

UNIT FIVE

Good nutrition for learning

Tool 15: The National School Nutrition Programme (NSNP): Key management requirements

The Department of Education has compiled norms and guidelines for schools on the implementation of the programme. Here is an overview of the main areas to be managed. The guidelines apply equally to primary and secondary schools (the NSNP is to be phased into secondary schools).

The main points are reflected in the following checklist, which can serve as a useful tool to start up and monitor the programme.

Purpose

The guidelines provide a helpful, detailed checklist for SMTs to plan and manage their school nutrition programme.

What to do

Work through these management guidelines with your SMT, your NSNP coordinator, the school Nutrition Committee and the food handlers and/or gardener. Ensure that everybody understands their role and responsibilities and that the necessary systems and procedures are in place to implement the NSNP at your school efficiently.



Managing the implementation of the National School Nutrition Programme (NSNP)		
Area	Details	✓
Management structure	1. Have you appointed the right people? <ul style="list-style-type: none"> The principal as the accounting officer takes overall responsibility for the management programme and must ensure its success. A teacher/administrator is appointed by the principal to act as NSNP School Coordinator and is responsible for the day-to-day operations: receiving and recording stock, keeping up to date records of all invoices, meals served and number of learners fed per day. A Nutrition Committee must be established that comprises the NSNP School Coordinator, the School Management Team, a food handler, and /or a food gardener; The SGB will support any additional requirements and must ensure that the programme is implemented effectively. It is also responsible for identifying employed parents from the community to be recruited as Volunteer Food Handlers. Volunteer Food Handlers are responsible for the preparation, cooking, serving of meals and for cleaning the cooking area. They are expected to maintain a high level of personal hygiene. One Food Handler should be appointed for every 200 learners. Food Handlers will be paid a monthly honorarium at a minimum of R500 per month. 	
	2. Does everyone know what they are expected to do?	
	3. Have the Food Handler and Food Gardener signed an agreement that specifies what they are expected to do, to what standard, and how much they will be paid?	
	4. Do you have regular contact with the people involved in the day-to-day operations of the programme?	
	5. Do you give regular feedback to the SGB on the progress of the Nutrition Programme?	
Training and development	6. Do you know when these training workshops will be offered in your area and what is involved? <ul style="list-style-type: none"> NSNP Implementation Guidelines for School Coordinators, District Officials and SGBs on clarifying requirements, roles and responsibilities. Hygiene and Safety for Volunteer Handlers on health and hygiene standards and to improve the quality of meals. Sustainable Food Production for a nominated teacher, SMT and SGB members for training on food production. Each school is expected to initiate a food garden or food production project 	
	7. Have you organised for the respective people to participate in the workshops?	
	8. Did you get feedback from the participants on how they benefited from the workshop?	
Equipment and utensils	9. Did you organise for the purchase of the following basic equipment? <ul style="list-style-type: none"> 3 burner gas stove 20 litres cooking pots (3 pots per 500 learners) Stainless steel or heavy duty melamine eating spoons, plates and mugs/cups. 	
	10. Do you have a procedure for fixing and replacing broken items?	

