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Report on the Implementation Evaluation of the National School Nutrition Programme

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Acronyms and abbreviations

Acronym	Description
DAC	Development Assistance Committee
DBE	Department of Basic Education
DoE	Department of Education
DoH	Department of Health
DoRA	Division of Revenue Act
DPME	Department of Planning, Monitoring and Evaluation
EC	Eastern Cape
EPWP	Expanded Public Works Programme
FS	Free State
GP	Gauteng Province
GT	Gauteng Province
KPI	Key Performance Indicator
KZN	KwaZulu-Natal
LED	Local Economic Development
LP	Limpopo
LTSM	Learning and Teaching Support Materials
MP	Mpumalanga Province
MTEF	Medium-term Expenditure Framework
NC	Northern Cape
NEP	National Evaluation Plan
NNW	National Nutrition Week
NSNP	National Schools Nutrition Programme
NW	North West
OECD	Organisation for Economic Co-operation and Development
PED	Provincial Education Department
PFMA	Public Finance Management Act
PPPFA	Preferential Procurement Policy Framework Act
PSC	Public Services Commission
PSNP	Primary School Nutrition Programme
SASA	South African Schools Act
SA-SAMS	South African School Administration and Management System
SGB	School Governing Body
SMMEs	Small, Medium and Micro-sized Enterprises
ToC	Theory of Change
ToR	Terms of Reference
TVP	Textured Vegetable Protein
UHT	Ultra-heat Treated
VFH	Volunteer Food Handler
WC	Western Cape

POLICY SUMMARY

The National School Nutrition Programme (NSNP) aims to improve the health and nutritional status of the poorest learners in South Africa. Its main objective is to enhance learning by providing a nutritious meal on time daily. The programme is of great strategic importance: it involves a large financial commitment from government (R5.3 billion), and reaches over 9 million learners. Given this, an implementation evaluation was commissioned by the Department of Planning, Monitoring and Evaluation, in collaboration with the Department of Basic Education (DBE) and was conducted by JET Education Services. The evaluation assessed whether the NSNP is being implemented in a way that is *likely* to result in significant health and educational benefits.

Key **policy implications** are the following:

Most if not all countries across the world have a school nutrition programme (WFP, 2013). The **relevance** of the NSNP is unquestionable; given the high levels of child poverty and hunger in South Africa, there is need for a national school nutrition programme. Government should commit to providing **core funding** for the NSNP over the long term. Schools are an effective channel through which to supply children with nutritious meals, but pre-school years are the most critical and there is great need for a nutrition programme linked to Early Childhood Development centres.

Learners are, for the most part, **receiving meals daily**, but there is **room for improvement regarding the composition of meals** (starch, protein, and fruit or vegetables in the right portion size) and the timing. Half (50.2%) the schools served all three food groups: the food group most often missed was fruit/vegetables. There is also a tendency to prepare more starch and less protein and vegetables than is required. Soya is the least popular form of protein: on the days when soya is served, fewer learners eat the NSNP meals and there is wastage. It is recommended that more popular alternatives be introduced and learner representatives involved in designing the menus.

School meals should be **served as close as possible to the start of the school day** if they are to relieve short-term hunger and boost concentration. The evaluation found that only 18.1% of schools managed to serve the main NSNP meal by 10:00 am. The DBE should introduce a policy that schools start feeding by 09:00 am under teacher supervision.Where it is not possible to serve the main meal early, children should be provided with a snack at the start of the school day.

Infrastructure challenges (inadequate space for food storage and preparation and poor access to water) were found in some schools (particularly in KwaZulu-Natal and Limpopo), impacting on the safe and efficient preparation of meals. An audit should be conducted of NSNP infrastructure and equipment needs in schools and national and provincial action plans developed to meet them.

The NSNP is implemented via **two different models**, decentralised and centralised, in different provinces, but there is considerable variation in how provinces using the same model implement it. Evidence suggests that **no one model is best**. Performance in implementation varies more between provinces using the same model than between models, indicating that province-specific factors account for the greatest part of performance differences.

Blockages can occur in the **business processes**, leading to meals not being served every day in some schools. These tend to be province specific and should be addressed via the development and implementation of **national guidelines and standards**. Key blockages include: disbursement of funding from provinces to schools (KwaZulu-Natal, Limpopo and Mpumalanga); procurement of service providers (KwaZulu-Natal); late delivery (particularly in provinces using the centralised model); and payment of service providers invoices (KwaZulu-Natal and Gauteng). **Local sourcing of vegetables** has the potential to address schools concerns regarding the vegetable deliveries

(timeous, sufficient, good quality) and stimulate local agricultural development. A pilot involving partners including the Department of Agriculture is recommended.

International literature demonstrates that, if a school nutrition programme is well implemented, positive **impact is likely** in terms of enrolment, attendance and retention in the education system, relief of short-term hunger and enhanced concentration in class. Benefits in terms of educational performance are only likely to occur in schools with high quality teaching and learning. This highlights a concern that school nutrition programmes can eat into teaching and learning time. The administrative burden of the NSNP could be mitigated for schools by creating the position of "Senior Volunteer Food Handler" and engaging a community member to provide support.

Some **cost savings** could arise from introducing individual targeting in some schools (specifically in Gauteng and the Western Cape) where a proportion of learners are opting out of the NSNP.

Possible models for **upscaling** should be investigated via a series of pilots, with rigorous monitoring and evaluation, including impact and cost effectiveness analysis. These include: providing breakfast or a snack at the start of the school day; providing meals to selected learners in need in quintile 4 and 5 schools; and increasing the amount of energy provided to be more in line with the benchmark of 30-45% of the recommended daily allowance. Some provinces are already piloting these *additions* to the NSNP, but they are not being systematically assessed in this way. If substantial benefits are demonstrated, over and above those of the NSNP in its current form, then roll-out should be considered at scale.

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 sample[2] of 267 primary and special schools[3];
- 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 (see key findings from the literature review on p. 6 - 7 of the summary report and the full literature review from p.32 - 54 of the main report.

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 Department of Basic Education (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 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.

[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.

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 approved[4] 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.

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

	Starch					Vegetables/fruit				
Province	**<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 day[5]. Only in Limpopo did the majority of schools complete feeding by 10:00 am as recommended.

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**	**Med-ian**	**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

[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.

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 processes[6] more efficiently; 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,

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

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 Small, Medium and Micro-sized Enterprises (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.

SUMMARY REPORT

1. Introduction and Background

1.1. Background to the NSNP

The Primary School Nutrition Programme (PSNP) was established in 1994 by the new democratic government. In its first 10 years of implementation, the PSNP was managed by the Department of Health (DoH). In 2004, the programme was transferred to the Department of Education (DoE), and the name changed to the National School Nutrition Programme (NSNP). It was felt that the DoE would be a more appropriate department to manage the programme, given that its beneficiaries were school children. With the move, the emphasis shifted to improving education outcomes, as well as educating learners on nutrition (PSC, 2008, p. 5). The NSNP was introduced into secondary schools incrementally, beginning in 2009, and now reaches all quintile 1-3 public primary, secondary, and special schools. An average of 9,131,836 learners, attending 19,383 schools, were provided with a meal on an average of 194 school days in 2013/2014 (DBE, 2015).

The NSNP is of great strategic importance and involves a large financial commitment from government (DBE and the DPME, 2014, p. 3) of R5.2 billion in 2013/2014 (DBE, 2015). The programme is aligned to the first of Cabinet's 14 outcomes: Improved quality of basic education, to the Department of Basic Education (DBE) Action Plan to 2019: Towards the Realisation of Schooling 2030 (specifically goal 25, Learner well-being), and to the National Development Plan (NDP) 2030: Our Future - make it work. Implementation of the NSNP requires compliance with the following legislation:

1. The Constitution of the Republic of South Africa, which states that when government contracts for goods and services they must do so in a manner that is "fair, equitable, transparent, competitive and cost-effective" (DBE, undated, p. 6);
2. The Preferential Procurement Policy Framework Act (PPPFA), which provides a framework for preferential procurement towards historically disadvantaged individuals;
3. The South African Schools Act (SASA), which outlines section 21 functions that may be allocated to schools in order that they may control their own finances;
4. The Public Finance Management Act (PFMA), which promotes sound financial management practices;
5. The Division of Revenue Act (DoRA), published annually, which defines responsibilities of national and provincial departments regarding conditional grants;
6. The Conditional Grant Framework, which outlines minimum requirements of NSNP implementation, and which includes dates for funding disbursements, meal cost per learner per day, menu requirements, responsibilities of the DBE and Provincial Education Departments (PEDs), and reporting requirements.

Provinces also top up the Conditional Grant funding from other sources such as the equitable share, donations and support in kind from donors and other partners.

The **objectives** of the programme are summarised below (DBE and DPME, 2014):

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 first objective is the **primary objective** of the NSNP and accounts for 96% of NSNP funding (National Treasury, 2015). The subsequent objectives are **secondary** or **supporting objectives.** Up until 2014/2015 objectives 2 and 3, nutrition education and food production, were jointly allocated a minimum of 0.5% of NSNP funding (National Treasury, 2014a).

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 non-governmental organisations. The programme operates at four levels: national; provincial: district; and school.

There are two implementation models: **centralised** and **decentralised**. 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. These models are differentiated by procurement of suppliers, ordering of food supplies, and payment of suppliers. In the centralised model these activities occur at provincial level, and in the decentralised model they happen at school level.

