the day of fieldwork.

Learners are largely *receiving* NSNP meals, but the *composition* of the meals (serving of three food groups in the correct quantities) should improve. Additionally, the majority of schools (except in Limpopo) do not serve meals by 10:00 am. These challenges should be addressed to increase the likelihood that the NSNP will enhance learning behaviour.

Literature suggests that school nutrition programmes can lead to increased enrolment and improved attendance, as school meals are a motivation to attend school. If meals are provided at the start of the school day, they can provide an incentive to arrive at school on time. Over time, these outcomes accumulate and can lead to improved retention in the education system.

The evidence is mixed regarding the impact of school nutrition programmes on learner performance. Improvements are evident in well organised schools with good quality teaching, but not in all schools (Adelman et al., 2008; Korugyendo and Benson., 2011; Kristjansson et al., 2016; Poswell and Leibbrandt, 2006b; Vermeersch and Kremer, 2004; WFP, 2010).

Long term nutritional and health benefits are difficult to ascertain. They are many other factors outside of school meals and school which influence child health and nutrition, and the most important years from a nutritional perspective are the early years from 0-5.

5.1.8 Should the NSNP be up-scaled? How can it be strengthened and up-scaled for better impact?

The value of school nutrition programmes has been conclusively demonstrated and is not in question. International experience demonstrates the need to institutionalise school nutrition programmes and secure long-term funding. The literature review found that the cost of school meals varies considerably

across countries. South Africa is at the lower end of the spectrum, with school meals costing less than in a number of other African countries (Aliyar et al., 2012).

In 2013/2014, the NSNP reached 9,131,836 learners attending 19,383 schools who received an NSNP meal on an average of 194 school days (DBE, 2015c). Considering the 2014 SNAP survey data, this puts the coverage of the NSNP at around 75.6% of all public school learners, exceeding the DBE's target of 75% coverage by 2019 (DBE 2015a). In the same year, the programme cost R5.2 billion, a cost of around R570 per learner fed.

The NSNP funding allocation is outlined in the CGF, which is updated annually in line with the MTEF. An impressive 96% of the Conditional Grant funding is spent on NSNP meals (including fuel and VFHs stipends). The programme is also supported via other means: provinces "top up" with funding from the equitable share, and partners make valuable contributions via donations of money, time, and "in kind" in support of infrastructure and equipment, etc.. Additionally, schools and communities also make valuable contributions in terms of staff and community volunteers' time. These additional contributions have not been comprehensively costed.

The NSNP was supported by a special Treasury allocation of around R3.7 billion from 2009 to 2011 which funded the expansion of the programme to secondary schools and improvements in the quality of meals. In the current financial climate, government departments are advised to use improved efficiencies to finance quality improvements and expansion of programmes.

The evaluation identified a few areas in which efficiencies can be tightened within the current framework. Individual targeting could be considered in some areas/schools where not all learners eat the NSNP meals regularly, and income and poverty levels are mixed. For example, if NSNP meals were no longer prepared for 10% of learners in Gauteng and the Western Cape, the saving would be R383,971 daily or R74.5 million over the entire school year. The same principle could be applied to upscaling to some quintile 4 and 5 schools in which a need has been identified.

Another area in which a need for upscaling has been identified is the provision of breakfast: the prevalence of child hunger and children who arrive at school without having eaten breakfast has been noted. The NSNP is – by and large – not managing to provide learners with a meal at the start of the school day, and doing so would be highly beneficial. Additionally, it is also advised that the meal(s) which children receive at school should provide a higher RDA of energy than is currently being provided.

A series of pilots are proposed, with strong M&E, including impact and cost effectiveness analysis built in from the outset, where feasible. Funding could be sought from interested donors/partners in this regard. Possible up-scaling options should be thoroughly analysed for effectiveness and efficiency in line with available resources before being considered for roll-out.

5.2 Recommendations

Recommendations are outlined below, organised under the main headings of the findings (Chapter 4); these include recommendations for policy/strategy, oversight/management, implementation, and

further research/evaluation. Some recommendations apply to the entire programme, whilst others are specific to components.

5.2.1 Programme relevance and appropriateness

The relevance of the NSNP is unquestionable, given the high levels of poverty and inequality in South Africa and the prevalence of child hunger in all provinces. However, the NSNP provides a limited amount of the RDA of energy and nutrients on a limited number of school days and, on its own, impact will be limited, unless the NSNP is linked to other nutrition support initiatives. Targeting is necessary, given the limited funding available, to maximise the benefits of the programme. Programme relevance and appropriateness could be enhanced through:

1. **Improve integration with other health, feeding, and nutrition programmes** (referred to in Section 1.1.2), such as the INP DoH initiative, the Integrated Food Security and Nutrition Programme led by the Department of Agriculture, and the nutrition programme for pregnant women and young children referred to in the NDP (NPC, 2011, p. 18) which will be led by the DoH. Considering that the early years are the most critical for child nutrition, and irrevocable damage can be done if nutritional intake is inadequate during this time, there is great need for a nutrition programme linked to ECD centres. Meals are provided to learners attending Grade R sites attached to primary schools with an NSNP, but there is a gap in provision for learners attending community-based Grade R sites. This is not within the scope of the NSNP, as the DoSD is responsible for ECD centres, however the NSNP could undertake advocacy in this regard. Better integration should take the form of making onward referrals, sharing data, and ensuring that needy children receive nutritional support outside of school. The aim would be to ensure that there is monitoring of every child from 0-18 years and integrated nutrition support, where necessary, to provide all children with the chance to achieve their full potential, optimise state resources, and limit duplication.
2. **Introducing individual targeting in certain provinces/schools in which** not all learners eat the NSNP meals regularly, and income and poverty levels are mixed. The evaluation found that in some provinces (specifically the Western Cape and Gauteng), in some schools, a considerable proportion of learners are “opting out” of the NSNP meals. In schools where 20+% of learners regularly opt out of eating the NSNP meals, targeting can be done on the basis of need rather than universal coverage of all learners. Although there are concerns regarding learners being stigmatised if targeting is done on an individual basis, there are countries in which individual targeting has been successful, for example, Chile. If NSNP meals were to be no longer prepared for 10% of learners in the Western Cape and Gauteng, the saving would be R74.5 million over the course of the school year. The same principle could be applied to upscaling (see recommendation 18).
3. **Specifying in the NSNP guidelines who the NSNP meals are intended for**, how leftover meals and stock should be dealt with, and monitor implementation thereof. If the meals are intended to encourage social cohesion and be eaten by learners, VFHs, teaching and administrative staff together, the guidelines should indicate this and concomitant funding be made available. The practice of unintended beneficiaries eating the NSNP meals was widespread, particularly in Mpumalanga, the Free State and Limpopo, although the *number* of unintended beneficiaries per school was not recorded. The concern is that if the programme is budgeted based on providing

NSNP meals to learners only, and other school stakeholders are eating the NSNP meals regularly, the programme funds may not be enough.

5.2.2 Programme effectiveness – quality meals and services

Learners are largely receiving NSNP meals regularly, but the quantity of food prepared, the quality of the food, and the timing of meals received could improve. Recommendations in this regard are to:

4. **Ensure that food is served by 10:00 am** and preferably at the start of the school day in all schools with an NSNP: This is critical if the meals are to relieve short-term hunger and aid concentration, which are important outcomes outlined in the ToC. The DBE should introduce a policy, which would be stronger than the current recommendations, that schools start feeding by 09:00 am under teacher supervision. Limpopo schools are doing relatively well in terms of serving the main meal by 10:00am (as is currently recommended), and what is working well there should be documented and shared. If it is practically not possible for logistical reasons (e.g. due to transport issues, safety concerns, or the logistics of cooking for large numbers) to serve the main meal at the start of the school day, then a snack should be provided. If this becomes the norm, the NSNP could act as an incentive for children to arrive punctually.
5. **Reduce the frequency of serving soya and introduce more alternatives.** The current CGF makes provision for soya to be served twice a week, but the majority of learners do not like soya. This reduces the intake of protein and results in wastage on the days when soya is served. More popular alternatives which are also cheap forms of protein include: pilchards; baked beans in tomato sauce; other legumes (e.g. cow peas, split peas, chick peas or kidney beans); and peanut butter. It is good practice to tailor school menus to local preferences, and PEDs can be encouraged to do this, provided the FBDGs are followed. Feedback should be obtained from learners, and learner representatives should be involved in the design of provincial menus. Schools should be encouraged to innovate (within the scope of the approved menu) and share popular recipes, for example, via an annual competition.
6. **Conduct an audit of NSNP infrastructure and equipment and related needs in schools,** including storage facilities, kitchens, cooking facilities, water supply, food preparation and serving and eating utensils. The safe and efficient preparation of school meals is dependent on the requisite infrastructure, facilities, and equipment being in place. The data collection instruments and data collected via this evaluation, as well as other data such as that contained in the National Education Infrastructure Management Information System (NEIMS) provides a starting point for such an audit. On the basis of this, national and provincial action plans should be developed to meet school needs. As the CGF makes minimal provision for infrastructure and equipment and support should be sought from corporate donors such as TBF and Kelloggs and other partners to address the identified needs. There are opportunities for positive publicity and branding linked to this. Depending on the scale of need, a special allocation from National Treasury may need to be considered.
7. **Develop, pilot, and refine a real-time planning tool,** for example, an Excel template and print outs, which allows schools to adjust their school specific menus (which indicate the quantities that should be prepared for the number of learners approved for the NSNP) upwards or downwards in

line with increased or decreased enrolment, or learners “opting-out” of the NSNP: Schools and VFHs need to be trained on the tool’s use. The tool could facilitate more accuracy in terms of preparing the correct quantity of food for the number of learners who eat the meals and reducing wastage.

8. **Align compliance and performance monitoring and emphasise performance.** The serving of a nutritious meal on time every day is the key output of the NSNP, accounting for 96% of Conditional Grant funding. Therefore “the percentage of learners who receive a nutritious meal on time (i.e. three food groups served in the correct quantities by 10:00 am), on every school day”, should become an output indicator for Government Outcome One, the performance indicator for goal 25 in Action Plan to 2019 (DBE, 2015a) and the key performance indicator in business plans linked to the CGF. It would be possible to report on this via data gathered via NSNP monitoring processes, in particular via the MMR tool in use in many provinces. Schools and districts that perform well in relation to this indicator should be acknowledged and rewarded in a variety of ways, including via a “performance” category in the NSNP best school and district awards sponsored by the DBE.
9. **Reinvigorate the food production component of the NSNP.** Dedicated funding is required for this, whether from the CGF, the equitable share, or other sources. Partnerships should be established (e.g. with the DoA, agricultural colleges, NGOs, and the private sector) to drive this component. Best practices should be shared by provinces such as Mpumalanga and the Eastern Cape which are succeeding in this regard. At school level, dedicated personnel are required to lead the food gardening component. Garden managers with relevant experience should be engaged in the same way VFHs are engaged and given a stipend and training. Best practices should be shared by provinces such as Mpumalanga and the Eastern Cape in which food gardens are thriving.

5.2.3 Fidelity and efficiency

Enhancing efficiency can not only improve implementation, but save resources which can then be used for improvements. Implementation of NSNP business processes can be improved through:

10. **Developing detailed norms and standards for staffing** (including position, number of staff required, and the ratio of monitoring staff to schools) and other resources (vehicles etc) required for effective implementation of the NSNP. These should be included in the NSNP guidelines and monitored across provinces and districts and will assist in ensuring that there is adequate staff capacity to implement the business processes smoothly.
11. **Creating the position of Senior VFH**, extend the **period of time VFHs can be appointed for**, and **train all VFHs** at the start of their service VFHs are supposed to be appointed for 12 months, but some schools retain a “senior VFH” for longer. This practice has the potential to retain institutional memory and assist in inducting and mentoring other VFHs. It is therefore recommended that a Senior VFH be appointed and retained for up to three years. The Senior VFH could also assist with some of the logistics and administrative-related tasks (e.g. liaising with suppliers and checking deliveries) which usually fall on the shoulders of the NSNP Co-ordinator. All VFHs need to be trained at the start of their service and receive a manual to take away containing key information which will enable them to understand and fulfil their responsibilities. Training before resuming duty is essential so that VFHs know how to store and prepare food safely, cook according to menus, and

cook in appropriate quantities. If capacity does not exist at district level to run training for all new VFHs annually, VFH training could be organised by schools and supported by districts. Partners could also be involved (as in the case of Mpumalanga, which organised intensive training for some VFHs at a hotel school). Refresher sessions should be organised by districts and schools during the course of the year.