Managing the implementation of the National School Nutrition Programme (NSPN)		
Area	Details	✓
Storage and use of food	11. Does your food storage area conform to these standards? <ul style="list-style-type: none"> Adequate ventilation Food placed on an elevated area to avoid food contamination 	
	12. Are the last food items used up before newly delivered items are consumed?	
Ordering, receiving and checking food	13. Does the NSNP School Coordinator follow the required procedure? <ul style="list-style-type: none"> Order stock based on identified quantities as per agreed menus Receive stock and reconcile supplies with delivery note and/or invoice Check all goods for expiry date. Schools should not accept any expired food items or food which expires within 3 months Sign delivery note and/or invoice and stamp with school stamp Keep signed copy in designated file 	
	14. Do you carry out spot checks to ensure that this procedure is adhered to?	
Cooking and preparation	15. Are the meals given to the learners nutritious and tasty and do they conform to these standards? <ul style="list-style-type: none"> Each meal must fulfill at least 30% of the child's daily nutritional requirements. The meals must be balanced and include: <ul style="list-style-type: none"> Protein <ul style="list-style-type: none"> vegetable protein, e.g. dried beans and peas, soya products, lentils, and nuts; animal protein, e.g. meat, milk, eggs and fish depending on affordability. Starch: e.g. maize meal, samp, mealie rice, rice, bread, potatoes. Maize meal, bread or flour products should have the logo depicting that they have been fortified with essential macronutrients. Vegetables: at least one green and one red or yellow or orange vegetable per meal. Fats and oils must be used in moderation. Iodated/iodized salt must be used in moderation. Learners must drink at least 8 cups or glasses of water 	
	16. Does the area you have designated for cooking conform to these standards? <ul style="list-style-type: none"> Adequate ventilation Clear of any potential for food contamination Kept clean and hygienic at all times All gas equipment must comply with gas safety regulations as stipulated by the Occupation Health and Safety Act for vessels under pressure A gas cylinder must be installed outside the cooking area Staff using the gas stove are informed about safety precautions and know what to do in an emergency 	
	17. Do you carry out spot checks to ensure that this procedure is adhered to?	
Communication and reporting	18. Do you compile and submit a monthly report to the District/Circuit Office?	
	19. Is a copy of the report kept in a designated file in your school office?	
	20. Do you have the contact details of your District Office? You can contact this office for any queries, complaints, assistance and support by telephoning the office.	
	21. Do you participate in regular meetings with the appointed District Official to keep abreast of developments of the programme?	

(Source: DoE publication, *National School Nutrition Programme, A Guide for Secondary Schools*, 2009 <http://www.education.gov.za>)

Tool 16: Analysis of needs, strengths and threats: Setting up your school nutrition programme

There are three critical ingredients that increase the chances of implementing a successful nutrition programme:

1. Committed and capable management
2. A realistic and achievable strategy
3. Continuous monitoring

The overview of areas that need to be managed in Tool 16 also shows the resources you need to organise the programme. This activity encourages you to reflect on:

- what you need
- what capacity and resources you have internally
- the potential support that is available from external sources, and
- what prevents you from organising a well run nutrition programme