1.2. Background to the evaluation

Given the strategic importance and cost of the NSNP, it is important to assess the effectiveness of the programme and to establish how to make improvements. This is an implementation evaluation of the NSNP covering the time period from inception in 1994 to the end of March 2014, with a specific focus on the 2012/13 – 2013/14 financial years. The main aim of was 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 following evaluation questions were identified (2014):

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

1.3. Evaluation approach and methodology

The Development Assistance Committee (DAC) evaluation criteria (OECD, undated) were used to guide the evaluation. These criteria, outlined below, were related to the evaluation questions. Although not one of the DAC evaluation criteria, “additionality” was also a criterion which guided the evaluation, as one of the key evaluation questions investigates spinoffs of the NSNP.

Table 1: Linking DAC criteria to evaluation questions

DAC Criterion	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: the measure of programme outputs against programme inputs, looking 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: the positive and negative changes produced by an intervention, whether these have been produced directly or indirectly.	**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 financial aspects.	**7:** Should the NSNP be up-scaled? How can it be strengthened and up-scaled for better impact?

A mixed methods evaluation design was used. The evaluation questions guided decisions regarding data sources and choice of methods to collect and analyse data. The following **methods** were used:

1. A document review covering relevant legislation, policy, implementation frameworks, guidelines and evaluation reports;
2. A literature review covering the implementation, outcomes, impact and cost of school feeding programmes;
3. The Theory of Change (ToC) of the NSNP was refined and a logframe developed, in consultation with the evaluation steering committee;
4. A total of 44 key NSNP stakeholders at national, provincial, and district level were interviewed;
5. A representative sample[7] of 270 primary and special schools[8] (30 per province) was identified for the evaluation. Fieldwork was conducted in 267 schools and surveys were conducted with stakeholders including: volunteer food handlers (VFHs), NSNP Co-ordinators, principals, school governing body (SGB) members and learners;
6. NSNP files and paperwork were reviewed, infrastructure and equipment were observed and food preparation, serving,[9] eating and other processes relating to the NSNP were observed in 267 schools;
7. Survey interviews were conducted with 26 NSNP service providers from across all provinces;
8. A cost analysis was conducted to link NSNP programme costs to specific outputs.

[7] 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.

[8] Secondary schools were excluded due to budgetary constraints.

[9] The observation instrument included a section to be completed by the fieldworker observing the preparation and serving of food. The key performance indicator (KPI) section of the instrument was developed by FUEL for NSNP monitoring. FUEL gave JET permission to use the instrument and methodology to calculate whether the correct type and amount of food was being prepared for the number of NSNP-approved learners.

Data collection instruments were refined after piloting and a meeting with the evaluation steering committee. The evaluation steering committee approved the evaluation methodology and all data collection instruments. The ToC which made explicit the intervention logic and change theory of the NSNP informed the design of data collection instruments and data analysis: key links in the ToC were investigated, particularly inputs, activities and outputs. Following an initial round of data analysis, statistical tests were conducted to check the relationships between variables. Additionally, an implementation index was created, which summarises performance in key aspects of implementation that were measured, having been identified in the literature.

1.4. Limitations of the evaluation

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. It was not possible to relate cost and output data to information regarding programme outcomes, as this information was not available. Further, the lack of availability of sufficiently disaggregated cost and expenditure data meant it was not possible to undertake an in-depth cost analysis. This study did not review the NSNP accounts at school level or at any other level.

The nutritional content of meals 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 Conditional Grant funding (quantity).

The limited number of schools surveyed (due to budgetary constraints) means that the margin of error is higher than would have been preferred, especially when disaggregating by province. The NSNP implementation index is tentative and requires further refinement and validation.

2. Theory of Change

A Theory of Change (ToC) was developed to guide the evaluation. The ToC was based on refinement of a draft ToC developed for the NSNP by the DBE, a document and literature review, and interviews with key stakeholders. A ToC was then developed by the evaluation team, workshopped with the evaluation steering committee, refined and approved for use to guide the evaluation.

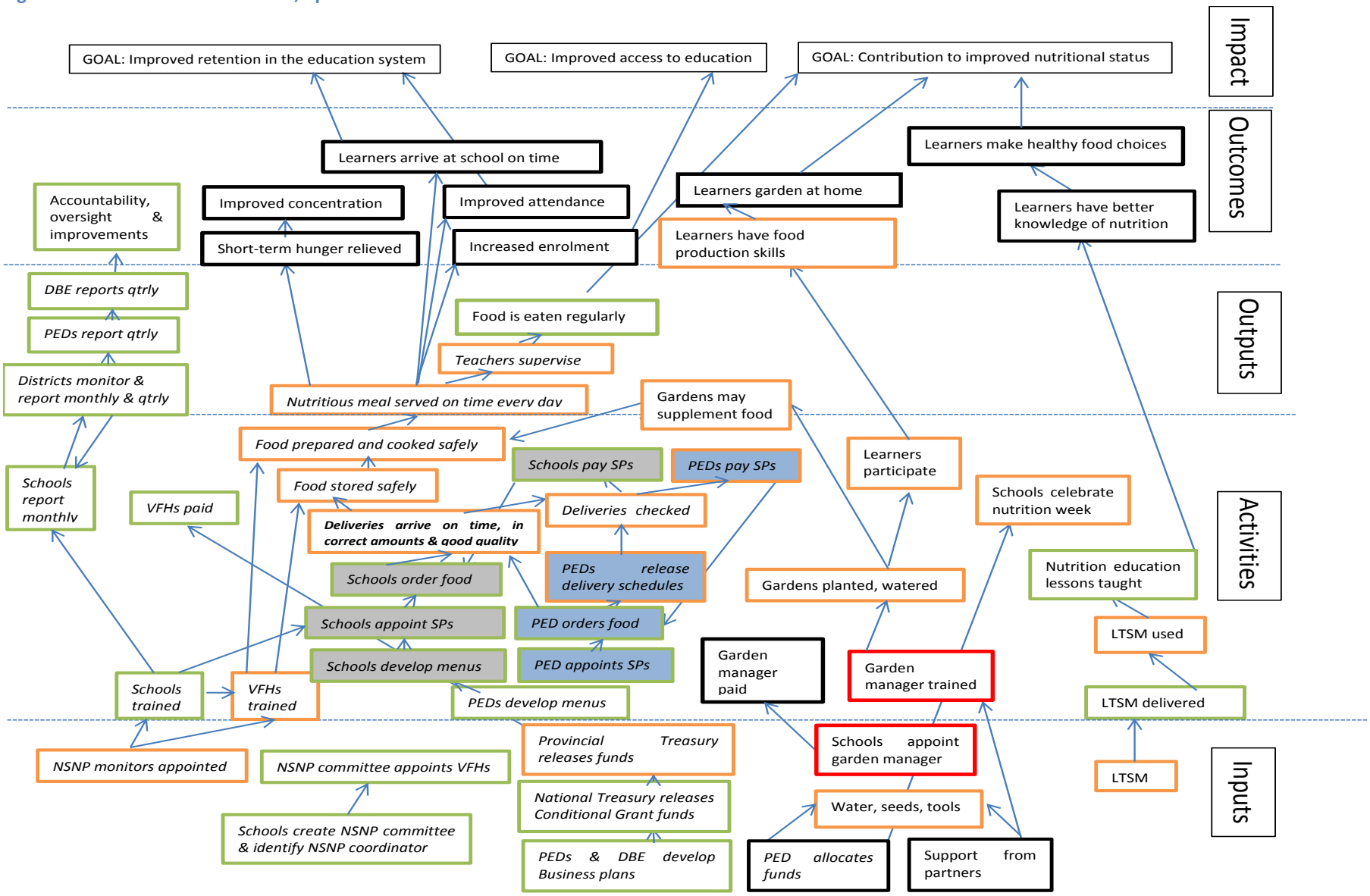
The ToC was subsequently reviewed and updated again at the end of the evaluation, in the light of additional international literature and the findings regarding whether the programme was being implemented as planned, and in a manner which was likely to lead to impact. The revised ToC (updated after the evaluation) is depicted graphically in Figure 1.

The centralised and decentralised models are included in the ToC, aspects which relate to the decentralised model are indicated in light grey blocks and aspects which relate to the centralised model are indicated in light blue blocks. White blocks are used for components which relate to both models

The ToC has 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 which the evaluation did not assess marked in black outline.

The links between outputs and short and longer term outcomes could, for the most part, not be evaluated and thus are marked in black outline. The processes described in the ToC are also outlined in a logframe, presented in an Appendix to the main report, which articulates assumptions which underpin the programme.

Figure 1: Revised ToC for the NSNP, updated at the end of the evaluation



3. Literature Review

Key lessons relating to implementation, outcomes, impact, cost and scaling up of school nutrition programmes were drawn from national and international literature. These are summarised below:

3.1. Lessons relating to implementation

The education sector is an appropriate home for school nutrition programmes (Bundy et al., 2009); however, linkages are important across sectors such as health and agriculture (Drake et al., 2016) and School nutrition programmes should be designed to complement nutrition initiatives which target younger children (Bundy et al., 2009; Graham et al., 2015).

Targeting is recommended to optimise the use of limited resources. The most common approaches are geographic and individual targeting. Geographic targeting is most commonly used but may disadvantage vulnerable children attending school in areas which are classified as more affluent (Drake et al., 2016; Bundy et al., 2009).

The amount 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 the recommended daily allowance (Bundy et al., 2009). Meals should be provided in the morning, ideally when children first arrive at school, to maximize the benefit for concentration and cognition (Adelman, et al., 2008; Kristjansson et al., 2016; McLaughlin et al., 2002; CCBR, 2008).

An array of logistics options are possible: there are benefits and possible pitfalls of both centralised and decentralised procurement which need to be managed (Drake et al, 2016). The school-level minimum infrastructure requirements for school feeding are: water, fuel, storage space, preparation space, equipment and utensils (Adelman et al., 2008; WFP, 2010). A key consideration in implementation is whether school feeding takes time away from learning (Adelman et al., 2008; Graham et al., 2015; WFP, 2010). 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 (Bundy et al., 2009; Ali and Akbar, 2015).