12. **Developing guidelines and monitoring tools for the NSNP business processes** and unblocking bottlenecks. This evaluation identified the core business processes of the NSNP, provincial variations, and strengths and weaknesses in implementation thereof. Neither the centralised nor the decentralised model was found to be better overall, but there are provinces which are implementing each model well and less well and lessons which can be drawn from this. It was challenging to assess whether the NSNP is implemented as planned, as detailed guidelines and standards do not exist for all of the business processes, and within each model there are provincial variations. The DBE should develop business process guidelines which specify the core processes, including stakeholders involved, responsibilities, timeframes, standards expected, variations and deviations which are allowed (under what circumstances), and corrective action to be taken when the guidelines are not followed. Specific sub-recommendations linked to this are:

- a) **Funding disbursements** from provinces to schools must be **streamlined** to ensure that funds are available on time and the necessary inputs (food, fuel, and human resources) can be purchased and meals provided consistently. This will entail putting contingency plans in place, for example establishing “contingency funds” or negotiating which service providers, for when funding disbursements are delayed.
- b) Guidelines and monitoring tools are required as a matter of urgency for **ordering and delivery**, covering, for example: How often dry and perishable goods should be ordered and delivered, acceptable transportation standards (e.g. food should be transported in a suitable vehicle and protected from the elements, etc.); how deliveries should be checked when being received (e.g. timeousness, correct goods, quantity, and quality); the quality standards that are expected for different goods; action to be taken when deliveries do not arrive on time or as expected; contingency plans to be put in place to ensure that meals can still be prepared and served even if deliveries are late; and feedback to be provided to the service provider and contract holder (e.g. a rating system). Some provinces have developed tools which are used by districts and schools to monitor delivery, but rollout and usage thereof is not consistent across the NSNP.
- c) **Payment to service providers** must be streamlined in the two provinces - KwaZulu-Natal and Gauteng – where this is a particular problem, leading in some instances to food not being delivered and meals not being served. The payment model in KwaZulu-Natal – which involves 2,029 service providers being paid by the PED – is not fit-for-purpose. Provinces using the centralised model should not have such high numbers of service providers unless they have sufficient human resources and adequate systems to review and process payments timeously, norms and standards (see recommendation 10) will assist in this regard. Invoices should be scanned electronically and systems automated where possible, whilst ensuring that checks and balances remain in place. Systems in provinces which are paying service providers

timeously (e.g. Western Cape) should be examined for good practices and lessons which can be shared and drawn. In KwaZulu-Natal, VFHs should be paid by schools and not by service providers, as is the current practice.

13. Strengthening and streamline the monitoring system. Recommendation 8 highlights the need to bring compliance and performance monitoring closer together and emphasise performance. From an efficiency perspective, the quantity of food prepared, number of learners who eat, quantity of food leftover, and wastage (if any) should be recorded. Whilst data was not collected systematically on these aspects, the evaluation found that some schools ran out of food, whilst others had substantial leftovers (fieldwork notes). This warrants further investigation and links to the issue of targeting. Data from the learner survey suggests that, in some schools in some provinces, a substantial proportion of learners are “opting out” of the NSNP : What are the reasons for this? Do such schools prepare lesser quantities of food, or are there leftovers and wastage? Quantifying leftovers/wastage and reporting on what happens to them should be built into NSNP monitoring and reporting at school, district, and provincial level. The NSNP monitoring system should utilise other routine data collection sources to triangulate and verify information: for example, school attendance data could be cross-checked against information on the number of learners for whom food is prepared and who eat NSNP meals. A great deal of time and effort is expended by stakeholders from school to national level compiling and collating monthly and quarterly reports. A further consideration is to look at how technology can facilitate more efficient monitoring and reporting. A South African example of how technology can help, is the use of Mobenzi technology to monitor and report on the TBF breakfast programme. Monitoring and reporting will still be time consuming, as there is a need for accuracy, data quality assurance, and verification, but some of the manual processes and systems could be automated (this may also assist with recommendation 12c). However, a pilot is recommended before making any changes to the current system.

5.2.4 Additionality

The following are recommended with regards to maximising the “additional” benefits which the NSNP brings to VFHs, communities, and service providers:

14. Increase the minimum stipend for VFHs (as outlined in the CGF) so that it is in line with the minimum stipend for Social Sector EPWP workers. The cost of implementing this recommendation would be R200 million per year. Recognising the value of the work undertaken by VFHs via adequate compensation is important, particularly in light of the recommended for piloting the upscaling of breakfast (see recommendation 18a). Ensuring that all VFHs are trained before they commence work (recommendation 11) is also critical to maximise the “additional benefits” for VFHs.

15. Pilot local procurement of fresh produce. Growing vegetables and selling produce to schools for use in NSNP is a potentially lucrative income generating activity with the potential to stimulate local agri/cultural development and may address some of the concerns found regarding vegetable deliveries (timeous, correct quantity, good quality). The local procurement of vegetables is currently being piloted in the Western Cape and was reported to be working well. A national pilot is proposed, involving partners such as the DoA and local municipalities, who can support local producers. The DBE and PEDs should ensure harmonisation with menus. The pilot should

document the inputs, processes, outputs, value-added (for local producers and schools) from growing and harvesting to use in the NSNP, and lessons learned. The pilot should be reviewed at the end of a year and replication and upscaling considered.

5.2.5 Likely impact, funding and upscaling

Recommendations to enhance the likelihood of impact, funding for, and possible upscaling of the NSNP are indicated below:

The most important recommendations to increase the likelihood of impact are ensuring that food is served at the start of the school day (recommendation 4) and that blockages in the business processes which sometimes prevent food from being delivered and meals prepared are addressed (recommendation 12).

16. Government should **continue to commit core funding to the NSNP**. The value of school nutrition programmes has been well established and all countries worldwide have a school nutrition programme of sorts (WFP, 2013). Such a programme is relevant and necessary in South Africa due to the continued prevalence of poverty, hunger, and malnutrition in all provinces as demonstrated via the literature review. The core funding should come from government and a long-term commitment must be made.
17. The cost of **NSNP should be fully documented**, including the Conditional Grant funding, contributions from provinces' equitable share grant, contributions (donations and in-kind) from partners, and contributions at school and community level. This would make it possible for the value added at different levels to be recognised and enable a more accurate cost analysis to be undertaken.
18. The following possible **models for upscaling should be investigated via a series of pilots**, with rigorous M&E, including impact evaluation and cost effectiveness analysis, where feasible. These options should be thoroughly investigated for relevance, effectiveness, and efficiency in line with available resources. If substantial benefits can be demonstrated – over and above those of the NSNP in its current format – then roll-out should be considered at scale. Some provinces are already piloting or implementing these options, but the results have not been systematically reported on in this way. The proposed pilots are presented in order of priority.
 - a) **Provide breakfast or a snack at the start of the school day**: a considerable proportion of learners (22.8%) who come to school without having eaten breakfast at home and the majority of schools (in all provinces except Limpopo) are not managing to serve NSNP meals by 10:00 am. In this context, providing breakfast or a snack at the start of the school day would be very beneficial. Gauteng and the Western Cape already make provision for this, (as do some schools in other provinces), although in the case of the Western Cape, this reduces the funding available for the main meal. The uptake of breakfast is not universal. The cost of providing breakfast at a cost of R0.45c over and above the NSNP meal would be R685.7 million. A nutrient dense breakfast, for example, of cooked maize or sorghum/mabele and milk is recommended. The impact on VFHs – in terms of extending their working day – should also be considered and the stipend reviewed in light of this (see recommendation 14).

- b) **Provide NSNP meals to identified learners in quintile 4 and 5 schools** where a need has been identified. The Free State, KwaZulu-Natal and the Western Cape are already doing this in some schools. Tools should be developed to assess and identify the need at school and learner level. The cost of providing NSNP meals to 25% of learners attending quintile 4 schools in all provinces would be R298.5 million over the year.
- c) **Increase the RDA of energy provided** to be more in line with the internationally recommended 30-45% RDA if children attend school for half a day (Bundy et al., 2009).
- d) With support from the DoH, **introduce nutritional supplements** to enhance the nutritional value of NSNP meals, specifically nutrients such as vitamin A, which South African children have been identified as being deficient in (Hendricks et al., 2013; Shisana et al., 2014; van Stuijvenberg 2005).

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Primary data

Personal communication

Comments received from the Evaluation Steering Committee on the draft evaluation report, 17.01.16, 16.03.2016, 17.05.2016, 16.09.2016.

Theory of Change interviews

ToC interview respondent 1, interviewed 20.02.15, Gauteng.

ToC interview respondent 2, interviewed 20.02.15, Gauteng.

ToC interview respondent 3, interviewed telephonically 24.02.15, Gauteng.

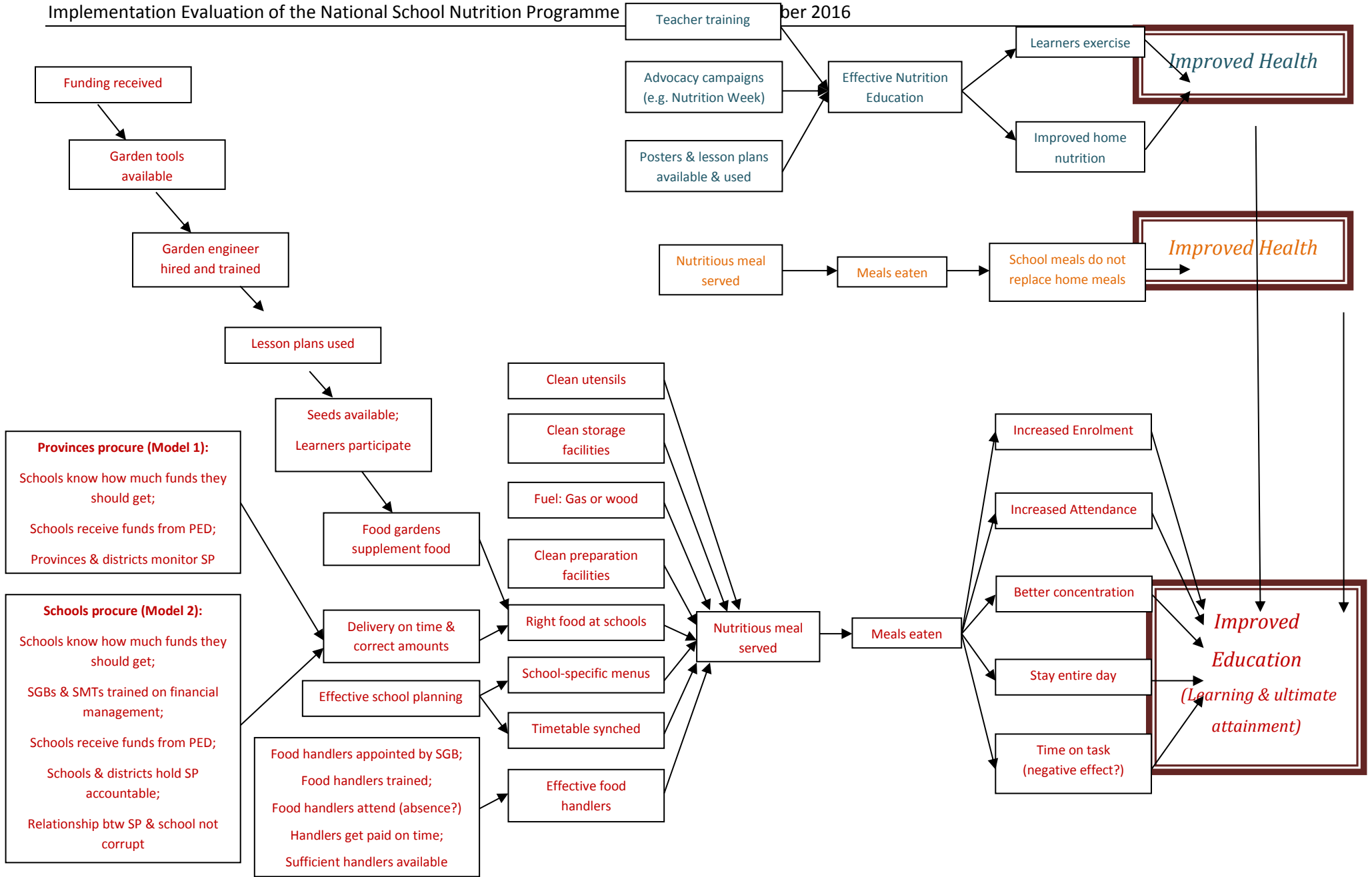
Various programme stakeholder interviews

Various school surveys

APPENDICES

Appendix A: Draft ToC for the NSNP Developed in 2014 and NSNP logframe developed in 2015

Implementation Evaluation of the National School Nutrition Programme **September 2016**



Enabling factors (Under each model)	Enabling factors (2)	Enabling factors (3)	Deliverables & Actions	Capacity to Learn	Final Outcomes
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Table 45: NSNP Logframe