Purpose

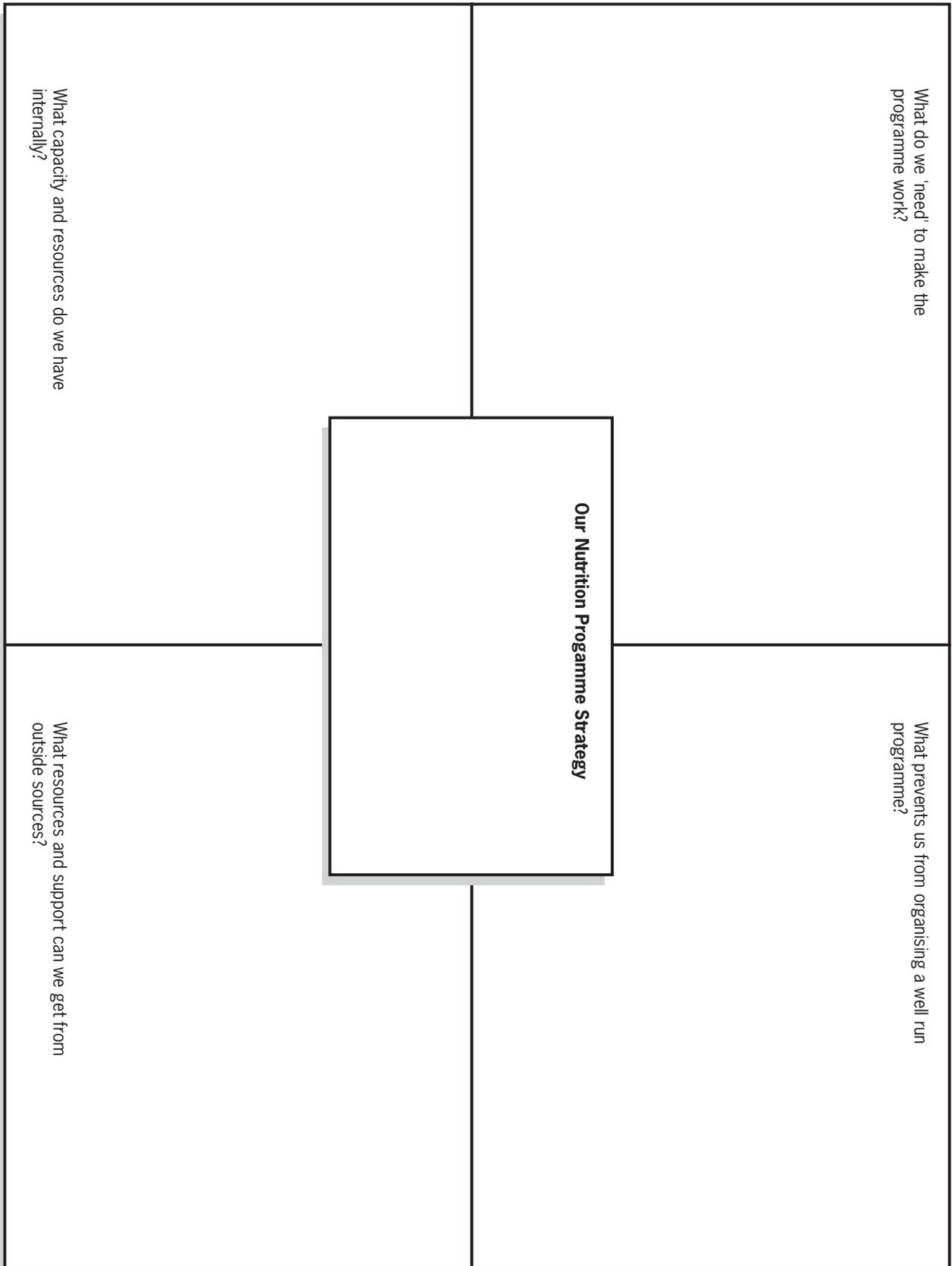
By conducting an informal critical analysis of your context you are able to get an impression of the positive forces and resources that you can count on to support your initiative as well as constraints and obstacles that may impede your progress.

What to do

1. Identify the nutrition strategy option that is most suitable for your context. Write a description of your particular nutrition programme strategy inside the middle block of the diagram on the next page.
2. Reflect on and discuss each of the questions and write the main points of your discussion inside the relevant blocks.



Making the nutrition programme work - Summary of needs, strengths and threats



Tool 17: Fact sheet: Food groups and what they do in the body

Purpose

This fact sheet provides valuable information to help the NSNP coordinator to plan well balanced meals.

What to do

A well balanced meal should ideally consist mostly of vegetables and grains with some protein and only a little oil and fat. Use this table as a guide for preparing balanced meals for learners.

Here is a overview of the groups of foods, the most important nutrients they contain and their role in the body.



Group	Foods	Major nutrients	Role
Cereals	Maize and maize products, bread, rice, wheat, sorghum, pasta, breakfast cereals, oats, Mabella, Morvite (or any foods made with the above)	Good source of carbohydrates	Provide energy
		Unrefined cereals are a good source of fibre	Help the bowels to function properly and prevent constipation
		Maize meal and bread flour are fortified with various micronutrients	Help to prevent micronutrient deficiencies
White roots and tubers	Potato, white sweetpotato, amadumbe	Good source of carbohydrates	Provide energy
Dark-yellow and orange fleshed vegetables and tubers	Carrot, butternut, pumpkin	Good source of vitamin A	Prevent infections Keep the eyes healthy Help children grow properly
	Sweetpotato with dark-yellow or orange flesh		
Dark-green leafy vegetables	Spinach, imifino, morogo, beetroot leaves, pumpkin leaves, butternut leaves, wild growing green leaves	Good source of vitamin A	Prevent infections Keep the eyes healthy Help children grow properly
		Dark-green leafy vegetables are a good source of folate	Particularly important for pregnant women
Vegetables other than dark-green leafy and dark-yellow / orange	Broccoli, cabbage, cauliflower, green beans, onion, tomatoes, turnips	Provide some vitamins and minerals	Help to prevent micronutrient deficiency
		Good source of fibre	Help the bowels to function properly and prevent constipation
Yellow / orange fruits	Ripe mangoes, pawpaw, yellow peach	Good source of vitamin A	Prevent infections Keep the eyes healthy Help children grow properly
Fruits other than yellow / orange fleshed	Apple, banana, grape, peach, pineapple, plum, strawberry, watermelon	Good source of vitamins and fibre	Help the bowels to function properly and prevents constipation
	Grapefruit, guava, lemon, orange, naartjie	Good source of vitamin C	Prevent infections Needed for healthy gums