Sourcing food locally has the potential to stimulate local agricultural development, but there are risks relating to procurement which need to be managed (Bundy et al., 2009; Kristjansson et al., 2016; Devereux et al., 2008; Drake et al, 2016; Beesley and Ballard, 2013).

Effective accountability and quality assurance mechanisms underpin effective school nutrition programmes (Drake et al., 2016; Hellen, 2014) and technology can streamline monitoring and reporting (Graham et al., 2015).

3.2. Lessons regarding outcomes and impact

School feeding schemes often result in increased attendance and enrolment of children in schools, as feeding is a motivation to attend school (Tomlinson, 2007; Ahmed and Arends-Kuenning, 2006; Kazianga, et al., 2009; Korugyendo and Benson, 2011; Bundy, 2005; Vermeersch and Kremer, 2004; Grantham-McGregor, et al., 1998; Poswell and Leibbrandt, 2006b). This results in improved retention in the schooling system (Beesley and Ballard, 2013). Programmes that are consistently delivered alleviate short-term hunger, which may improve concentration (Grantham-McGregor, et al., 1998). There is weak evidence for a link between feeding, cognitive ability, test scores and educational outcomes (McEwan, 2010; Poswell and Leibbrandt, 2006b; Greenhalgh, et al., 2007). Educational outcomes are only improved in well organised schools characterised by good quality instruction (Kristjansson et al., 2016; Adelman et al., 2008; WFP, 2010; Vermeersch and Kremer, 2004; Grantham-McGregor, et al., 1998).

There is inconclusive evidence for long-term health benefits of school feeding and there are many other determinants of health (HST, 1997; Tomlinson, 2007; Grantham-McGregor, et al., 1998; Kazianga, et al., 2009). Irrevocable damage from malnutrition may be present when children start school (Beesley and Ballard, 2013; Poswell and Leibbrandt, 2006b; Tomlinson, 2007; Korugyendo and Benson, 2011.) Deworming and fortified foods can have positive health and nutritional benefits, as both assist in the prevention of micro-nutrient depletion (Tomlinson, 2007; van Stuijvenberg, 2005).

3.3. Lessons regarding cost and scaling up

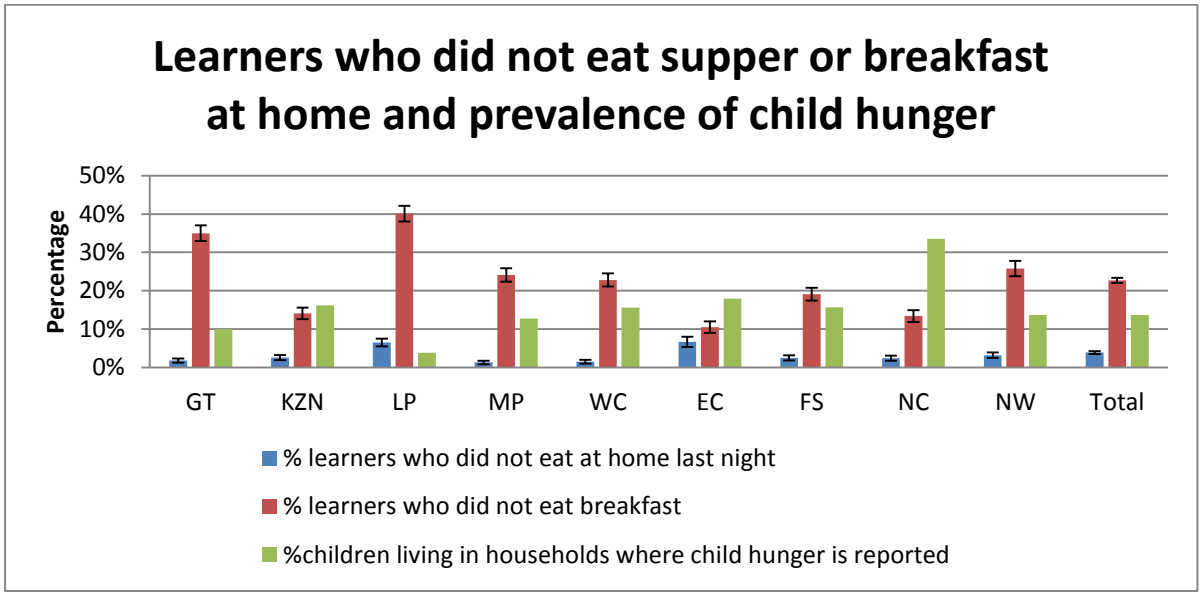
The cost of school meals varies widely depending on what food is provided and how. South Africa is at the lower end of the spectrum, with meals costing less than in a number of other African countries (Allyar et al., 2015). Every country in the world has a school nutrition programme of some sort (WFP, 2013). Developing countries typically transition from external funding to an internally funded programme. Identifying long-term funding is a pre-condition for sustainability (Bundy et al., 2009). Finally, nutrition programmes should be reviewed regularly, in line with national priorities and available resources (Drake et al., 2016).

4. Evaluation Findings

4.1 Programme relevance and design

The rationale underlying the NSNP is well-founded: there is great need for such a programme in all South African provinces due to the widespread prevalence of hunger and, in particular, child hunger. The Figure below juxtaposes 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 highest proportion of learners who did not eat at home the previous night is in the Eastern Cape and Limpopo, mirroring secondary data on the prevalence of hunger (not reported here, Shisana et al., 2014). However, the distribution of learners who did not eat breakfast at home is highest for Limpopo, Gauteng, Mpumalanga, North West and the Western Cape. A substantial proportion of learners in every province did not eat breakfast, demonstrating the need for the NSNP.

Figure 2: Learners who did not eat supper the previous night or breakfast in the morning at home and the prevalence of child hunger. Source: Learner survey and Hall et al., 2013.



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 receiving the NSNP, the programme avoids stigmatising learners from poor households who are in most need of food. Additionally, some provinces (Gauteng, KwaZulu-Natal and the Northern and Western Cape) provide NSNP meals to selected learners attending quintile 4 and 5 schools, the rationale being that some children attending these schools are in need of food. These strategies are appropriate, but there are likely to be children in need of NSNP meals in the other provinces which do not make provision for feeding in quintile 4 and 5 schools.

The majority of learners (72.7%) ate the NSNP meal on the day of fieldwork and 47.4% said they "always" eat the NSNP meal. A similar proportion (47.6%) said they "sometimes" eat the NSNP meal and just 4.1% "never" eat it. Thus, a high proportion of learners eat the NSNP meals regularly. However, there is considerable inter-provincial variation. In the Eastern Cape and Limpopo the proportion of learners eating NSNP meals regularly is considerably higher, and in Gauteng and the Western Cape, in certain schools, a proportion of learners are not participating in the NSNP.

The Western Cape and Gauteng make provision for breakfast as well as lunch. Additionally, some schools in the other provinces serve breakfast with support from corporate donors, utilising funds raised locally, or with school funds. Uptake of breakfast in the Western Cape and Gauteng was close to 40%, indicating a need. However, provinces with the greatest prevalence of hunger and child hunger (Shisana, et al., 2014; Hall, et al., 2013), and thus great need, do not serve breakfast.

Widespread prevalence was found of unintended beneficiaries (people other than learners) also eating the NSNP meals, with the highest occurrence in Mpumalanga, Free State and Limpopo. 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 meals to be eaten by others, and there is concern is that, unless adequately provisioned for, this practice will reduce the available funding for meals for learners.

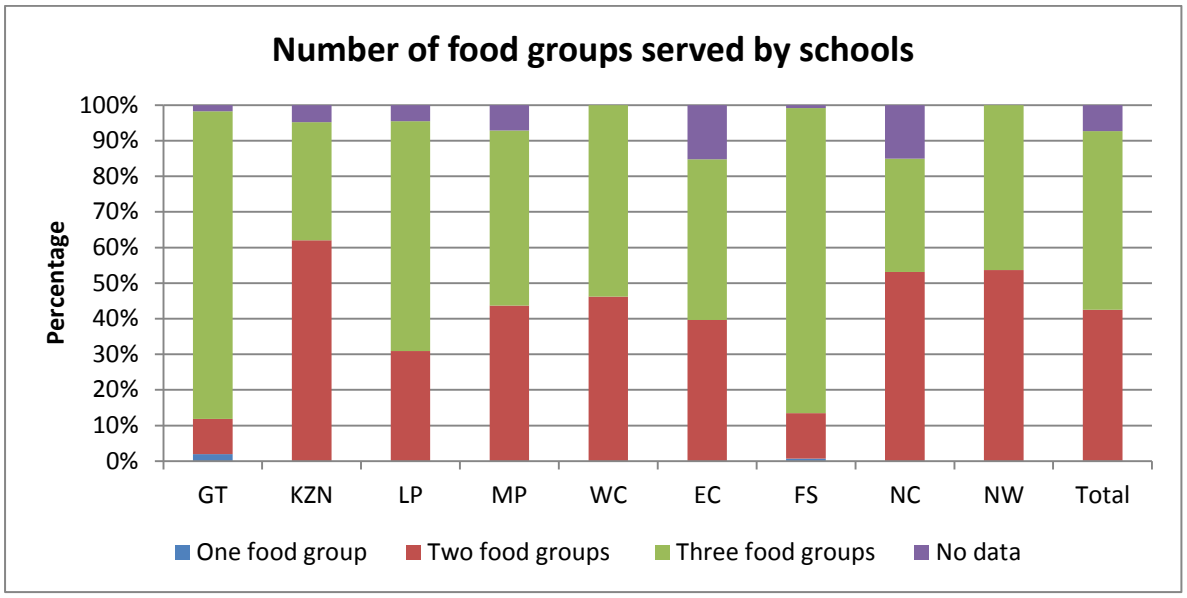
4.2 Programme effectiveness and results

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, and 96% of the Conditional Grant funding is dedicated to this. Learners are mostly receiving NSNP meals, but there is room for improvement regarding the composition of the meals (food groups and quantities).