	Logical hierarchy	Objectively verifiable indicators (OVI)	Means of verification; source of verification information	Important assumptions
Goal	To enhance learning capacity and improve access to education	% of 7 to 15 year olds attending an education institution; Quantifiable increase in learner results.	General household survey. ANA results; Matric results.	NSNP is one of many programmes that <i>contributes</i> to increased enrolment and improvement in results
Objective 1: To provide nutritious meals to learners in schools every day, to enable learners to concentrate whilst at school, increase engaged learning time and encourage learners to come to school regularly				
Longer-term outcomes	1. Learners retention in the education system improves	% of learners who start Grade 1 that complete primary school within a specified time period % of learners who start Grade 1 that complete secondary school within a specified time period	EMIS	NSNP is one of many programmes that <i>contributes</i> to improved retention in the education system
	2. Improved nutritional status of learners	Quantifiable decrease in # school days missed due to illness	School attendance registers	Parents/family do not skip learners' breakfast knowing they will receive food at school. Learners are physically active.
	3. Increased school enrolment	Quantifiable increase in enrolment	School registers, EMIS, SNAP Survey	School registers and SNAP Survey contains accurate data
Intermediate outcomes	1. Improved concentration of learners in class	Noticeable improvement in concentration after meal	Teacher feedback	The meal does not give children too much energy and make them restless
	2. Improved attendance at school	Quantifiable increase in attendance	School registers, EMIS, SNAP Survey	NSNP is a motivation for children to attend school
Outputs	1. Nutritious meals served on time every day for learners in Grades R-12 in quintiles 1-3 as well as targeted special schools	# meals provided daily	VFHs' monitoring forms; monthly reports to PED	VFHs use the monitoring forms rather than taking daily attendance figures; VFHs have systems in place to record meals while serving the meals; VFHs records are accurate

	Logical hierarchy	Objectively verifiable indicators (OVI)	Means of verification; source of verification information	Important assumptions
	2. Functioning school nutrition committees	# schools with nutrition committees deemed functional (minimum criteria)	Schools' NSNP files (minimum functionality criteria to be determined by the DBE)	Schools have the capacity to form the committee; teachers and SGB members are willing to get involved; DBE will determine nutrition committee functionality
Activities	1. Schools set up school nutrition committees and identify NSNP Co-ordinators	# schools with nutrition committees # schools with NSNP Co-ordinators	Schools NSNP files	Schools have the capacity to for the committee; teachers and SGB members are willing to get involved
	2. Schools appoint VFHs	Average ratio of VFH to learners	Schools NSNP files and attendance registers	Parents/community members are willing to be engaged as VFHs
	3. Schools or provinces contract service providers and order food, utensils and fuel	# PEDs or schools with signed Service Level Agreements # PEDs or schools with orders and order numbers	PEDs NSNP Units; Schools NSNP files	There are sufficient service providers (SPs) willing to apply for tenders; SPs have the capacity to apply for tender
	4. Schools receive food on time and in correct quantities	% of deliveries that are on time and in the correct quantity.	Schools NSNP files	Communication between PEDs and schools and SPs are efficient; SPs do not have cash flow issues which result in delayed procurement of food; SPs are able to deliver on time and in correct quantities.
	5. Schools or provinces pay service providers on time.	% of payments to SPs which are on time	PEDs NSNP Units; Schools NSNP files; service providers files	PEDs payment systems do not result in excessive delays in payment; schools can ring-fence NSNP funds for SPs and not spend the money on other items
	6. VFHs receive training on health and safety and food preparation	# VFHs trained	School, district and PED training records.	Training is appropriate and pitched at the correct level for VFHs

	Logical hierarchy	Objectively verifiable indicators (OVI)	Means of verification; source of verification information	Important assumptions
	7. VFHs store food and fuel safely	# schools where food and fuel is stored safely	NSNP school monitoring visits	Schools have or can create store rooms which can be cleaned and locked
	8. VFHs are paid on time	% of payments to VFHs which are on time	Schools' NSNP files; reports from VFHs	PEDs payment systems do not result in excessive delays in payment; schools can ring-fence NSNP funds for VFHs and not spend the money on other items
	9. VFHs prepare and cook food safely every day	% of meals which are prepared and cooked to appropriate health and safety standards	Observation of meal preparation and cooking (instrument to be developed)	Health and safety standards are available
Objective 2: To establish school food gardens, to raise awareness in school communities about food gardening, teach learners gardening skills and instil an interest in food gardening				
Longer-term outcome	1. Improve nutritional status of learners	Quantifiable decrease in # school days missed due to illness	School attendance registers	Parents/family do not skip learners' breakfast knowing they will receive food at school. Learners are physically active.
Intermediate outcomes	1. Learners have better knowledge of food production	% of learners with correct knowledge of food production	Assessment activities with learners.	Schools are able to build time into school day for practical learning time in the food garden
	2. Learners garden at home	# learners who garden at home	Assessment activities with learners.	Land, water, seeds and tools are available for learners to garden at home.
Outputs	1. School food gardens supplement food prepared for school meals	# times/month garden food is incl. in meal # times/month garden food is distributed to OVCs	VFHs' monitoring forms; monthly reports to PED	Gardens are big enough to provide enough food to supplement meals; schools have identified OVCs

	Logical hierarchy	Objectively verifiable indicators (OVI)	Means of verification; source of verification information	Important assumptions
	2. Increased community awareness about food gardening	# gardens in the community	Assessment activities with community members.	Land, water, seeds and tools are available for gardening in the community.
Activities	1. Schools appoint garden managers	# schools with garden managers	Schools NSNP files	Community members are willing to be appointed as garden managers.
	2. Garden managers are trained	# garden managers trained	School, district and PED training records.	Training is appropriate and pitched at the correct level for garden managers
	3. Schools order tools and other inputs	# schools with orders and order numbers	Schools NSNP files	Funds are sufficient and schools are able to access seedlings and other inputs required in close proximity
	4. Schools receive tools and inputs	# schools with signed and stamped delivery notes	Schools NSNP files	SPs are able to deliver on time and in correct quantities.
	5. School food gardens are planned, planted and watered	# schools with flourishing food gardens (criteria to be defined)	NSNP school monitoring visits	Schools have sufficient ground for a garden; schools can locate HR to assist in the garden; gardens are fenced; gardens have water
	6. Learners participate in school food gardening	# learners who participate in the school food garden	Assessment activities with learners.	Learner time in the garden does not impact negatively on classroom learning time
Objective 3: To encourage learners to make healthy food choices through nutrition education (NE)				
Longer-term outcome	Improved nutritional status of learners	Quantifiable decrease in # school days missed due to illness	School attendance registers	Children are able to convince families that healthier food can be served at home; families have sufficient inclination and money to make the changes. Learners are physically active.

	Logical hierarchy	Objectively verifiable indicators (OVI)	Means of verification; source of verification information	Important assumptions
Intermediate outcomes	1. Learners have better knowledge of nutrition	Quantifiable increase in learners knowledge of nutrition	SANHANES data; assessment activities with learners.	Children are taught about nutrition
	2. Learners make healthier food choices	Quantifiable increase in learners self-reported healthy food choices	SANHANES data; assessment activities with learners.	Children are able to make choices about the food they eat.
Output	1. Nutrition education lessons taught during Life Orientation	# Nutrition education lessons taught	Teachers lesson plans and learner books.	There is enough time in the LO curriculum to include nutrition education, teachers are prepared to use the LTSM supplied.
Activities	1. DBE develops nutrition education LTSM	Existence of LTSM	Document review (LTSM)	Nutrition education remains part of the curriculum.
	2. DBE delivers LTSM	# schools with LTSM	NSNP school monitoring visits	PED have good logistics to deliver LTSM; Schools distribute materials to classrooms and teachers, rather than store them.
	3. School celebrate nutrition week	# school celebrating nutrition week	PED reports verified via NSNP school monitoring visits	PEDs budget for nutrition week celebrations
Objective 4: To administer and monitor implementation of the NSNP to maximise efficiency				
Intermediate outcome	Efficient administration and monitoring	Findings of evaluation with regard to efficiency	Evaluation report	If the NSNP is implemented as planned the programme will be efficient
Outputs	1. Districts report monthly and quarterly to PEDs	% of districts submitting quality reports on time and according to schedule	District reports	Districts have the capacity to report monthly and quarterly, school reports are received on time
	2. PEDs report quarterly to the DBE	% of PEDs submitting quality reports on time and according to schedule	Provincial reports	PEDs have the capacity to report quarterly, district reports are received in time.
	3. DBE reports quarterly to Treasury	% of quality reports submitted on time and according to schedule	National reports	DBE has the capacity to report quarterly, PED reports are received

	Logical hierarchy	Objectively verifiable indicators (OVI)	Means of verification; source of verification information	Important assumptions
				on time.
Activities	1. Schools receive training on NSNP implementation guidelines	# schools trained annually on NSNP guidelines	School, district and PED training records.	Training is appropriate and pitched at the correct level; relevant persons attend training
	2. Schools report monthly to districts on NSNP implementation	% of schools submitting quality reports on time and according to schedule	School reports	Schools have the capacity to report monthly
	3. Districts monitor NSNP implementation in schools	# district support visits to schools	School log book; district records	Districts have the capacity to monitor NSNP implementation

Appendix B: Evaluation Methodology

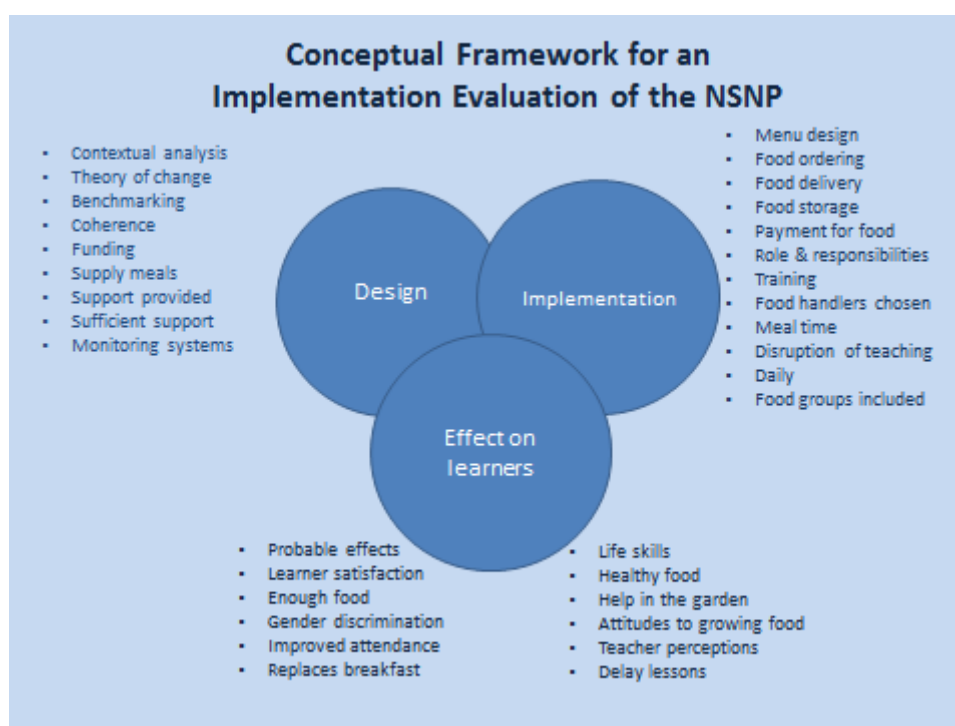
Evaluation approach and conceptual framework

Evaluation approach

For this evaluation, an utilisation-focused approach was employed, as it is appropriate for the improvement-orientated focus laid out in the Terms of Reference. Utilisation-focused evaluation is premised on the idea that “evaluations should be judged by their utility and actual use” (Patton, 2003). To achieve this, evaluators should design and facilitate evaluations with careful consideration for how every decision taken will affect evaluation use. This approach can provide solid, empirical data on which to base conclusions and recommendations, contribute to improved and strengthened programme capacities, and lead to increased sustainability.

Initial conceptual framework

Initially, there was a focus on three main evaluative components as outlined in the diagram below: the **design** of the NSNP, its **implementation**, and the likely or probable **effect on learners**.



Regarding the **design** of the programme, the evaluation reviewed the context in which the NSNP is being implemented, conducted a limited literature review (including nutritional aspects of the programme), and documented the Theory of Change and logic model which underpins the programme. These activities enabled JET to ascertain the extent to which the programme is coherent (i.e., makes sense given the context) and is aligned with good practice. Finally, the design component examined the systems which are in place to facilitate monitoring and evaluation of the NSNP and make recommendations about how they can be strengthened.