Half (50.2%) of the schools visited for fieldwork served a main meal comprising three food groups (starch, protein and vegetables/fruit). Some provinces were better than others in this regard: in Gauteng, 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, where just one third of schools served three food groups. The food group most often not served was fruit/vegetables.

Figure 3: Schools serving one, two, and three food groups on the day of fieldwork. Source: Key performance indicator (KPI) instrument



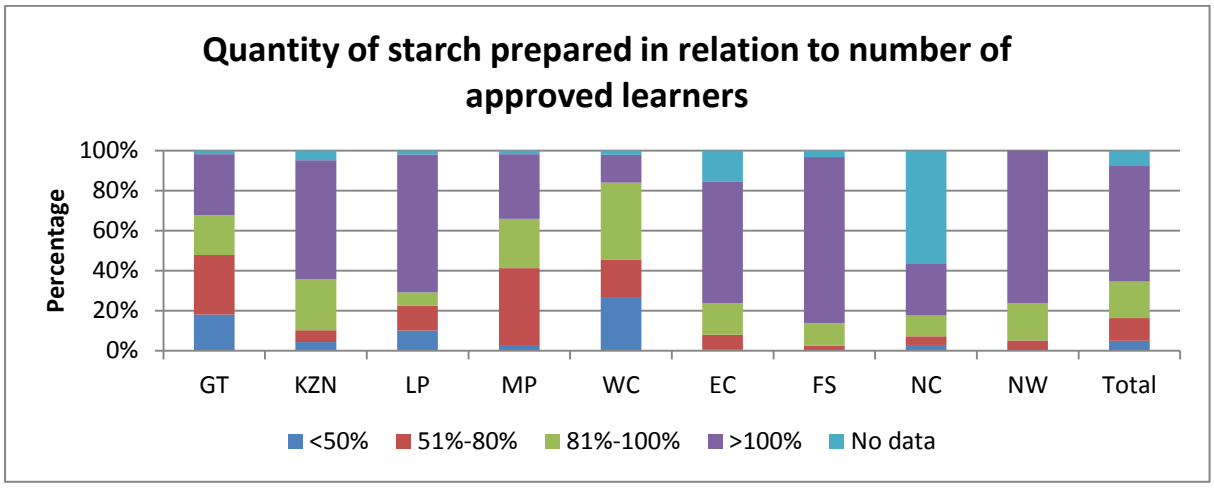
VFHs need to prepare the correct quantities of food for the number of learners eating. These quantities are specified in school specific menus which are derived from provincial menus and take into account the number of learners approved for the NSNP[10] per school. Fieldworkers observed that 67.9% of schools had menus displayed on the wall. However, only 45.7% of the menus were school specific in that they indicated the quantities of food that should be prepared.

The figures on the next page show the extent to which the correct quantities of the different food groups were prepared and served for the number of approved learners at the school. Data suggests that the amount of starch, protein, and vegetables cooked for each meal are not informed by knowledge of the quantities required for the number of approved learners. Only 18.2% of schools served between 81% and 100% of the required amount of starch, 8.6% served between 81% and 100% of the required amount of vegetables, and 21.4% served between 81% and 100% of the required amount of protein.

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

[10] This refers to the number of learners that have been approved for NSNP feeding using the Conditional Grant funding. This is based on enrolment at the school at the time of the SNAP survey during the previous school year. The *actual* number of learners that the school cooks for may be more or less than the number of NSNP-approved learners e.g. if enrolment has increased or decreased or if some learners have "opted out" of the programme.

Figure 4: Quantity of starch prepared by schools in relation to the number of NSNP-approved learners, source: KPI instrument



Note: "No data" could mean 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 5: Quantity of vegetables prepared by schools in relation to the number of NSNP-approved learners, source: KPI instrument

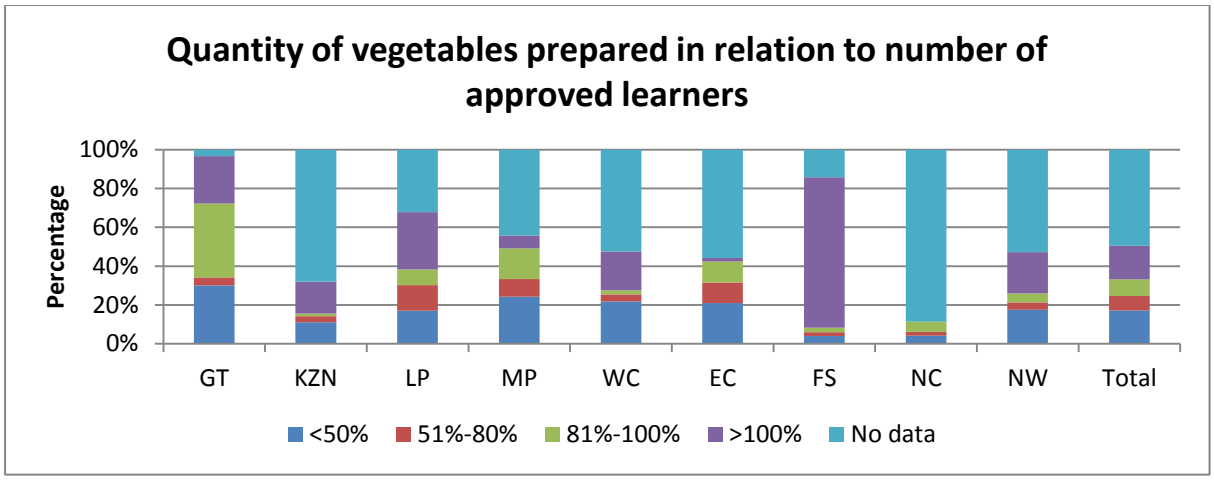
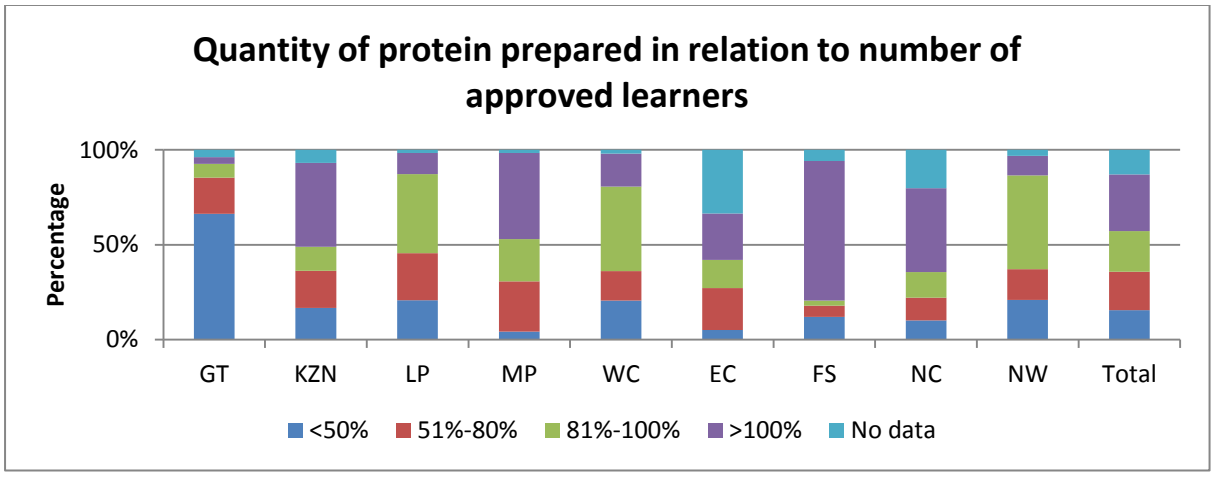


Figure 6: Quantity of protein prepared by schools in relation to the number of NSNP-approved learners, source: KPI instrument



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, Free State and the North West had soya in stock which did not meet quality requirements (i.e. Textured Vegetable Protein (TVT) is over 24%).

Table 2: The quality of the soya product in each province, source: observation

	Province	Does not meet requirements	Standard Error (SE)	Meets requirements*	SE	N/A	SE	No data	SE
Centralised	GP	0.0%	0.0%	94.9%	3.9%	3.4%	3.4%	1.7%	1.8%
	KZN	84.7%	8.6%	10.5%	6.79%	0.0%	0.0%	4.8%	4.2%
	LP	7.6%	4.5%	79.9%	8.3%	10.1%	7.1%	2.4%	2.5%
	MP	38.1%	12.2 %	61.9%	12.2%	0.0%	0.0%	0.0%	0.0%
	WC	3.6%	2.7%	79.3%	14.4%	0.0%	0.0%	17.1%	14.7%
	Overall	43.2%	9.4%	49.6%	8.6%	3.2%	2.2%	3.9%	2.2%
Decentralised	EC	26.2%	9.4%	38.0%	12.9%	14.8%	9.9%	21.0%	9.5%
	FS	87.3%	9.6%	2.4%	2.2%	0.0%	0.0%	10.3%	8.0%
	NC	9.7%	6.7%	60.4%	18.11 %	0.0%	0.00%	29.9%	16.2%
	NW	70.5%	14.3 %	26.6%	13.20 %	0.0%	0.00%	2.9%	2.6%
	Overall	39.7%	9.7%	32.9%	9.7%	10.0%	6.9%	17.4%	6.7%
Total	Total	41.7%	6.9%	42.3%	6.1%%	6.2%	3.3%	9.8%	3.2%

***TVP is over 24%.

It was indicated via interviews, fieldwork notes and the learner survey that many learners did not enjoy the soya. This reduces learners' intake of protein and results in wastage, as learners refuse to eat the meals on the days when soya is served. This is problematic, as soya mince features prominently on some provincial menus[11]. Possible, more palatable alternatives which are 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 and kidney beans) or bread with peanut butter, pilchards or baked beans in tomato sauce.

The NSNP guidelines specify that fresh or sour milk can be served and the DBE's policy is that ultra-heat treated (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. At the time of fieldwork, UHT fresh OR sour milk was on the menu in the Eastern Cape, KwaZulu-Natal and Limpopo . The highest compliance in the use of UHT fresh 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 fresh 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, several schools were obtaining milk

[11] 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.

from local farms which they said was cheaper than purchasing UHT milk. They reported that it was safe[12] and that local farmers delivered directly to the school (fieldwork notes).

Learners who eat the NSNP meals generally reported that they like the food. The other main reason learners gave for eating the NSNP meals was that they were hungry, confirming that the meal alleviates hunger. However, 17.3% of learners said they did not enjoy the NSNP meal they ate on the day of fieldwork. The most common reason for not enjoying the meal was too little food. Similarly, 24.8% of learners said they still felt hungry after finishing their meal.

4.2.2 Feeding times and days

Learners should be fed in the morning, preferably when they first arrive at school, to maximise the effects on concentration and learning (Adelman et al., 2008; Bundy et al., 2008; CCBR, 2008; McLaughlin et al., 2002). The DBE recommends that NSNP feeding is completed by 10:00 am, or by 12:30 pm in schools which serve breakfast. It was found that few schools manage 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 some learners do not eat before they come to school and are reliant on the NSNP meals for energy during the day.

Fieldworkers recorded the actual time by which the last learner at the school finished eating on the day of fieldwork, as indicated below. Among schools in provinces that do not make provision for breakfast (i.e. all except Gauteng and the Western Cape), 75% completed feeding after 10:00 am, most notably in Kwa-Zulu Natal (95.2%) and the Free State (97.8%). Limpopo is the only province where at least half of the schools completed feeding by 10:00 am as recommended. The main reason noted by fieldworkers for why meals were not 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, and it not being possible to prepare, cook and serve large quantities of food in a short space of time).

Table 3: Time by which feeding of the main meal is completed, from observation (excluding Gauteng and Western Cape), source: KPI instrument and observation

Province	By 10:00 am	10:01-11:00 am	After 11:00 am or no main meal served	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

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

[12] 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.

Table 4: Time by which feeding of the main meal is completed in Gauteng and Western Cape schools in which breakfast is served, source: KPI instrument and observation

Province	By 11:30 am	11.31 am - 12:00 pm	12:01 - 12:30 pm	After 12.30 pm	No data	median	mean	sd	min	max
GT	52.3%	24.30%	3.00%	13.70%	6.70%	12:06	12:26	01:03	11:10	14:45
WC	59.4%	0.00%	18.30%	2.20%	20.10%	10:33	10:57	00:49	09:55	12:35
Total	55.5%	13.20%	10.10%	8.40%	12.80%	11:40	11:42	01:12	09:55	14:45

n=22 Gauteng and 27 Western Cape schools

In Gauteng and the Western Cape, among those schools that served breakfast, the majority finished serving the main meal by 12.30 pm, as recommended in the NSNP guidelines. Of the schools that did not serve breakfast, most served the main meal after 11:00 am or did not serve a meal at all.

Table 5: Time by which feeding of the main meal is completed in Gauteng schools which did not serve breakfast, source: KPI instrument

Province	By 10:00 am	10:01-11:00 am	After 11:00 am or no main meal served	No data	median	mean	sd	min	max
GT	12.0%	0.0%	80.8%	7.3%	11:40	11:27	00:50	10:25	12:46
WC	0.0%	0.0%	56.5%	43.5%	10:50	11:14	00:34	10:50	12:00
Total	10.0%	0.0%	76.7%	13.2%	11:40	11:26	00:48	10:25	12:46

n=8 Gauteng and 3 Western Cape schools

According to the NSNP Annual Report (DBE, 2015), in the 2013/2014 financial year schools fed learners on 194 days on average. 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, 2015).

Of the 267 schools visited for fieldwork, the main meal was served at 255 schools (96.2%). In the provinces which serve breakfast, breakfast was served at 49 of the 60 schools visited, and 11 schools did not serve breakfast on the day of fieldwork.

It was indicated that there were days when feeding had not taken place this year. In the decentralised provinces, 26.5% of school principals said there were days when feeding had not taken place and this was highest amongst principals from the Eastern Cape and Northern Cape. In the centralised provinces, 48.2% of principals indicated that there were days when feeding did not occur, the highest proportion being from KwaZulu-Natal. The main reasons for feeding not occurring were: late delivery by the supplier (main reason given by schools in centralised provinces); funding not being received on time (main reason given by schools in decentralised provinces); the tender processes not having been complete (in KwaZulu-Natal); not having fuel; and weather conditions (in the Eastern Cape). 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.

4.2.3 Food preparation

Preparation of nutritious meals and serving them on time is dependent on having adequate infrastructure and equipment for food storage and preparation in accordance with health and safety guidelines. Previous evaluations of the NSNP found the adequacy of infrastructure at school level to be a challenge (PSC, 2008, p. 45ff; Rendall-Mkosi et al., 2013; Graham et al., 2015). Several

infrastructure and equipment challenges were reported and observed, including a lack of kitchens which forced VFHs to prepare food outside (prevalent in KwaZulu-Natal, Mpumalanga and Limpopo); inadequate preparation areas (common in Gauteng, Mpumalanga and KwaZulu-Natal); a lack of utensils for food preparation (common in Gauteng, Mpumalanga, the Western Cape and KwaZulu-Natal) and a lack of storage facilities, including fridges (prevalent in Mpumalanga, Gauteng and the Eastern Cape). Schools in KwaZulu-Natal, Gauteng and Mpumalanga were most likely to report infrastructure and equipment-related problems.

Another area of concern in some provinces was the security of the storage area. Large quantities of food are delivered and the food has to be stored in a safe and lockable area to minimise risk of theft. Of the 22.6% of schools with no lockable storage areas, the highest prevalence was in the Free State (73.9%), KwaZulu-Natal (49.9%), and North West (49.7%).

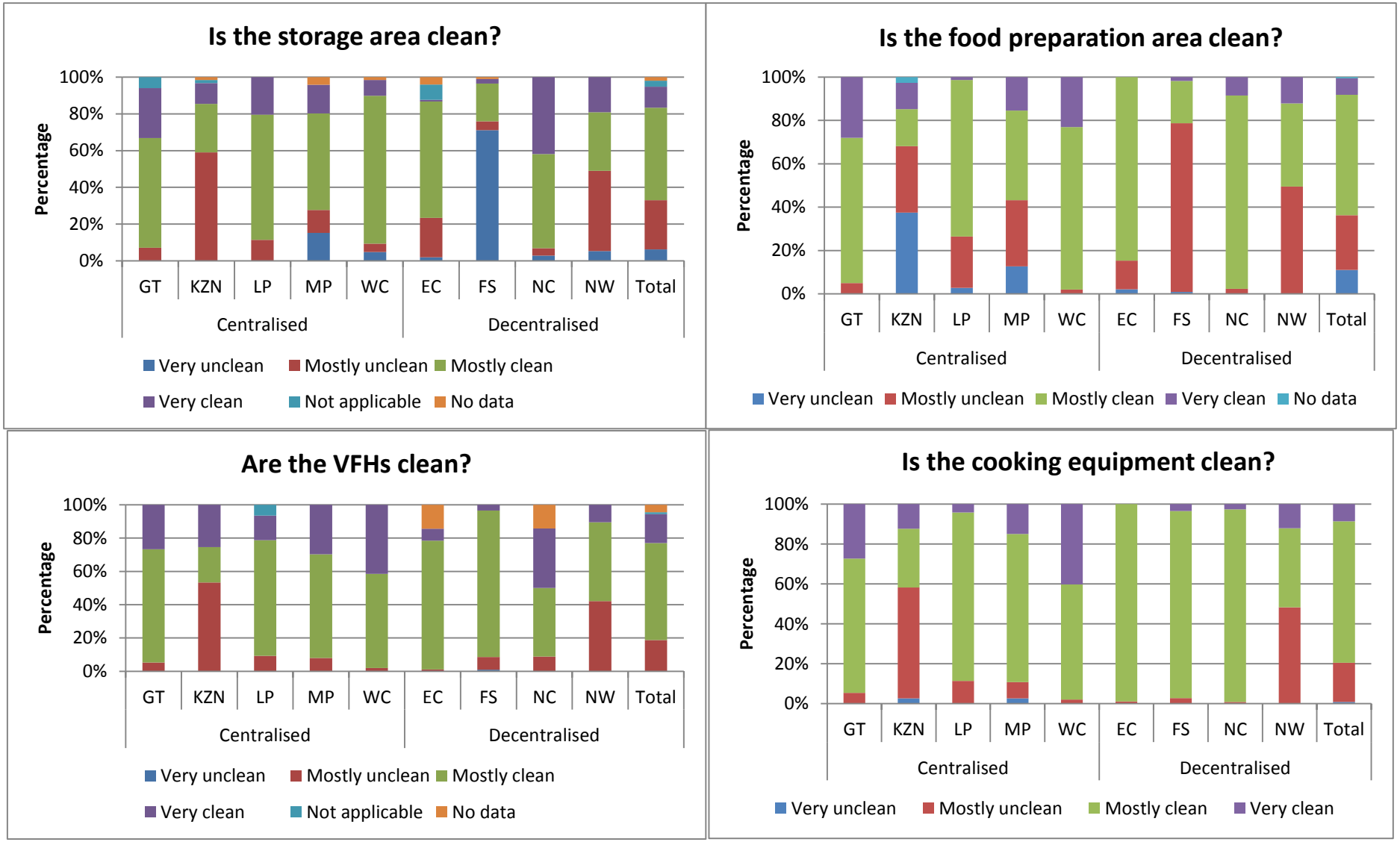
Water is a challenge in some provinces. Water availability was reported to be “erratic” in 43.7% of schools, with the worst affected schools being in the North West (68.2%), the Northern Cape (65.6%), and KwaZulu-Natal (64.3%). “Excellent” water availability was reported in half (49.4%) of the schools, including the majority of schools in Free State (76.9%), Mpumalanga (72.9%), the Western Cape (68%), and Gauteng (66.7%). Despite these challenge at some schools, the majority of NSNP co-ordinators indicated they had enough water for cooking (78.4%), drinking (87.2%), and hand washing (92.0%). There seems to be a clear association between water availability and the level of cleanliness of the food storage and preparation areas, of the cooking equipment and serving utensils and of the VFHs, as indicated in Figure 3 (overleaf). This is evident in KwaZulu-Natal and North West: the majority of schools in these provinces had no or erratic water, the greatest proportion of “mostly unclean” VFHs and their ratings for the cleanliness of food preparation areas and cooking and serving utensils were predominantly “mostly unclean”.