Every aspect of **implementation** of the NSNP was reviewed. This included looking at how the menus are designed, how the food is ordered, how it is delivered, where it is stored, and how it is paid for.

The review of the administration and management of the NSNP entailed looking at the roles and responsibilities of the different stakeholders involved, and what training and capacity building support VFHs and suppliers have had. The evaluation attempted to find out what time of the day the school meal is served, whether it disrupts teaching time, whether it is served daily, whether learners like it, and what food groups are included in the meals.

The third aspect the evaluation looked at was the **probable effect** of the programme **on learners**. It should be specified that this was not an impact evaluation, and data collection was not aimed at gathering impact data. However, through surveys, the evaluation ascertained learners' satisfaction with the meals provided, whether they are being fed enough, whether there is gender discrimination in the distribution of food, and whether the school meal augments or replaces food from home. In terms of nutrition education, the surveys assessed learners' knowledge about healthy and unhealthy foods and lifestyles. If there is a garden at the school, learners were asked whether they help in the garden.

The initial conceptual framework was refined during the inception phase, informed by the document and literature review, ToC and logframe development process, and meetings with the Evaluation Steering Committee. The Evaluation Steering Committee approved the final evaluation design, analytical framework, and an evaluation matrix which was developed to link the key and sub-evaluation questions to different data collection methods and instruments. The evaluation matrix proved to be invaluable during the instrument development, data analysis and reporting stages, to ensure that the information which was collected would enable the evaluation team to answer the evaluation questions, and to focus data analysis and reporting.

Evaluation questions

The terms of reference identified eight evaluation questions to be answered. JET disaggregated these into several sub-evaluation questions per key evaluation question, as outlined below, and identified data collection methods which would be used to gather relevant data. These are summarised in the table below.

1. Is the programme being implemented as planned?

Proposed Sub Questions	Data Collection Methods
a. Does the programme make sense given the context, national priorities, policy, and institutional environment? b. How is the programme intended to work, and what is the underlying ToC? c. Do key stakeholders understand their implementation obligations? d. Are key stakeholders fulfilling their implementation obligations? e. What are the core business processes of the NSNP? f. What are the key mechanisms,	Review of project documentation, including legislation, frameworks, plans, guidelines, evaluations, draft ToC document, monitoring reports, and secondary data. Literature review of international research on and evaluations of school feeding programmes and the implementation thereof. Identification of key characteristics and contextual factors that typically determine the effectiveness of feeding programmes. Conduct interviews with high-level stakeholders to explore the origins and evolution of the NSNP. Workshop with key programme stakeholders to

Proposed Sub Questions	Data Collection Methods
processes, and procedures for programme management, co-ordination, and administration?	confirm/refute and improve on the draft ToC. Update the draft programme ToC and log frame based on documentation. Interviews with key stakeholders (at national, provincial, district, and school level) to clarify the business processes, identify any discrepancies in practical implementation, and whether the programme is being implemented as planned.

2. Are operational procedures effective to ensure the timely delivery of food?

Proposed Sub Questions	Data Collection Methods
<p>a. What operational procedures are followed for the distribution of funding (centralized vs decentralized)? In which provinces are the different models operational?</p> <p>b. Are the funding mechanisms (centralized vs decentralized) effective?</p> <p>c. What operational procedures are followed for procurement (centralized vs decentralized)?</p> <p>d. Are the procurement procedures effective (centralized vs decentralized)?</p> <p>e. Have school stakeholders received appropriate training on procurement (decentralized model)?</p> <p>f. Is procurement in line with the NSNP guidelines in each province?</p> <p>g. What operational procedures are followed for the delivery of food (centralized vs decentralized)?</p> <p>h. Are the delivery procedures (centralized vs decentralized) effective?</p> <p>i. What systems and processes are in place to monitor the timely delivery of food?</p> <p>j. What systems are in place to respond to operational challenges identified through monitoring?</p> <p>k. Are the monitoring systems and processes adequate, and how could they be strengthened?</p>	<p>Document review to identify operational procedures.</p> <p>Interviews with key stakeholders (at national, provincial, and school level) to clarify operational procedures and identify any bottlenecks.</p> <p>Interviews with provincial and district officials to ascertain training delivered.</p> <p>Survey with school stakeholders to ascertain training received.</p> <p>Review of monitoring systems and processes.</p>

Proposed Sub Questions	Data Collection Methods
l. How can the operational procedures be improved?	

3. Are learners receiving quality meals and services?

Proposed Sub Questions	Data Collection Methods
<p>a. Do learners receive meals at the specified time (before 10:00 am at least 80% of the time)?</p> <p>b. Do learners receive meals on all school days (as specified in the NSNP guidelines)?</p> <p>c. Do the meals which are served meet 30-33% of the RDA of energy requirements for learners (as specified in the NSNP national guidelines)?</p> <p>d. Do the meals which are served meet appropriate nutrition standards (i.e., includes starch, protein and fruit/vegetable)?</p> <p>e. Are the necessary infrastructure, apparatus, and utensils available for storing food, preparing, and serving meals?</p> <p>f. Have food handlers been appropriately trained?</p> <p>g. Are meals prepared in accordance with Department of Health guidelines for food preparation?</p> <p>h. Do schools have relevant LTSM to incorporate Nutrition Education into Life Orientation?</p> <p>i. Are the LTSMs being used appropriately?</p> <p>j. Is Nutrition Education taught (as part of Life Orientation)?</p> <p>k. Do schools have food gardens?</p> <p>l. Does produce from food gardens complement school feeding programmes?</p> <p>m. Are food gardens linked to nutrition education taught as part of Life Orientation?</p> <p>n. What do learners think of the meals and services they receive?</p> <p>o. What quality assurance systems and processes are in place to monitor meals and services?</p> <p>p. Are the quality assurance systems and processes adequate, and how could they be strengthened?</p>	<p>Survey with school stakeholders to ascertain whether learners are receiving meals and services of sufficient quantity and quality.</p> <p>Observation instrument (availability of food, infrastructure, apparatus and utensils, existence of documents, actual process and procedures followed, existence of food gardens).</p> <p>Survey with food handlers to ascertain training they have received.</p> <p>Survey with NSNP co-ordinator, school management team (SMT) and SGB members to ascertain whether meals and services are aligned with programme guidelines.</p> <p>Survey with learners to ascertain what they think of meals and services.</p> <p>Review of quality assurance systems and processes.</p>

4. What are the variations in implementation at different sites or by different provinces?

Proposed Sub Questions	Data Collection Methods
<p>a. How do the core business processes and implementation thereof vary by province and other factors?</p> <p>b. What are the strengths and weaknesses of the centralized and decentralized delivery models?</p> <p>c. Where is implementation working best, and what can be learnt from this?</p> <p>d. Where is implementation not working well, what are the reasons why, and what can be learnt from this?</p>	<p>Document review to identify variations in core business processes.</p> <p>Interviews with key stakeholders (at national, provincial, and school level) to clarify differences in implementation and identify what is working well and not working well, and why.</p> <p>Observation at schools.</p>

5. Is the programme reaching the intended beneficiaries?

Proposed Sub Questions	Data Collection Methods
<p>a. Who are the intended beneficiaries of the NSNP?</p> <p>b. Is the programme targeted appropriately (i.e., given the context, national priorities, policy, and institutional environment)?</p> <p>c. How are the funding parameters (cost per learner per meal) determined and how often are they updated?</p> <p>d. Is the NSNP funding adequate and is it allocated adequately to the different components?</p> <p>e. What provincial and other inequalities exist in terms of programme delivery?</p> <p>f. Do all learners at NSNP schools receive meals?</p> <p>g. Are there unintended beneficiaries who also receive meals?</p> <p>h. Are there gender and other biases in terms of programme delivery at school-level?</p>	<p>Review of project documentation including legislation, frameworks, plans, guidelines, evaluations, draft ToC document, monitoring reports, and secondary data.</p> <p>Observation instrument (process and procedures followed, who receives food, and how much).</p> <p>Interviews with key stakeholders (at national, provincial, and school level).</p>

6. Is there evidence that the NSNP enhances learning behaviour (likely impact of the programme)?

Proposed Sub Questions	Data Collection Methods
<p>a. Are the links between inputs, activities, outputs, and outcomes outlined in the ToC logical and the assumptions plausible?</p> <p>b. Is there convincing evidence internationally that school feeding enhances learning behaviour?</p>	<p>Development of ToC document (following document and literature review, high-level interviews, and stakeholder workshop).</p> <p>Review of international research on and</p>

Proposed Sub Questions	Data Collection Methods
<p>c. Does the NSNP affect the time available for teaching and learning?</p> <p>d. Do teachers take the NSNP into account when planning their school day (i.e., more difficult/taxing work is taught after the daily feeding)?</p> <p>e. Do learners eat at home before they come to school?</p> <p>f. Is the NSNP reported to be a motivation to attend school?</p> <p>g. Is there evidence that the provision of food through the NSNP affects school attendance?</p>	<p>evaluations of school feeding programmes (literature review).</p> <p>Survey with SMTs.</p> <p>Interviews with teachers.</p> <p>Survey with learners.</p>

7. Should the NSNP be up-scaled? How can it be strengthened and up-scaled for better impact?

Proposed Sub Questions	Data Collection Methods
<p>a. Are the targeted 75% of South African learners receiving school meals (Action Plan 2014)?</p> <p>b. Is the programme efficient?</p> <p>c. How could reach and coverage be strengthened within the current NSNP framework?</p> <p>d. What lessons can be drawn upon from other programmes relating to up-scaling?</p> <p>e. Do key stakeholders believe that the NSNP should be up-scaled?</p> <p>f. Is there demand for feeding outside of school days/terms?</p> <p>g. Is funding available to up-scale the NSNP?</p> <p>h. What are the key elements of the proposed up-scaling?</p> <p>i. What are the pros and cons of up-scaling?</p> <p>j. What institutional, process, and procedural arrangements are recommended if the programme is up-scaled?</p>	<p>Analysis of secondary data (reach and coverage).</p> <p>Review of costs of the programme and comparison with perceived benefits.</p> <p>Review of international research on and evaluations of school feeding programmes, and the implementation thereof (literature review).</p> <p>Interviews with key stakeholders at national, provincial, and school levels.</p>

8. Are there other spinoffs of the NSNP?

Proposed Sub Questions	Data Collection Methods
<p>a. What other non-education and health related outcomes are outlined in the ToC?</p> <p>b. What non-education related benefits – if any – are reported by school stakeholders?</p>	<p>Development of ToC document (following document and literature review, high-level interviews, and stakeholder workshop).</p> <p>Review of international research on and</p>

Proposed Sub Questions	Data Collection Methods
c. What positive benefits – if any – are reported by food handlers?	evaluations of school feeding programmes (literature review).
d. What positive benefits – if any – are reported by suppliers?	Survey with school stakeholders to identify positive benefits of the programme. Interviews with suppliers to identify positive benefits.

Evaluation methods

The evaluation questions and sub-questions guided decisions regarding methods which would be used to collect and analyse data for the evaluation. The following **methods** were employed:

- A review of relevant legislation, policy, implementation frameworks, guidelines, and reports;
- A national and international literature review of school feeding programmes;
- Refinement of the programme's ToC and development of a logframe, following a document review, stakeholder interviews, and consultation with the Evaluation Steering Committee;
- Interviews with key NSNP stakeholders at national, provincial and district level;
- Surveys with school-based NSNP stakeholders including: VFHs, NSNP Co-ordinators, Principals, SGB members and learners, and with NSNP service providers;
- Observation of food preparation, serving and feeding and other processes relating to the NSNP at schools;
- Analysis of cost and output data pertaining to the NSNP for the period under review.

Evaluation matrix

An evaluation matrix, presented below, was developed to link the key and sub-evaluation questions to the methods and instruments which would be used to collect relevant data.

				SOURCE OF DATA															
Evaluation Criteria	Evaluation Area	Key evaluation question	Sub-evaluation questions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Relevance	Programme Design	1) Is the programme being implemented as planned?	a) Does the programme make sense given the context, national priorities, policy, and institutional environment?																
			b) How is the programme intended to work, and what is the underlying Theory of Change (ToC)?																
Relevance and Efficiency	Stakeholder roles and responsibilities		c) Do key stakeholders understand their implementation obligations?																
			d) Are key stakeholders fulfilling their implementation obligations?																
	Key business processes		e) What are the core business processes of the NSNP?																
			f) What are the key mechanisms, processes, and procedures for NSNP management, co-ordination, and administration?																

The evaluation matrix guided the development of data collection instruments, as the evaluation team debated the most appropriate and reliable sources of data for each sub-evaluation question, and what specific questions should be posed to respondents to generate meaningful data. The expectation was not that the evaluation respondents would answer the evaluation questions directly but that the evaluation team would analyse and synthesise information from a number of sources in order to answer the key and sub-evaluation questions.