Health and safety are equally important concerns in food preparation. The majority of schools use gas to cook: 66.4%, including all the schools in the Western Cape and Free State. A major safety concern is that only 35.9% of the schools using gas keep the canisters outside, and only 66.0% of these canisters were locked in a cage. With regards to storing gas safely, the main provinces where there are concerns are the Eastern Cape, Free State, Western Cape, KwaZulu-Natal and Limpopo, where the majority of gas canisters were not kept outside. Good practice is evident in Gauteng, where 93.2% of schools kept their canisters outside and 97.6% of these were in a cage. Schools are required to have a fire extinguisher in the kitchen, but only 23.7% of the schools did and of these only 43.9% had been serviced in the previous 12 months. The majority of schools are therefore unprepared for fire.

4.2.4 Training of school-based stakeholders

Training of school stakeholders was found to be weak in other reviews of the NSNP (PSC, 2008, p. 45ff; Langsford, 2012; Rendall-Mkosi et al., 2015). This study found a similar challenge. Whilst some stakeholders (e.g. principals, NSNP co-ordinators, teaching and admin staff, and SGB members) from around 60% of schools reported having been trained on the NSNP, there was poor provision of training for VFHs: only 41.9% said they had been trained. The provincial differences are quite striking: Mpumalanga had the highest proportion of VFHs who had been trained (86.9%), and the Free State the lowest, at only 5.2%. The main reasons cited for low training levels were: inadequate funds; lack of staff to conduct training; and the high turnover VFHs, as VFHs should be recruited annually. This finding 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 before they commence work.

Figure 7: Cleanliness in food preparation, source: observation



4.2.5 Serving

A shortage of basic utensils for serving food was found: whilst the majority of learners (76.3%) had a plate to eat from, 55.1% of the learners did not have spoons to eat with. Challenges were most evident in KwaZulu-Natal, where the majority of learners did not have a plate or a spoon.

Kristjansson et al., (2016) identify supervision of feeding as a critical success factor in ensuring that the targeted children receive and consume school meals. Few teachers are supervising learners when they eat: only 39.1% of learners indicated that this supervision is taking place and in 43.6% of schools fieldworkers observed learners being supervised by teachers when they ate. North West had the highest percentage of schools where teachers supervised learners (70.8%) whereas Gauteng had the fewest (8.1%). The implications are that some learners may receive more food, and others less, due to gender and other forms of bias.

4.2.6 Nutrition education

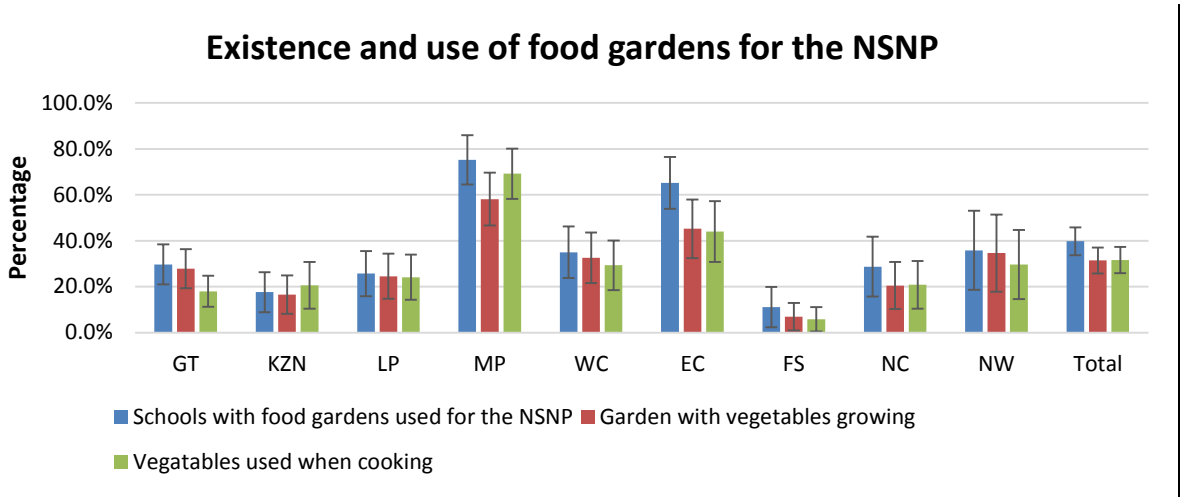
A secondary objective of the NSNP is to teach learners about healthy eating, to enhance knowledge which is believed to contribute towards making healthy food choices. The NSNP offers learning and teaching support materials (LTSM) for nutrition education. The distribution of materials was reported to be widespread (except in KwaZulu-Natal and Gauteng). However the usage of the materials was low (except in Free State and North West): 33.4% of NSNP Coordinators and fewer principals indicated that teachers were using the NSNP LTSM supplied. There was little evidence of the LTSM in the classrooms: only 11.8% of the schools had NSNP posters on display. Despite the low usage of the LTSM, a high percentage of learners confirmed that they learnt about healthy and unhealthy food in Life Orientation (89.6%) and the majority of learners were able to correctly identify healthy and unhealthy foods.

4.2.7 School food gardens

Food production activities are also intended to be linked to the curriculum, for Nutrition Education and skills development. The NSNP annual reports indicate that the number of school food gardens was increasing in most provinces. Fieldwork established that food gardens were not present in the majority of schools: 39.8% had gardens which were being used for the NSNP and Mpumalanga and the Eastern Cape were the strongest in this regard. A substantial proportion of the food gardens (31.4%) had vegetables growing in them. School food gardens are being used to supplement the NSNP to a certain extent: 31.6% of VFHs said they use vegetables from the school's garden for NSNP meals. The main reasons for schools not having functional food gardens were a lack of dedicated personnel to work in the garden and a lack of water (fieldwork notes).

The primary use of school food gardens is supporting the NSNP. Only 11.5% of NSNP Co-ordinators indicated that school food gardens were used for teaching and learning, which is the main aim of this component according to the ToC, and 22.2% of learners said they help in the school food garden.

Figure 8: Schools with food gardens and gardens which have vegetables growing in them, and use vegetables for the NSNP, source: observation and VFH survey



4.2.8 Deworming

The literature review highlighted the value and cost-efficiency of deworming in terms of health and nutritional benefits for children (Rajagopal et al, 2014; Tomlinson, 2007; J-PAL, 2012). Deworming was reintroduced as part of the NSNP in 2015. However, the deworming component of the NSNP was in its very early implementation stages at the time of the evaluation.

4.3 Programme fidelity and efficiency

The multiple stakeholders involved in the NSNP programme appear to understand their roles and responsibilities and are to a large extent fulfilling them, particularly at national level. At provincial and district levels there are no guidelines regarding staff and resource allocations and institutional arrangements vary considerably between provinces. At province level, capacity challenges in some provinces (notably KwaZulu-Natal) prevent officials from being able to visit schools to monitor implementation. At district level, in some districts it was reported that there was a shortage of vehicles and of staff: finance staff to process payments, data capturers to compile NSNP reports, and NSNP monitors to visit schools. At school level there was found to be strong participation in the NSNP committee by principals and NSNP Co-ordinators (educators), but participation by community stakeholders (SGB members and VFHs) was less common.

The core business processes of the NSNP were identified as: **planning** and **budgeting; disbursement of funding; procurement; ordering, delivery** and **payment; food preparation** and **serving**; and **monitoring** and **reporting**. In the case of funding disbursement, procurement and ordering, delivery and payment, there are differences depending on the model (centralised or decentralised) and there are also some variations in how different provinces implement the models. The evaluation explored fidelity and operational efficiency in relation to five of the business processes, and specifically whether inefficiencies impact on school feeding. The overall effect of the programme on the core business of the school, namely teaching and learning, was also investigated.

4.3.1 Funding disbursement

Funding not having been received on time was one of the key reasons given by principals, NSNP Co-ordinators and VFHs for why schools were unable to feed on certain days and was most commonly reported by stakeholders in KwaZulu-Natal, the Eastern and Northern Cape.

Table 6: Transfer of funds to schools to buy food, fuel and pay VFHs, source: principal survey

	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 Jan?	
Province	**Never**	**Sometimes**	**Always**	**Yes**	**No**	**Yes**	**No**
GP	0.0%	11.1%	76.0%	67.4%	12.1%	75.0%	5.9%
KZN	1.7%	40.8%	2.9%	7.5%	39.2%	7.5%	39.2%
LP	39.9%	45.1%	9.3%	30.9%	62.8%	30.9%	62.8%
MP	31.4%	22.2%	35.2%	28.0%	64.1%	28.0%	64.1%
WC	0.0%	7.5%	90.5%	84.9%	2.2%	85.4%	4.0%
Total	16.7%	34.7%	21.2%	27.3%	44.9%	28.0%	44.4%
	In 2014, were funds deposited in time to purchase food?			**In 2015, were funds deposited in time to buy food on the first day?**			
EC	0.0%	30.7%	66.6%	87.4%	8.8%		
FS	0.7%	11.7%	15.2%	87.5%	12.5%		
NC	0.0%	64.8%	35.2%	80.0%	12.4%		
NW	0.8%	16.3%	82.9%	96.8%	1.0%		
Total	0.2%	27.8%	60.9%	88.4%	8.3%		

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 appear to be better able to transfer funds to schools on time, but the challenges are province specific, and greatest in KwaZulu-Natal, Limpopo, Mpumalanga and Northern Cape as indicated in the Table on the previous page. The strategy used by schools in centralised provinces to keep the programme running when payments are late is diversion of other school funds to the NSNP. Schools in decentralised provinces have more options if their funding is late as they can negotiate credit with service providers.

4.3.2 Procurement

Procurement processes were not widely reported to be affecting the provision of meals, except in KwaZulu-Natal.

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 do not have 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 service providers appointed. The length of time that some service providers have been serving the programme (10+ years) is of concern as it may create conditions conducive to collusion and corruption.

4.3.3 Ordering, delivery and payment

Positive experiences were reported with **ordering.**

Late **delivery** by service providers was reported to be the main reason why schools do not always follow the menu and the primary reason why some schools were unable to serve NSNP meals on some school days.

Broadly speaking, **delivery** logistics seems 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, but the delivery system was more highly rated by schools stakeholders and deliveries are more likely to be on time and less likely to be late in decentralised provinces. All of this suggests that schools using the decentralised model are better able to hold service providers accountable. Challenges with delivery tended to be province specific and included: high cost of delivery (specifically in the Eastern Cape); late deliveries (particularly in Mpumalanga, KwaZulu-Natal and Gauteng), delivery of expired/poor quality food (in North West); incorrect quantities (particularly in KwaZulu-Natal and Limpopo); and deliveries after hours (in Limpopo, Gauteng and Mpumalanga). KwaZulu-Natal experienced the most and worst challenges with delivery.

Monitoring of delivery is done predominately at school level. The majority of school stakeholders reported checking deliveries and signing the delivery note only if the order was correct. However, the findings from observation 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. Some PEDs provide guidelines and tools to schools to assist with delivery monitoring.

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 evident in centralised provinces, where service providers are primarily accountable to PEDs, with whom they have contracts, rather than schools, who are primarily responsible for checking deliveries.

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.

4.3.4 Food preparation and serving

Budgeting and menus for **food preparation and serving** are based on the previous year's school enrolment. Enrolment fluctuates within years. Furthermore, in some schools not all learners eat the NSNP meals, or eat the NSNP meals daily. This means that the number of learners eating the NSNP meals may be different to the official approved figure, leading to VFHs preparing more food than is required, leading to wastage, or not enough, with the result that learners do not receive an adequate meal. There is scope to improve targeting and efficiency in this regard.

4.3.5 Monitoring and reporting

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 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. at district, provincial and national levels). The monitoring and reporting system is strength, but is considerably demanding, as it is to a large extent paper-based. The indicators and report templates used at various levels and in different provinces could be more streamlined.

4.3.6 Effect on teaching and learning

School stakeholders have concerns that the NSNP **impacts on teaching and learning** by eating into teaching and learning time and increases administration. "Teachers lose teaching time" was one of the top three challenges reported by 14.3% of principals in centralised and 20.9% of principals in decentralised provinces. Similarly, 6.9% of principals in centralised and 14.5% in decentralised

provinces indicated that "too much administration" was a key challenge for them. Responses from NSNP Co-ordinators were similar. The NSNP Co-ordinator (a teacher) has many responsibilities, particularly in the decentralised model, where ordering, liaison with suppliers and financial reporting is required. There is scope for a "Senior VFH" to assist with some of these tasks.

On average, the NSNP did not eat into teaching and learning time, as break time lasted longer than the NSNP meal time, but there were some schools in all provinces except Limpopo and Mpumalanga where serving the meal lasted longer than break.

4.3.7 Implementation index

An **implementation index** was constructed to summarise performance in key aspects identified as important in the literature review and the NSNP ToC, to facilitate comparison across provinces and models. Information regarding the construction of the index and the indicators which make up the index can be found in the main report.

Three provinces using the centralised model (Western Cape, Mpumalanga and Gauteng) and one province using the decentralised model (North West) scored best, achieving a score above 12. There is room for improvement, however, as the maximum possible score is 19. KwaZulu-Natal scored worst, achieving an overall score of 9.22. The overall score of each model is very similar, with the centralised model scored 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 (serving a nutritious meal in the right quantities on time). Provinces using the decentralised model scored better in terms of procurement and logistics, specifically disbursement of funding to schools and ordering delivery and payment. Performance in monitoring and evaluation (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.

Table 7: 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)	Funding disburse-ment (1)	Ordering, delivery, payment (5)	Food preparation and serving (6)	M&E (2)	Total (19)
Centralised	GP	3.47	0.82	3.58	3.69	0.97	12.52
	KZN	2.80	0.25	2.75	2.97	0.46	9.22
	LP	3.18	0.32	3.13	3.95	1.22	11.80
	MP	3.13	0.46	3.44	4.63	1.20	12.86
	WC	3.75	0.94	3.60	3.79	1.06	13.15
	Total	3.08	0.39	3.09	3.62	0.87	11.05
Decentral-ised	EC	2.67	0.83	3.49	3.09	0.62	10.69
	FS	3.60	0.20	3.98	2.78	0.31	10.87
	NC	1.96	0.74	3.55	3.82	0.84	10.90
	NW	3.03	0.91	3.68	3.38	1.05	12.05
	Total	2.83	0.75	3.59	3.12	0.65	10.95
Overall	Total	2.98	0.54	3.30	3.41	0.78	11.01

The maximum score per component and overall is indicated in brackets

4.4 Additionality

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 at R78.86 per day. DBE and Treasury Officials pointed out that the NSNP VFHs are volunteers rather than EPWP workers, so the minimum wage does not apply. Also, they do not work for a full day and receive a stipend for 12 months although they only work on school days. However, policy is unclear on this matter (EPRI, 2015, p. 6).

VFHs should be rotated annually so that the opportunities can be shared. In practice some schools retain a "Senior" VFH for longer than one year, which is beneficial from a training point of view as the Senior VFH can assist with training and capacitating others. Training and capacity building is important if the benefits of volunteering for the NSNP are to extend beyond the period of engagement as a VFH.

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 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 deliver 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 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 upscaling

Impact is more likely if: 1) the links between outputs, outcomes and impact outlined in the ToC presented in Chapter 2 are plausible; 2) assumptions which underpin the programme hold true and: 3) the NSNP 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 and, over time, this can lead to improved retention in the education system. Additionally, if meals are provided the beginning of the school day, they can relieve hunger and may help improve concentration and cognition. There is mixed evidence, however, regarding the impact on learner performance: positive effects are only evident in well-organised schools where good quality teaching takes place.

Challenges relating to timely disbursement of funds to schools, payment of service providers, and delivery by service providers results, in some instances, to meals not being served on all school days. Learners are largely receiving NSNP meals, but the composition of the meals could improve. Lastly, schools generally do not manage to serve meals by 10am, which reduces the likely positive effect on concentration and cognition in class.

The NSNP funding allocation is outlined in the Conditional Grant Framework, which is updated annually in line with the MTEF. An impressive 96% of funding from the Conditional Grant goes towards NSNP meals, while 3.5% can be used for administration. This prioritising of funds for school meals is impressive. The programme is supported via other means: provinces contribute funding from the equitable share; partners make valuable contributions through donations of money, time

and goods in kind in support of infrastructure, equipment and food production etc; 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, supported by a special Treasury allocation. This is a significant achievement. In the current financial climate, Government Departments are advised to use improved efficiencies to finance quality improvements and expansion. The evaluation identified a few areas where efficiencies can be tightened within the current framework, as discussed in the next section, but additional funding would be required for improvements at scale.

5. Conclusions and Recommendations

This study set out to answer eight evaluation questions relating to the relevance and appropriateness, effectiveness, efficiency, likely impact and sustainability of the NSNP. Answers to these questions and related recommendations are briefly summarised below.

5.1. Programme relevance and appropriateness

Is the programme reaching the intended beneficiaries?

All countries in the world have a school nutrition programme (WFP, 2013). 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 intended beneficiaries are learners from low socio-economic backgrounds who attend quintile 1-3 public schools (the 60% poorest schools in South Africa). In general, the NSNP meals are reaching the intended beneficiaries. Meals were served in 96.2% of schools visited on the day of fieldwork and 72.7% of learners ate the NSNP meal. However, a substantial proportion of learners in some schools (mainly in Gauteng and Western Cape) are opting out of the NSNP. Gauteng and the Western Cape make provision for breakfast as well as lunch. Uptake of breakfast is close to 40%, indicating a need, although not universal.

Programme relevance and appropriateness could be enhanced through the following:

1. **Improve integration of NSNP with other health, feeding and nutrition programmes**, such as those led by the Departments of Health and Agriculture. As the early years are critical for child nutrition and irrevocable damage can be done if nutritional intake is inadequate, there is great need for a nutrition programme linked to ECD centres. Better integration should take the form of making onward referrals and ensuring that needy children receive nutritional support outside of school.