Analytical framework

JET has approached the design of this analytical framework and related evaluation matrix using the DAC Evaluation criteria. These are explained briefly below and contextualised in relation to the evaluation.

To set out the analytical frame for the evaluation, the evaluation questions and sub-questions were related back to the overall conceptual frame, using the 6 DAC criteria of: Relevance, Efficiency, Effectiveness, Impact, Sustainability and Additionality. Each sub-evaluation question falls into a key evaluation question category, and in turn each set of evaluation questions relates to one or more of the 6 DAC criteria. The evaluation questions have also been grouped into overarching evaluation areas. This conceptual frame was then used to link the research design to the evaluation questions and overarching evaluation criteria, as shown in the Analytical framework document itself.

The analytical framework provides an overarching structure for the evaluation design, and provides a clear conceptual framework for determining the appropriateness of evaluation design, the development of data collection instruments, for the structuring of data analysis work, and ultimately for report-writing and structuring purposes.

Relevance

Relevance is the extent to which an intervention is suited to the priorities and policies of the target group, recipient and funder. It involves examining the policy and social context to determine the appropriateness of the programme rationale and design. In the case of the NSNP, the evaluation will examine the overall programme design through a process of revising, updating and confirming the programme theory for the NSNP. It will also examine through a literature review, the policy context within which the NSNP has formed, what policy goals the NSNP aims to address, and outline the social, educational and health-related context within which the NSNP operates. In examining relevance, the evaluation aims to determine the extent to which the NSNP design fits the current context.

Effectiveness

Evaluating effectiveness is about exploring the extent to which an intervention achieves its intended objectives. What are the measurable results of the programme? In the case of the NSNP the evaluation will explore the extent to which the programme has been effective in reaching its intended objectives. Are learners receiving good quality meals on time on each school day? Is the

programme reaching its intended beneficiaries and are there any inequalities in delivery and meeting targets?

Efficiency

Evaluating efficiency means measuring programme outputs in relation to programme inputs. It looks at how well a programme is being implemented to achieve its intended objectives. What is the extent to which the intervention uses the least costly resource possible to achieve the desired results? In the case of the NSNP, this involves examining in some detail the key business processes and operations of the NSNP and what aspects of these are working well and what are not. In particular, it will involve probing the different implementation and procurement models to evaluate their effect on the delivery of school feeding, across all provinces. The evaluation will assess the extent to which there is fidelity in delivery as measured against programme guidelines, looking at each aspect of the programme including training, guidelines, delivery mechanisms, systems, stakeholder roles, monitoring, and quality. The design is guided here by a number of detailed programme efficiency questions that are carried over into the design of the research instruments.

Additionality

Additionality questions address the extent to which an intervention catalyses activities and benefits which would not have happened without the programme. Questions of additionality explore the extent to which there may be related benefits of the NSNP. Are there other spin-offs of the programme which are not core to its theory of change? These could include non-educational and nutrition-related benefits, such as the stimulation of local economic development. Is the NSNP delivering added value to schools and school communities that have not necessarily been planned as part of the programme design?

Impact

Impact is defined as positive and negative changes produced by an intervention, whether these have been produced directly or indirectly. Impact evaluation assesses the main impacts and effects on local social, economic and other development indicators.

As this is not an impact evaluation, it will not be possible for JET to attribute reported changes specifically to the NSNP. However, there are aspects of the evaluation that will reflect on the likely impact of the programme on both nutritional and educational outcomes of children. The literature review will explore evidence from other school feeding programmes internationally, and will look for evidence of impact from other studies conducted internationally. Questions in the study that relate to impact include those that aim to understand whether the programme has any impact on school attendance of learners, and whether or not it has an effect on the structure of the school day. Through this evaluation, it is also expected that indications could be provided about what programme improvements can be made to enhance its impact in the longer-term.

Sustainability

Sustainability questions examine the extent to which the benefits are likely to continue after the intervention has been withdrawn, or as it continues. This includes assessing environmental as well as financial aspects of the programme design and efficiency. In the case of the NSNP, sustainability questions involve probing how well the programme is being delivered and what programme improvements would be necessary to design and implementation to ensure that the programme can continue, improve, and if necessary be upscaled. How can coverage be expanded and improved as the programme continues in the future? The evaluation will also explore through the literature review, ways in which lessons can be incorporated from other programmes internationally.

Reporting and role of the steering committee

The evaluation team received guidance from the NSNP steering committee - which comprised representatives from the DPME, the Treasury, the DBE, FUEL Trust, and two independent peer reviewers. It was co-ordinated by Mr Jabu Mathe of the DPME, via face-to-face meetings, telephone conference calls, and emails at key points, particularly during the design and planning phases of the evaluation. The literature review, ToC, and data collection instruments were discussed at a steering committee meeting prior to being finalised. The data collection instruments and fieldwork plan was approved by the steering committee before fieldwork commenced.

Data collection instruments, sampling, and piloting

Data collection instruments

The following data collection instruments were developed:

- Survey interview with the School Principal or Acting or Deputy Principal or other member of the SMT if the Principal was not present;
- Survey interview with the NSNP Co-ordinator;
- Survey interview with a VFH – there is normally more than one at a school and the longest serving VFH was to be selected;
- Survey interview with an SGB member – this had to be an SGB member on a relevant committee (i.e., finance procurement and/or NSNP) AND a parent member and not a staff SGB member;
- Learner Survey – 20 learners were randomly selected from Grade 7 classes (or Grade 6 classes if there were no Grade 7 classes or Grade 7 learners at the school) and the fieldworker guided them through a survey;
- School Observation – this instrument - completed by the fieldworker – was used to verify information provided by the Principal, NSNP co-ordinator and VFHs;
- Survey interview with NSNP service providers;
- Interview with NSNP national official - this semi-structured instrument was used to interview DBE officials involved in administration, co-ordination and management of the NSNP;
- Interview with PED NSNP co-ordinator - this semi-structured instrument was used to interview PED officials responsible for the NSNP in a province;
- Interview with NSNP District Co-ordinator - this semi-structured instrument was used to interview district officials responsible for the NSNP in district.

A number of identical questions appear on the Principal, NSNP co-ordinator VFH and Service Provider survey instruments. This allowed for triangulation of the information provided, which increases the validity and reliability of the data collected.

Sampling

A key component of the evaluation was a survey conducted in a nationally representative sample of 270 schools (30 per province). Dr Stephen Taylor of the DBE provided JET with an appropriate sample of schools. The instruction was to draw a representative sample (through probability sampling) of 270 primary schools from quintiles 1 to 3. There were to be no exclusions of small schools or special needs centres. This section explains the procedure that was followed to arrive at that sample.

Three key processes were required for correct sampling.

1. **Identifying data sets:** Two datasets were used to derive the sampling frame. The NSNP directorate provided a list of 21,650 primary and secondary schools that participate in the NSNP. This was an excel file with 9 separate sheets, one per province. The SNAP dataset for 2014 (obtained from EMIS) was also used to obtain the numbers of learners that were enrolled, by grade.
2. **Conducting the random selection of 30 schools per province:** Schools were sampled with Probability Proportional to Size (PPS). This meant that larger schools had a greater probability of being selected than smaller schools and the exact probability was proportional to the total numbers enrolled in grades R to 7. A sample of 270 schools was derived, 30 per province. There were also five replacement schools per province selected, and seven sampled schools were replaced due to challenges in fieldworkers contacting schools or reaching them.
3. **Sampling of service providers:** In centralised provinces where there are few service providers, the main three service providers were identified by the provincial NSNP co-ordinator. In decentralised provinces or where there are many service providers, three schools which were part of the fieldwork sample were randomly selected and the service providers linked to these schools were interviewed.

Piloting

The qualitative interview and survey data collection instruments were piloted prior to being finalised to ascertain whether the research activities planned for the school fieldwork visits were achievable in the time allowed, and whether they would generate useful information. Piloting took place in six schools: three in Limpopo (rural) and three in Gauteng (urban), to provide feedback on administration in a variety of contexts.

The research team also piloted the district interview guide, which was the longest instrument for DBE officials. It was piloted telephonically with a randomly selected NSNP district official, meaning that the majority of provincial and district interviews could be administered telephonically, reducing evaluation spending.

Survey fieldwork

Fieldwork was conducted in 267 of the targeted 270 schools. The reasons for fieldwork not being conducted in three schools were: the school was having a sports day; the school had been closed; the school refused entry to the researcher.

The table below shows the number of survey instruments completed nationally. Some surveys are missing due to personnel not being at school on the day of the fieldwork visit.

Principals	NSNP Co-ordinators	VFHs	SGBs	Observation	Learners	Service providers
265	264	263	240	267	4,979	26

Source: Fieldwork report

Data capturing, cleaning, analysis and weighting

Survey data capturing, cleaning, and analysis

The survey data were captured by a data capturing company, Computer Machine Corporation (CMC) Data. All data cleaning was undertaken in R language version 3.2.1. The main purpose of data cleaning is to check for credibility, consistency and completeness of the data. Data analysis was undertaken in R language version 3.2.1 and Stata version 14.0, and tables generated to present the overall and disaggregated results. Open-ended questions were analysed and the responses were coded.

Survey data weighting

Dr Taylor was provided with 18 separate survey data files by JET. The first step in the weighting process involved identifying the schools in the realised sample by finding all the unique EMIS numbers across these 18 files. In this way, 267 schools were identified in the final realised sample.

During the sampling, two weighting variables were required for the purposes of making estimations of population characteristics - learner weight (for calculations such as X% of learners are fed) and school weight (for calculations such as Y% of schools served a nutritious meal). These were adjusted after data collection.

Learner weights

Since PPS was used during the sampling, the sample was “self-weighting” as far as being representative of learners within a given province, and only needed to be corrected for the stratification by province. The first stage in this correction was to take the total number of schools in each provincial population (N_{sch}) and divide by the number of schools in the sample (n_{sch}), which is always 30. However, this will still not correctly inflate to the number of learners in the country in so far as the average school enrolment (or school size) differs across provinces. Therefore, one also needed to multiply by the average school size, which is obtained by the Number of Learners in the province (N_{lrn}) over the number of schools in the province (N_{sch}). This formula is:

$$LW = \frac{N_{sch}}{n_{sch}} * \frac{N_{lrn}}{N_{sch}} \quad (1)$$

Which reduces to:

$$LW = \frac{N_{lrn}}{n_{sch}} \quad (2)$$

When applying learner weights, then, each school represents 1/30th of the population of learners in that province. Within a province, large schools and small schools have the same learner weight since small schools initially had a lower probability of selection and therefore represent learners in many other small schools. Once this weight is applied, any estimates are nationally or provincially representative of the numbers of learners in the population.

This learner weight is the same for all schools in a particular province. This is because sampling was done with probability proportional to size (PPS). Hence, the only adjustment after data collection was for stratification by province, as explained above. For the new replacement schools, the provincial learner weights were thus applied. The only further adjustment that was needed was to inflate the learner weights in EC, FS and NC by a factor of 30/29 since only 29 schools were actually visited in these provinces (see Section 4.7). The learner weight variable in the data attached is called “learner_weight_new” and was used for calculations regarding the proportion of learners in the population⁴³.

After the survey had been carried out, another weight, called “learner_weight_LQ” was developed to be used when analysing data from the learner instrument. In this case, this was done by dividing the learner weight by the number of learners appearing in the learner dataset.

School weights

Within a given province, the school weight is given by the inverse of that school’s probability of selection:

$$SW = \frac{1}{Pr_{sch}} \quad (3)$$

Under PPS sampling, the probability of a school’s selection is given by the number enrolled in the school divided by the total number of learners in the province:

$$Pr_{sch} = \frac{Enr_{sch}}{N_{lrn}} \quad (4)$$

Substituting equation (4) into (3):

$$SW = \frac{N_{lrn}}{Enr_{sch}} \quad (5)$$

⁴³ It should be remembered that the “population” is quintile 1, 2 and 3 schools that were found in the DBE’s NSNP data and that could be linked to the SNAP survey. The numbers of schools excluded for reasons of missing data are described in the section on sampling.

From equation (5) it is evident that smaller schools will have larger school weights than bigger schools, as intended. However, amongst the 30 schools actually sampled in a given province, the total sum of school weights derived from equation (5) can be slightly different from the total number of schools. For example, if by chance a larger than predicted number of small schools were sampled in Province X and a lower than predicted number of small schools were sampled in Province Y, then the sum of school weights for Province X will be too much relative to that for Province Y. In order to ensure that the school weights are nationally representative, each school weight was adjusted in proportion to the discrepancy between the realised sum of school weights for a given province ($\sum schwghts$), and the number of schools in the population of that province (N_{sch}). Equation (5) can therefore be augmented as follows:

$$SW = \frac{N_{lrn}}{Enr_{sch}} * \frac{N_{sch}}{\sum schwghts} \quad (6)$$

This final adjustment forces the sum of school weights for each province within the sample to be proportional to the total numbers of schools across the provinces. This final adjustment was conducted on the final realised sample of 267 schools. Thus, no further adjustment was made to compensate for the fact that three provinces had only 29 schools each. .