2. **Introduce individual targeting in certain provinces/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 some countries, such as 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 to quintile 4 and 5 schools where a need has been identified (see recommendation 18).

3. **Specify in the NSNP guidelines who the NSNP meals are intended for** and how leftover meals and stock should be dealt with, and then monitor this. If the meals are intended to encourage

social cohesion, and to be eaten by learners and staff together, the guidelines should indicate this and funding should be made available. If the programme is budgeted for meals for learners only, but other school stakeholders are eating the NSNP meals, the programme funds may not be enough.

5.2. Programme effectiveness – quality meals and services

Are learners receiving quality meals and services?

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). There is a tendency for schools to prepare higher quantities of starch and lower quantities of vegetables and protein than they should. The majority of schools are unable to complete feeding the main meal by 10:00 am, which limits the effect on enhancing concentration. Additionally, there are days when NSNP feeding does not take place in some schools for various reasons.

Schools are mostly preparing meals that learners enjoy. However, 24.8% of learners were "still hungry" after eating an NSNP meal. International literature recommends that, if learners are at school for half a day, meals should provide 30-45% of recommended daily energy requirements (Bundy et al., 2009), which is more than the 25-30% which the NSNP menus aim to provide.

Nutrition education is largely being integrated into Life Orientation lessons and appears to be effective, as the majority of learners are able to correctly identify healthy and unhealthy foods.

Less than half of schools had vegetable gardens being used for the NSNP. The main use of the gardens is supplementing the NSNP meal, and very few school food gardens are being used for teaching and learning. This seems to be a missed opportunity.

Recommendations in this regard are:

4. **Ensure that food is served by 10:00 am** or earlier in all schools. This is critical if the meals are to relieve short-term hunger and aid concentration. 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. If it is not possible for logistical reasons to serve the main meal by 10:00am, a snack should be provided when children first arrive at school.

5. **Reduce the frequency of serving soya and introduce alternatives**: soya is served twice a week in some provinces, but the majority of learners do not like soya. This reduces the intake of protein and results in wastage. Alternatives include: pilchards, baked beans in tomato sauce and other legumes (e.g. cow peas, split peas, chick peas or kidney beans). Learner representatives should be involved in the design of menus. Schools should be encouraged to innovate (within the scope of the approved menu) and share popular recipes.

6. **Conduct an audit of NSNP infrastructure and equipment and related needs in schools** including storage facilities, kitchens, cooking facilities and water supply and develop national and provincial action plans to meet school needs. The Conditional Grant Framework makes minimal provision for infrastructure and equipment and support should be sought from corporate donors and other partners to address identified needs. Depending on the scale of need, a special allocation from National Treasury may need to be considered.

7. **Develop a real-time planning tool** which allows schools to adjust their school specific menus upwards or downwards in line with increased or decreased enrolment, or if learners opt-out of

the NSNP. This would enable more accuracy in terms of preparing the correct quantity of food for the number of learners who eat the meals and would reduce wastage.

8. Align **compliance and performance monitoring and emphasise performance**: Serving a nutritious meal on time every day is the key output of the NSNP. "% of learners who receive a nutritious meal on time, on every school day", should become the key performance indicator for goal 25 in Action Plan to 2019 and business plans linked to the Conditional Grant. Schools and districts that perform well should be acknowledged and rewarded in a variety of ways, including via a "performance" category in the NSNP best school and district awards.

9. **Reinvigorate the food production component of the NSNP:** dedicated funding is required, whether from the Conditional Grant, the equitable share, or other sources: partnerships should be established to drive this component. At school level dedicated personnel are required to lead the food gardening component. Garden managers should be engaged in the same way as VFHs, and given a stipend and training. Best practices should be documented and shared by provinces such as Mpumalanga and the Eastern Cape, where food gardens are thriving.

5.3. Fidelity and efficiency

Is the programme implemented as planned? Are operational procedures effective to ensure the timely delivery of food? What are the variations at different sites or by different provinces?

The NSNP is implemented via two models, decentralised and centralised, but considerable variation between provinces means that, in effect, there are nine implementation variations. Provinces using a decentralised model appear to be implementing several of the business processes more efficiently; however, 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** from national to provincial Treasury can be challenging in the first quarter. There are challenges with the disbursement of funds from provincial Treasury to schools which tend to be province specific. 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 and. In centralised provinces, procurement can be lengthy. 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 why some schools were unable to serve NSNP 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. Monitoring of deliveries is an area for improvement in both models.

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

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.

Various options are possible in terms of procurement and logistics and no particular model is better: contextual factors matter. Importantly, if procurement and logistics are decentralised, adequate capacity must be built (Drake et al., 2016). A hybrid model (centralised procurement of dry goods, decentralised procurement of perishable goods) is also viable.

Fidelity and efficiency can be improved through the following:

10. **Development of detailed norms and standards for staffing** (including position, number of staff required and the ratio of monitoring staff to schools) **and other resources** (e.g. vehicles) required for effective implementation of the NSNP.

11. **Creation of 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. If sufficient training capacity for this does not exist at district level, VFHs training could be organised by schools and supported by districts. Partners can also be involved. Refresher sessions should be organised by districts and schools throughout the year.

12. **Develop of guidelines and monitoring tools for the NSNP business processes** and unblock bottlenecks**:** detailed guidelines and standards do not exist for the business processes. DBE should develop these guidelines which specify the core processes, including stakeholders involved; responsibilities, timeframes, and standards; variations and deviations which are allowed; and the corrective action to be taken when the guidelines are not followed.

    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 when funding disbursements are delayed.

    b) Guidelines and monitoring tools are required as a matter of urgency for **ordering and delivery** covering, for example: Acceptable transportation standards; how deliveries should be checked when received; quality standards; action to be taken when deliveries do not arrive on time or as expected; and feedback to be provided to the service provider and contract holder via a rating system.

    c) **Payment** to **service providers** must be streamlined in the two provinces (KwaZulu-Natal and Gauteng) where this is a particular problem. In KwaZulu-Natal, VFHs should be paid by schools, and not service providers, as is the current practice.

13. **Strengthen and streamline the monitoring system**: 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. For *strengthening,* the monitoring system should utilise other routine data sources to triangulate: 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. For *streamlining* technology may be utilised to facilitate more efficient monitoring and reporting. Monitoring and reporting will still be time consuming, but some of the manual processes and systems could be automated. A pilot is recommended before making any changes to the current system.

5.4. Additionality

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 equates to R5.7 billion, of which around R576 million is paid to VFHs and most of the rest to service providers. In provinces where procurement favours SMMEs and co-operatives, they can benefit.

Recommendations to maximise the "additional" benefits which the NSNP brings are:

14. **Increase the minimum stipend for VFHs** (as outlined in the Conditional Grant Framework) so that it is in line with the minimum wage for Social Sector EPWP workers. Recognising the value of the work undertaken by VFHs via adequate compensation is important, particularly in light of the recommendations for upscaling (see recommendation 18). The cost to the fiscus of increasing the VFH stipend to be in line with the EWP minimum wage would be R200 million per year. 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 agricultural development. A national pilot is proposed, involving partners such as the Department of Agriculture and local municipalities, who can support local producers.

5.5. Funding, sustainability, upscaling, and impact

Is there evidence that the NSNP enhances learning behaviour (likely impact)?

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

Challenges lead in some instances to schools not being able to serve meals on all school days: 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. These tend to be province specific and 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 should improve to maximise the nutritional value. The majority of schools do not serve meals by 10:00 am. These issues should be addressed to increase the likelihood that the NSNP will provide nutritional benefits over the long term and enhance concentration in the classroom.

School nutrition programmes can lead to increased enrolment and improved attendance, as school meals are a motivation to attend school. Over time, these outcomes accumulate and can lead to improved retention in the education system. There is mixed evidence 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.

The most important recommendations to increase the likelihood of impact are:

- Ensure that food is served at the start of the school day (recommendation 5), and
- Address blockages in the business processes which sometimes prevent food from being delivered and meals prepared (recommendation 12).

Should the NSNP be up-scaled? How can it be strengthened and up-scaled for better impact?

International experience demonstrates the need to institutionalise school nutrition programmes and secure long-term funding. Recommendations regarding **funding** and **sustainability** are that:

16. Government should **continue to commit core funding to the NSNP**: the value of school nutrition programmes has been well established. The NSNP is relevant and necessary in South Africa due to the continued prevalence of poverty, hunger and malnutrition in all provinces.

17. The cost of **NSNP should be fully documented** and should include 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.

The evaluation identified a few areas where efficiencies can be tightened within the current framework (see recommendations 2 and 7). However, improvements at **scale** would require additional funding. Recommendations in this regard are to:

18. **Investigate possible models for upscaling via a series of pilots**, with rigourous M&E including impact evaluation and cost effectiveness analysis. Models should be thoroughly analysed for 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 such "additions" to the NSNP but the results are not systematically monitored and 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 nutrient dense breakfast of cooked maize or sorghum/mabele and milk is recommended: 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 year. 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. 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 per 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 Department of Health, **introduce micronutrient supplementation** to improve the nutritional value of NSNP meals served, specifically in nutrients such as vitamin A, which South African children have been identified as deficient in (Hendricks et al., 2013; Shisana et al. 2014; van Stuijvenberg 2005).

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Primary data

Theory of Change interviews

ToC interview respondent 1, interviewed 20.02.14, Gauteng.

ToC interview respondent 2, interviewed 20.02.14, Gauteng.

ToC interview respondent 3, interviewed telephonically 24.02.15, Gauteng.

Various programme stakeholder interviews

Various school surveys