The school weight is called “school_weight_new” and was used when calculating a proportion of schools in the country.

Qualitative data capture

National and provincial level interviewees were purposively selected: district officials to be interviewed were randomly selected from a list of district NSNP Co-ordinators supplied by the DBE, and two were randomly selected per province to be interviewed. One provincial interview was conducted per province. Most of these interviews were conducted via Skype. The interview transcripts were then coded using a qualitative codebook.

Following these processes, the data was handed over to the senior researchers for further analysis and incorporation into the evaluation report.

Cost analysis

A cost analysis was planned to link NSNP programme costs to specific outputs and thereby contributing to evaluating the efficiency of the NSNP.

Data sources

The main sources of data used were NSNP Quarterly Reports covering the period 2009/10 - 2013/14 and Business Plans for the 2012/13 financial year, which were provided by the DBE.

Programme cost and output data were used to assess whether expenditure had occurred in line with the conditions specified in the Conditional Grant Framework. The analysis also considered differences across provinces and between the two implementation models (centralised and decentralised), to establish the extent of variation in the implementation of the NSNP across provinces, models, and over time. The analysis only considered cost and aggregate output data: it

was not possible to compare these to the “benefits” of the NSNP as this was not an economic or an impact evaluation and data was not available which would enable the benefits of the programme to be quantified.

An in-depth analysis of all costs and outputs associated with the NSNP would have required detailed data disaggregated by core expenditure items. Lack of availability of cost and expenditure data at a sufficiently disaggregated level meant it was not possible to undertake an in-depth cost analysis.

Process

A subset of indicators was identified within the Quarterly Reports for which comparable data were available across provinces and over time. The following indicators formed the basis of the cost analysis:

- % of allocations spent in each financial year (based on a comparison of allocations, expenditure and roll-overs);
- Unit meal costs per primary school learner per day;
- Unit costs to employ VFHs per primary school learner fed.

The performance of provinces along these dimensions was also assessed against the relevant conditions stipulated in the Conditional Grant Frameworks for each financial year. Performance was considered against the prescribed conditions related to the following:

- Unit meal cost per primary school learner per day;
- Average VFH to learner ratio;
- Minimum honorarium paid to VFHs.

It was not possible to assess whether the provinces complied with the budget allocation weightings prescribed in the Conditional Grant Frameworks, because the Quarterly Reports do not provide detailed expenditure breakdowns into the categories of school feeding, administration, nutrition education and food production activities outlined in the Conditional Grant Framework.

Data limitations

In terms of data limitations, it should be noted that the survey was intended to be carried out in 270 schools – 30 in each province and was successfully carried out in 267 schools. JET would have liked to survey a larger sample but was constrained by budget considerations. This means that the confidence intervals are wider than we would have preferred, especially when disaggregating by province. However, the schools in the survey were randomly selected and were weighted so that the findings can be generalisable to the sampling frame (i.e., to all learners in quintile 1 to 3 primary schools), keeping these confidence intervals in mind.

Appendix C: Research Instruments

What follows are edited versions of the data collection instruments used in this evaluation. The layout of the questionnaires has been changed, and repetition has been removed to reduce the volume of this Appendix. Interviews in centralised and decentralised provinces and schools are largely the same, so instead of repeating them here, only one instrument is provided here.

Any additional questions for decentralised schools are indicated in separate boxes like this:

Additional questions for decentralised schools

Additional questions for centralised schools

Principal Interview

Most of the questions are the same for Principals in centralised and decentralised schools, so one instrument is provided here.

1. Province
2. District
3. School Name
4. National EMIS no
5. Name of person being interviewed
6. Designation: Principal/Acting Principal/SMT
7. Interviewee cell
 - 7.1 School landline
 - 7.2 School Cell
8. Quintile
9. Researcher
10. Date of visit
11. Is the school a Section 21 school?
12. Location of school
13. What was the total number of learners enrolled at school when the snap survey was conducted?
14. How many periods are there in a day?

15. What is the length of each period?

16. What time does break start and what time does it end?

16.1 Foundation Phase

16.2 Intermediate/Senior Phase

17. How many members do you have on the NSNP/Nutrition committee?

18. Who is on the NSNP/Nutrition Committee?

	Principal	NSNP Co-ordinator	Admin Clerk	SGB	Other	Don't Know
19. Who manages the NSNP at school?						
20. Who appoints the NSNP co-ordinator?						
21. Who appoints the food handlers?						
22. Who liaises with the delivery company?						
Additional questions for decentralised Principals						
23. Who liaises with the suppliers?						
24. Who places the NSNP food orders?						
25. Who completes the expenditure reporting tool?						
26. Are you being supplied by a co-operative?						
27. If yes to Q26, is it registered?						
28. How does the food get to the school?						
29. If food is collected by a SGB member or school official, are they reimbursed?						

23. How frequently is the food delivered?								
Category	Quarterly	Monthly	2 x per month	Weekly	2-4 times per week	Other	Don't Know	NA
30.1 Dry								
30.2 Veg								
30.3 Fruit								
30.4 Milk								
30.5 Meat								
30.6 Bread								

24. Please rate the delivery system					
	Poor	Good	Excellent	Don't Know	NA
24.1 Dry food					
24.2 Vegetables					
24.3 Fruit					
24.4 Milk/Sour Milk					
24.5 Meat					

25. What challenges do you have with the delivery system?						
Incorrect goods delivered	Goods do not arrive when expected	Incorrect quantities are delivered	Deliveries after hours	Delivery is expensive	Other	No challenges

25.1 If other specify _____

Additional questions for decentralised Principals

33. Who makes the final decision on the selection of supplier(s)?

34. How are the suppliers/service providers selected?

26. Has anyone at school received training on managing the NSNP?

27. If Yes to Q26, who received the training?

28. If Yes to Q26, what were the focus areas?

29. Does the school have a separate bank account for NSNP funds?

30. In 2014, were the funds deposited on time to purchase gas and pay the food handlers' stipend?

31. In 2015, was the money deposited in time to purchase gas/wood for cooking on the first day?

32. In 2015, was the money deposited in time to pay the food handlers' stipend at the end of January?

33. If No to Q 31 and/or Q32, what did you do?

34. Have you received posters from the NSNP?

35. If Yes, to Q34, have your teachers used the education posters and materials that have been provided by the NSNP?

36. Did your school participate in National nutrition week activities in 2014?

37. If Yes to Q36, what were these activities?

Additional questions for decentralised Principals

46. To whom do you hand your expenditure report at the Area/District Office? *(Tick the relevant box)*

38. How many learners are approved for the feeding programme?

39. How many learners will be fed today?

40. How frequently are learners fed per week?

41. Are orphans and vulnerable children given food parcels from the NSNP food?

42. What time does feeding start and what time does it end?

43. Were there any days that no feeding took place to date this year?

44. If Yes, to Q 43, how many days?

45. If there were days where no feeding took place, what was the reason? *(Do not read out the reasons. Tick all boxes that apply. If No to Q43, then tick the N/A box)*

Funding was not received on time	
Tender process not completed yet (centralised provinces)	
Late delivery by supplier	
No gas/wood or electricity	
No water	
Food Handlers were absent	
Teacher/learner/community disruptions	
Weather	
Don't know	
N/A	

46. What do you do with leftover cooked food?

47. What do you do with left over stock at the end of the term?

48. Do other people also eat the meal that is cooked for the learners?

49. If Yes to Q 48,

50. How many learners have been identified by the Integrated School Health Programme or clinic as being undernourished? Who else eats the meal?

51. Does the Integrated School Health Programme or Clinic give deworming medication to the learners?

52. How often did the NSNP monitor/s visit your school in 2014?

53. Has the NSNP monitor/s from the department visited your school this year?

54. If Yes, to Q53, how often have they visited your school?

55. What are the three biggest challenges you face with the NSNP? <i>(Do not read the list. Only tick a maximum of 3 points. If there are no challenges, tick only the last box and leave others blank)</i>	
55.1 Teachers lose teaching time	
55.2 Too much administration	
55.3 Funds are deposited late	
55.4 Amount spent per learner is too little	
55.5 No kitchen – cooks outside, prepares outside	
55.6 Kitchen area is inadequate – lack of preparation area, lack of cooking area	
55.7 Lack of utensils for food handlers – pots, spoons, knives etc.	
55.8 Lack of food storage facilities, lack of fridges	
55.9 School has to absorb the bank charges	
55.10 Learner numbers have increased	
55.11 Food handlers don't cook the correct amount of food	
55.12 Break time has to be moved because food is not ready	
55.13 Other <i>(specify)</i>	
55.14 Other <i>(specify)</i>	
55.15 Other <i>(specify)</i>	
55.16 There are no problems or challenges	

NSNP co-ordinator Interview

1. Province
2. District
3. School Name
4. National EMIS no
5. Name of NSNP co-ordinator being interviewed
6. NSNP co-ordinator cell
7. Name of NSNP educator
8. Name of NSNP educator
9. Researcher
10. Date of visit
11. Who is involved in managing the NSNP at the school?
12. What is your role in the management of the NSNP programme?

13 How frequently is the food delivered?								
Category	Quarterly	Monthly	2 x per month	Weekly	2-4 times per week	Other	Don't Know	NA
13.1 Dry								
13.2 Vegetables								
13.3 Fruit								
13.4 Milk								
13.5 Meat								
13.6 Bread								

14. Please rate the delivery system					
	Poor	Good	Excellent	Don't Know	NA
14.1 Dry food					
14.2 Vegetables					
14.3 Fruit					
14.4 Milk					
14.5 Meat					

15. What challenges do you have with the delivery system?						
Incorrect goods delivered	Goods do not arrive when expected	Incorrect quantities delivered	Deliveries after hours	Delivery is expensive	Other	No challenges

15.1 If other, specify: _____

16. What do you do to monitor the delivery of food?	
16.1 Compare quantities received against the delivery note	
16.2 Count the quantities received	
16.3 Sign the delivery note/ do not sign the delivery note	
16.4 Notify my Principal of any problems	
16.5 Communicate with the circuit/area office if there are problems	
16.6 Other	
16.8 Nothing	

16.7 If other, specify _____

17. Do you organise NSNP/Nutrition committee meetings?

18. If Yes to Q17, how often do these take place?

19. Does the school feed breakfast?

19.1 Does the school feed a meal after school to any of the learners?

19.2 Does the school send take home rations with learners?

20. How many food handlers are there at the school?

21. Is food handler absenteeism a big problem?

22. If Yes to Q 21, how does food handler absenteeism affect feeding at school?

23. If Yes, to Q 21, how do you manage food handler absenteeism?

24. Do you go to the food preparation area?

25. If yes to Q 24, how often do you go to the preparation area?

26. Does the school always follow the menu provided by the Province?

27. If the school does not always follow the menu – what have been the reasons?

28. Does the school always feed learners at the specified time?

29. If No to Q28, why not?

30. What is the start and end time of the feeding programme?

31. How do learners get their meals served?					
	Food gets taken to classrooms and dished up there		Meals are dished up at a central point(s) and learners queue		NA
	FP	IP	FP	IP	
31.1 Breakfast					
31.2 Main Meal					

32. Does each child have a plate from which to eat?

32. Does each child have a spoon with which to eat?

33. Do learners wash their hands before and after eating?

34. Do the learners use soap to wash their hands?

35. Were there any days that no feeding took place this year?

36. If Yes to Q 35, how many days were lost?

37. If there were days where no feeding took place, what was the reason?	
Funding was not received on time	
Tender process not completed yet (centralised provinces)	
Late delivery by supplier	
No gas/wood or electricity	
No water	
Food Handlers were absent	
Teacher/learner/community disruptions	
Weather	
Don't Know	
NA – Not Applicable	

38. What do you do with leftover cooked food?

38.1 If other, specify: _____

39. What do you do with left over stock at the end of the term?

40. Do other people also eat the meal you cook for the learners?

41. If Yes to Q 40, who else eats the meal?

42. How many learners have been identified by the Integrated School Health Programme or clinic as being undernourished?
43. Does the Integrated School Health Programme or Clinic give deworming medication to the learners?
44. Have you received posters from the NSNP?
45. If Yes, to Q 44, have the teachers used the education posters and materials that have been provided by the NSNP?
46. Is nutrition education covered as part of the curriculum in life orientation?
47. Did your school participate in National nutrition week activities in 2014?
48. If Yes to Q 47, what were these activities?
49. Have you attended any NSNP training?
50. If Yes to Q49, what did the training cover?
- 51.1 How often did the NSNP monitor/s visit your school in 2014?
- 51.2 Has the NSNP monitor/s from the department visited your school this year?
52. If Yes, to Q 51.2, how often have they visited your school?
53. How is the water availability at school?
54. What is the school's source of water?
55. Do you have enough water?
56. Do you have a food garden at school?
57. Are there vegetables currently growing in the garden?
58. What crops are currently growing in the garden?
59. What is the garden being used for?

Additional questions for decentralised NSNP Co-ordinators
60. Who makes the final decision on the selection of supplier(s)?
61. How are the suppliers/service providers selected?
62. Has the school received training on how to select suppliers/service providers?
63. If Yes to Q 62, Who received the training?
64. If Yes to Q 62, what were the focus areas of the training?
65. Who liaises with suppliers and places NSNP orders?
66. Who takes the expenditure report to the Area/District Office?

67. Does the school have a school specific delivery schedule indicating the “fresh” and “dry” quantities that are expected to be delivered by the supplier?

68. If No to Q67, do you know what quantities to expect?

69. What are the three biggest challenges you face with the NSNP?	
69.1 Teachers lose teaching time	
69.2 Too much administration	
69.3 Funds are deposited late	
69.4 Amount spent per learner is too little	
69.5 No kitchen – cooks outside, prepares outside	
69.6 Kitchen area is inadequate – lack of preparation area, lack of cooking area	
69.7 Lack of utensils for food handlers – pots, spoons, knives etc.	
69.8 Lack of food storage facilities, lack of fridges	
69.9 School has to absorb the bank charges	
69.10 Learner numbers have increased	
69.11 Food handlers don’t cook the correct amount of food	
69.12 Break time has to be moved because food is not ready	
69.13 Other (<i>specify</i>)	
69.14 Other (<i>specify</i>)	
69.15 Other (<i>specify</i>)	
69.16 No challenges or problems	

Food Handler's Interview

1. Province
2. District
3. School Name
4. National EMIS no
5. Name of VFH being interviewed
6. Name of other VFHs
7. Researcher
8. Date of visit
9. How many food handlers are there at the school?
10. Are any of the food handlers absent today?
11. How long have you been working at this school as a food handler?
12. Have you attended training on food handling?
13. If Yes to Q12, who conducted the training?
14. If Yes to Q12, what kind of training did you receive?
- 14.1 If other specify _____

15. Are deliveries made on time?							
	Never	Less than half the time	About half the time	More than half the time	Always	Don't Know	NA
15.1 Dry							
15.2 Vegetables/Fruit							
15.3 Milk (<i>if applicable</i>)							
15.4 Meat (<i>if applicable</i>)							

16. Please rate the delivery system					
	Poor	Good	Excellent	Don't Know	NA
16.1 Dry food					

16.2 Vegetables					
16.3 Fruit					
16.4 Milk/Sour Milk					
16.5 Meat					

17. Do you have problems of stock disappearing?

18. How many learners do you cook for on a daily basis?

19. Do you always follow the menu?

20. If you do not always follow the menu – what are the reasons?

21. Do you feed learners at the specified time?

22. How do learners get their meals served?					
	Food gets taken to classrooms and dished up there		Meals are dished up at a central point(s) and learners queue		NA
	FP	IP	FP	IP	
22.1 Breakfast					
22.2 Main Meal					

23. Do learners wash their hands before and after eating?

24. Do the learners use soap to wash their hands?

25. Were there any days that no feeding took place this year?

26. If Yes to Q 25, how many days were lost?

27. If there were days where no feeding took place, what was the reason? <i>(Do not read out the reasons. Tick all relevant boxes. If No to Q 25, then tick the NA box)</i>	
Funding was not received on time	
Tender process not completed yet (centralised provinces)	
Late delivery by supplier	
No gas/wood or electricity	
No water	
Food Handlers were absent	
Teacher/learner/community disruptions	
Weather	
Don't know	
NA – Not applicable	

28. What do you do with leftover cooked food?

28.1 If other, specify: _____

29. Do other people also eat the meal you cook for the learners?

30. If Yes to Q 29, which meals do they eat?

31. If Yes to Q 40, who else eats the meal?

32. Does your stipend get paid on time?

33. If No, to Q32, what is the reason usually for the stipend being paid late?

34. What is the amount of your monthly stipend?

35. How many of the following food preparation utensils do you have?	
35.1 Pots	
35.2 Spoons	
35.3 Serving spoons	
35.4 Knives	
35.5 Chopping Boards	
35.6 Can openers	
35.7 Other, specify	
35.8 Other, specify	
35.9 Other, specify	

36. What are the three biggest challenges you face with the NSNP?	
36.1 Teachers lose teaching time	
36.2 Too much administration	
36.3 Funds are deposited late	
36.4 Amount spent per learner is too little	
36.5 No kitchen – cooks outside, prepares outside	
36.6 Kitchen area is inadequate – lack of preparation area, lack of cooking area	
36.7 Lack of utensils for food handlers – pots, spoons, knives etc.	
36.8 Lack of food storage facilities, lack of fridges	
36.9 School has to absorb the bank charges	
36.10 Learner numbers have increased	
36.11 Food handlers don't cook the correct amount of food	
36.12 Break time has to be moved because food is not ready	
36.13 Other (<i>specify</i>)	
36.14 Other (<i>specify</i>)	
36.15 Other (<i>specify</i>)	
36.16 There are no challenges or problems	

37. Do you use vegetables from the food garden when cooking for the school?

Evidence Based School Observation

1. Province
2. District
3. School name
4. National EMIS no
5. Researcher
6. Date of visit
8. Location of school

Cleanliness (facilities, utensils, food handlers, toilets)

9. Rate the NSNP preparation facilities			
Very Poor – outside in the open	Poor – roof only	Good - indoors but lack of space to work	Excellent – indoors, enough space for food handlers to work

	Very unclean	Mostly unclean	Mostly clean	Very clean
10. Is the NSNP food preparation area clean?				
11. Is the cooking equipment used in the preparation area clean?				
12. Are the serving utensils clean?				
13. Are the food handler/s clean?				
14. Is the storage area clean?				

15. Are the food handlers appropriately dressed?

16. Is the storage area lockable?

17. Are the learner toilets:			
Very unclean	Mostly unclean	Mostly clean	Very clean

18. How is the food being cooked?		
Wood	Gas	Electricity

19. Apart from what is being used today, is there any other method/facility available at the school for cooking?

20. If Yes to Q19, what else is available?

Effective Food Handlers

21. Is the food handler duty list on the wall in the kitchen?

22. Is the food handler attendance register for the current month up to date?

23. Are the vegetables being overcooked on the day of the visit?

Menus

24. Is there a copy of the menu on the wall or the preparation area or available on site?

25. For which year does the menu apply to?

26. Does the menu indicate the quantities that the school should prepare in total for all learners for each day of the week?

27. Is the school feeding the right menu option for the day of the week?

28. Is there proof that the food handlers signed for their payment last month?

Safety

29. Is a fire extinguisher available in the kitchen or preparation area? 30. If Yes to Q29, has it been serviced in the last 12 months?

31. Is the gas canister(s) outside?

32. If Yes to Q 31, is the gas canister(s) in a locked in a cage?

33. Is the dry food stored off the floor?

34. Are the fruit and vegetables stored off the floor?

35. Is there food that has exceeded the expiry date?

36. Is there food that has no expiry date?

37. What is the quality of the soya product? Does not meet requirements?

38. If applicable, is the milk UHT?

Timetable synched

39. Does break time per the school timetable allow for feeding to be completed before 10:00 am?

40. Look at the school timetable and note the start and end of break time

41. What is the start time of the meal being served and end time of the last learner being served?

41.3 What is the time that the last learner finishes eating?

Effective feeding practices

42. How do learners get their meals served?					
	Food gets taken to classrooms and dished up there		Meals are dished up at a central point(s) and learners queue		NA
	FP	IP	FP	IF	
42.1 Breakfast					
42.2 Main Meal					

43. Do teachers supervise the dishing up of food?

Who does the following?	Learners from school	Teachers	Food Handlers
44. Cooking			
45. Dishes up the food			
46. Washes the pots			

47. Are learners supervised by a teacher if they eat in their classroom?

48. In Grade 7, do the boys get more food than the girls?

49. Does each child have a plate from which to eat?

50. If No, to Q 49, what are they using to eat?

51. Does each child have a spoon to eat with?

52. If No to Q 51, what are they using to eat?

53. Are learners washing their hands?				
53.1. Before eating	None	Less than half	More than half	All
53.2 After eating	None	Less than half	More than half	All
53.3. Do they use soap to wash their hands	None	Less than half	More than half	All

54. Who washes the dishes?			
Each child washes their own	Food Handlers	Girls	Boys

Record keeping & other management practices

55. How many days has feeding taken place since the start of the year					
	January	February	March	April	May
55.1 Daily School Feeding Summary					
55.2 Daily Food Handler's Attendance Register					

56. Are there any NSNP posters in the classrooms?

57. What has been covered in LO concerning nutrition?

Additional questions for decentralised schools
58. Are there orders on file for NSNP purchases
59. Is there evidence that the school checked the quantities delivered to the order?
60. Was the delivery note signed even though there were shortages?
63. Does the school have an expenditure report for the previous month?

61. Complete the following table			
	Name of Supplier	Address	Phone Number
61.1 Dry			
61.2 Vegetables			
61.3 Fruit			
61.4 Milk			
61.5 Meat			

62. What type of business are they?					
Large Retailer, Wholesaler, Chain	Registered small business (Company, Close Corporation)	Unregistered business	Co-op	Other	Don't Know

64. What is the amount paid for the Food Handler's stipend?

Additional questions for centralised schools
65. Has the school kept copies of the delivery notes for this term?
66. Is there evidence that the school checked the quantities delivered to the order?
67. Was the delivery note signed even though there were shortages?

Vegetable Garden

70. Is there a food garden in the school which is used for the NSNP?

71. What is the condition of the garden?

72. Is the garden fenced?

73. Is the fence broken?

74. Are there vegetables currently growing in the garden?

75. What vegetables are currently growing in the garden?

Key Performance Indicators (KPI)**KPI – Main Meal: Eastern Cape**

1. Time by which feeding of main meal is completed (only one box to be completed)

By 10:00 am	10:00 11:00am	After 11am or no main meal served

2. What is the school cooking for the main today?

	Food Group	Products	Quantity Description (e.g. 2 x 10kg bags)	Quantity Prepared (in kg/litres of milk/loaves/each)
2.1	Starch			
2.2	Protein			
2.3	Vegetables/fruit			

Number of food groups prepared and served today (from Q 2)

1 Food Group	2 Food Groups	3 Food Groups

Primary School

	A	B	C	D
Food Group	Required amounts (in kg/litres/each)	Product	Quantity prepared (in kg/litres/each)	Number of learners
	<i>from menu</i>	<i>From 2 on pg. 1</i>	<i>From 2 on pg. 1</i>	<i>From Principal or NSNP co-ordinator interview</i>
Starch	0.03 rice			
	0.04 samp			
	0.03 sweet potato			

	0.03 maize meal			
	0.1 loaves for bread (2 slices)			
Protein	0.03 soya			
	0.03 pilchards			
	0.04 sugar beans			
	0.03 chicken/chicken livers			
	0.20 litres of milk			
Vegetable	0.06			
Fruit	1			

KPI Breakfast on Menu (Gauteng)

1. Was breakfast served today?	YES	NO
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2. Time by which feeding of main meal is completed (only one box to be completed)

2.1 Breakfast NOT served today (Q 1 was No)		
By 10:00 am	10:00 11:00am	After 11am or no main meal served

2.2 Breakfast served today (Q 1 was Yes)			
By 11:30am	11:31 – 12:00pm	12.01 – 12:30pm	> 12:30pm

3. What is the school cooking for the main today?				
	Food Group	Products	Quantity Description (e.g. 2 x 10kg bags)	Quantity Prepared (in kg/litres of milk/loaves/each)
3.1	Starch			
3.2	Protein			

3.3	Vegetables/fruit			
Number of food groups prepared and served today (from Q 3)				
1 Food Group		2 Food Groups		3 Food Groups

Primary School: Gauteng

	A	B	C	D
Food Group	Required amounts (in kg/litres/each)	Product	Quantity prepared (in kg/litres/each)	Number of learners
	<i>from menu</i>	<i>From 3 on pg. 1</i>	<i>From 3 on pg. 1</i>	<i>From Principal/NSNP co-ordinator interview</i>
Starch	0.06 rice			
	0.06 maize meal			
	0.06 maize rice			
	0.06 samp			
Protein	0.04 soya			
	0.04 pilchards			
	0.04 sugar beans			
	0.2 milk			
Vegetable	0.06 all vegetables excluding onions			
Fruit	1			

Learner Survey

1. School Name

2. National EMIS No

3. Gender

4. Did you have something to eat at home last night?

5. Did you have breakfast at home this morning?

6. If No, why did you not eat breakfast?

There was no food at home	I get breakfast at school	I was not hungry	There was no-one to cook at home	NA
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7. If your school provides breakfast, did you eat the breakfast today?

8. Did you eat the main meal provided by the school today?

9. If No, to Q 8, why did you not eat the meal provided by the school?

I do not like the food	I bring my own lunch box	Other	NA
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10. How often do you eat the meal that the school provides? (*Tick only one box*)

always	sometimes	never
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11. Does your school have a Tuck shop?

12. Do you buy food from the Tuck shop?

13. What do you buy?

14. Do you buy from the food vendors that sell at break time?

15. What do you buy?

16. Why do you eat at school?

I am hungry	There is no food at home	I like the food
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17. How many days of the week does the school give you a meal?

18. Were you still feeling hungry after you finished eating today?

19. Did you enjoy today's meal?

20. What do you enjoy about the meals that the school provides?					
Tastes good	Plenty of food on my plate	It fills me up	I get to eat every day	Plenty of different food	Other

21. What do you not enjoy about the meals at school? (<i>Tick the relevant boxes</i>)			
Did not taste good	Too little food	The same food is served all the time	Other

22. Where do you eat?			
	Food gets taken to classrooms and dished up there	Meals are dished up at a central point(s) and learners queue	NA
22.1 Breakfast			
22.2 Lunch			

23. Who normally dishes up the food? (<i>Tick the relevant boxes</i>)		
Food Handlers	Teachers	Other learners

24. Do all the learners get the same amount of food?

25. Does your teacher supervise you while you eat?

26. Do you use a spoon to eat your food?

27. Do some learners help with cooking sometimes?

28. What are your favourite foods provided by the school?	
Soya Mince	
Sugar Beans	
Pilchards	
Sour Milk	
Milk	
Samp	
Rice	
Maize meal	
Macaroni	
Brown Bread	
Chicken/meat	
Cabbage	
Carrots	
Spinach	
Pumpkin/Butternut	

Apples	
Pears	
Oranges	
Bananas	

29. Do you learn about healthy and unhealthy foods in Life Orientation?

30. Tick all the boxes below that you think are healthy foods?						
1. fruit	2. sweets	3. meat	4. chips	5. magwinya	6. fish	7. rice
8. brown bread	9. cool drinks	10. maize meal	11. cake	12. kota	13. Vegetable	14. atchar

31. Is there a vegetable garden at your school?

32. Do you help in the vegetable garden?

33. If yes to 32. Why do you work in the garden?			
As part of a lesson	As punishment	Other	NA

Appendix D: Evaluation Questions Index

The table below unpacks each key evaluation question into a number of sub-questions and outlines where in the evaluation report each sub-question is addressed.

Table 46: Key evaluation questions, sub-evaluation questions and where each is addressed in the report

Evaluation Question	Evaluation Sub-Question	Where the question is addressed in the report
1. Is the programme being implemented as planned?	<i>a) Does the programme make sense given the context, national priorities, policy, and institutional environment?</i>	1.1.2 (policy context), Chapter 3 (literature review) and 4.1.1 (rationale for the programme)
	<i>b) How is the programme intended to work, and what is the underlying Theory of Change (ToC)?</i>	Chapter 2 – Theory of Change.
	<i>c) Do key stakeholders understand their implementation obligations?</i>	4.3.1 – fulfillment of roles and responsibilities and capacity
	<i>d) Are key stakeholders fulfilling their implementation obligations?</i>	4.3.1 – fulfillment of roles and responsibilities and capacity
	<i>e) What are the core business processes of the NSNP?</i>	4.3.2 – business processes
	<i>f) What are the key mechanisms, processes, and procedures for NSNP management, coordination, and administration?</i>	4.3.1 Roles and responsibilities and business processes
2. Are operational procedures effective to ensure the timely delivery of food?	<i>a) What operational procedures are followed for the distribution of funding (centralized vs decentralized)? In which provinces are the different models operational?</i>	Chapter 2 – Theory of Change, 4.3.2 – business processes and 4.3.3.1 – Funding disbursement
	<i>b) Are the funding mechanisms (centralized vs decentralized) effective?</i>	4.3.3.1 – Funding disbursement
	<i>c) What operational procedures are followed for procurement (centralized vs decentralized)?</i>	Chapter 2 – Theory of Change and 4.3.3.2 - Procurement
	<i>d) Are the procurement procedures effective (centralized vs decentralized)?</i>	4.3.3.2 - Procurement
	<i>e) Have school stakeholders received appropriate training on procurement (decentralized model)?</i>	4.2.1 – fulfillment of roles and responsibilities and 4.3.3.2 - Procurement
	<i>f) Is procurement in line with the NSNP guidelines in each province?</i>	4.3.3.2 - Procurement
	<i>g) What operational procedures are followed for the delivery of food (centralized vs decentralized)?</i>	Chapter 2 – Theory of Change and 4.2.2 – implementation variations
	<i>h) Are the delivery procedures (centralized vs decentralized) effective?</i>	4.3.3.3 – Ordering, deliver and payment
	<i>i) What systems and processes are in place to monitor the timely delivery of food?</i>	4.3.3.3 – Ordering, deliver and payment
	<i>j) What systems are in place to respond to operational challenges identified through monitoring?</i>	4.3.3.3 – Ordering, deliver and payment, 4.3.3.5 – monitoring and reporting
	<i>k) Are the monitoring systems and processes adequate, and how could they be strengthened?</i>	4.3.3.3 – Ordering, deliver and payment, 4.3.3.5 – monitoring and reporting
	<i>l) How can the operational procedures be improved?</i>	5 – Conclusion and recommendations

Evaluation Question	Evaluation Sub-Question	Where the question is addressed in the report
3. Are learners receiving quality meals and services?	a) Do learners receive meals at the specified time (before 10h00 at least 80% of the time)	4.2.2 – <i>Feeding times and days</i>
	b) Do learners receive meals on all agreed school days (as specified in the NSNP guidelines and provincial business plans)?	4.2.2 – <i>Feeding times and days</i>
	c) Do the meals which are served meet 25% of the Recommended Daily Allowance (RDA) of energy requirements for learners?	4.2.1 – <i>quality and quantity of food</i>
	d) Do the meals which are served meet appropriate nutrition standards (i.e. includes starch, protein and fruit/vegetable)?	4.2.1 – <i>quality and quantity of food</i>
	e) Are nutritional supplements provided by the Department of Health?	<i>Replaced with questions on integrated school health programme and deworming – 4.2.7</i>
	f) Are the necessary infrastructure, apparatus, and utensils available for storing food, preparing, and serving meals?	4.2.3 – <i>Food storage and preparation</i>
	g) Have food handlers been appropriately trained?	4.3.1 – <i>fulfillment of roles and responsibilities and capacity</i>
	h) Are meals prepared in accordance with Department of Health guidelines for food preparation?	4.2.3 – <i>Food storage and preparation</i>
	i) Do schools have relevant Learner and Teacher Support Materials (LTSM) to incorporate Nutrition Education into Life Orientation?	4.2.5 – <i>nutrition education and LTSM</i>
	j) Are the LTSM being used appropriately?	4.2.5 – <i>nutrition education and LTSM</i>
	k) Is Nutrition Education taught (as part of Life Orientation)?	4.2.5 – <i>nutrition education and LTSM</i>
	l) Do schools have food gardens?	4.2.6 – <i>food production</i>
	m) Does produce from food gardens complement school feeding programmes?	4.2.6 – <i>food production</i>
	n) Are food gardens linked to nutrition education taught as part of Life Orientation?	4.2.6 – <i>food production</i>
	o) What do learners think of the meals and services they receive?	4.2.1 – <i>quality and quantity of food</i>
	p) <i>What quality assurance systems and processes are in place to monitor meals and services?</i>	4.2.4 - <i>serving</i>
q) <i>Are the quality assurance systems and processes adequate, and how could they be strengthened?</i>	4.2.4 – <i>serving</i> , 4.3.3.5 – <i>monitoring and reporting</i>	
4. What are the variations in implementation at different sites or by different provinces?	a) <i>How do the core business processes and implementation thereof vary by province and other factors?</i>	4.3.2– <i>core business process</i> , 4.3.3 – <i>efficiency</i> and 4.3.4 <i>implementation index and variations</i>
	b) <i>What are the strengths and weaknesses of the centralized and decentralized delivery models?</i>	4.3.4 – <i>implementation index and variations</i>
	c) <i>Where is implementation working best, and what can be learnt from this?</i>	4.3.3 – <i>efficiency</i> , 4.3.4 – <i>implementation index and variations</i>
	d) <i>Where is implementation not working well, what are the reasons why, and what can be</i>	4.3.3 – <i>efficiency</i> , 4.3.4 – <i>implementation index and variations</i>

Evaluation Question	Evaluation Sub-Question	Where the question is addressed in the report
	<i>learnt from this?</i>	
5. Is the programme reaching the intended beneficiaries?	a) Who are the intended beneficiaries of the NSNP?	4.1.2 - targeting
	b) Is the programme targeted appropriately (i.e. given the context, national priorities, policy, and institutional environment)?	4.1.2 - targeting
	c) How are the funding parameters (cost per learner per meal) determined and how often are they updated?	4.5.1 - Funding parameters
	d) Is the NSNP funding adequate and is it allocated adequately to the different components?	4.5.1- Funding parameters
	e) What provincial and other inequalities exist in terms of programme delivery?	4.3.3 Implementation variations
	f) Do all learners at NSNP schools receive meals?	4.1.3 – proportion of learner who eat NSNP meals
	g) Are there unintended beneficiaries who also receive meals?	4.1.4 - unintended beneficiaries
	h) Are there gender and other biases in terms of programme delivery at school-level?	4.2.4 – serving
6. Is there evidence that the NSNP enhances learning behaviour (likely impact of the programme)?	a) Are the links between inputs, activities, outputs, and outcomes outlined in the ToC logical and the assumptions plausible?	Chapter 2 – Theory of Change and 4.5.3 – likely impact
	b) Is there convincing evidence internationally that school feeding enhances learning behaviour?	Chapter 3 - Literature review
	c) Does the NSNP affect the time available for teaching and learning?	4.3.3.6 – Teaching and learning
	d) Do teachers take the NSNP into account when planning their school day (i.e. more difficult/taxing work is taught after the daily feeding)?	<i>V little data collected, just some from high level ToC interviews.</i>
	e) Do learners eat at home before they come to school?	4.1.1– rationale for the programme
	f) Is the NSNP reported to be a motivation to attend school?	4.5.3 – likely impact
	g) Is there evidence that the provision of food through the NSNP affects school attendance?	4.5.3 – likely impact
7. Should the NSNP be upscaled? How can it be strengthened and upscaled for better impact?	a) Are the targeted 75% of South African learners receiving school meals (Action Plan 2014)?	1.1.6 – Inputs, activities, outputs and coverage, and 4.5.4 upscaling.
	b) Is the programme efficient?	4.3.3 – Operational Efficiency
	c) How could reach and coverage be strengthened within the current NSNP framework?	4.5.4 upscaling
	d) What lessons can be drawn upon from other programmes relating to upscaling?	Chapter 3 -literature review –very few examples were found in the literature relating to upscaling of nutrition programmes but the subsection on targeting (3.6.2) is relevant; 4.5.4 upscaling
	e) Do key stakeholders believe that the NSNP	4.1.2 – programme targeting

Evaluation Question	Evaluation Sub-Question	Where the question is addressed in the report
	should be upscaled?	
	f) Is there demand for feeding outside of school days/terms?	<i>4.1.2 – programme targeting</i>
	g) Is funding available to upscale the NSNP?	<i>4.5 Funding parameters</i>
	h) What are the key elements of the proposed upscaling?	<i>4.5.4 upscaling and 5 - Recommendations</i>
	i) What are the pros and cons of upscaling?	<i>4.5.4 upscaling</i>
	j) What institutional, process, and procedural arrangements are recommended if the programme is upscaled?	<i>4.5.4 upscaling and 5 - Recommendations</i>
8. Are there other spinoffs of the NSNP?	a) What other non-education and health related outcomes are outlined in the ToC?	<i>Chapter 2 – Theory of Change.</i>
	b) What non-education related benefits – if any – are reported by school stakeholders?	4.4 Additionality
	c) What positive benefits – if any – are reported by food handlers?	4.4.1 - VFHs
	d) What positive benefits – if any – are reported by suppliers?	4.4.2 – service providers