Group	Foods	Major nutrients	Role
Legumes, nuts and seeds	Beans (haricot beans, haricot beans, peas, lentils, nuts, seeds, or any food made with these)	Good source of protein	Build and maintain healthy and strong muscles, bones, skin and blood
		Good source of fibre	Helps the bowels to function properly and prevent constipation
Meat and poultry (flesh meats)	Meat: beef, goat, lamb, mutton, pork, venison	Good source of protein	Build and maintain healthy and strong muscles, bones, skin and blood
	Poultry: chicken, birds	Good source of iron	Make red blood cells
Organ meats	Liver	Excellent source of iron	Make red blood cells
		Excellent source of vitamin A	Prevent infections Keep the eyes healthy Help children grow properly
Fish	Fresh fish or canned fish (e.g. sardines, pilchards, tuna)	Good source of protein	Build and maintain healthy and strong muscles, bones, skin and blood
Eggs	Egg white	Good source of protein	Build and maintain healthy and strong muscles, bones, skin and blood
	Egg yolk	Good source of vitamin A	Prevent infections Keep the eyes healthy Help children grow properly
Milk and milk products	Milk, sour milk (amasi), cheese, yogurt, or any other milk products	Good source of calcium	Strong bones and teeth
Fats and oils	Oils, fats or margarine added to food or used for cooking	Good source of fats	Provide energy
Sugars and sweets ^a	Sugar, honey, sweetened or sugary foods such as sweets, chocolates, cake	Poor source of nutrients	-
Spices, relishes and beverages ^a	Spices: salt, pepper, curry Relishes: chutney, tomato sauce Beverages: coffee, tea, alcoholic drinks	Poor source of nutrients	-

^a Poor source of nutrients; makes food tasty

FAO (2008): Guidelines for measuring household and individual dietary diversity

(Source: Household Food Security Programme, Module 1 – Food Behaviour and Nutrition, Unisa, 2009)

Tool 18: Ideas for menus

Purpose

Here is a useful resource for the NSNP School Coordinator. The menus make use of ingredients that are easily available to most schools and they are quite affordable.

What to do

It is useful to work out the correct quantity of ingredients you need per meal. You can work this out by dividing the total number of meals by the servings listed in the menu. For example in Menu 1 the ingredients listed make 20 servings. If you need to make food for 100 children, you divide 100 by 20, which gives you 5. That means you have to multiply each quantity by 5 to make enough food for 100 meals.

We have shown you an example in Menu 1. You will have to fill in the details for each menu according to the number of meals you need to serve.



<p>1. Imana (Soya Mince) and vegetables</p>	<p>Work out and record quantities of the ingredients for more than 20 learners e.g. for 100 children, you need 5 times the ingredients</p>
<p>Ingredients 1 onion chopped 1 Tablespoon of oil 1 bag of soya mince (500g bag) 8 cups water (hot water cooks quicker but it can be cold) Add 2 cups of whatever vegetables are available (Cabbage, spinach, carrots)</p> <p>Instructions 1. Fry the onions in the oil until the onions are soft 2. Add the soya mince and water 3. Boil for about 10 mins 4. Add whatever vegetables you are using 5. Cook for a further 10 mins until the vegetables are just soft but not "pap"</p>	<p>5 onions 5 tablespoons of oil 5 bags of soya mince (500g) 40 cups of water</p> <p>10 cups of vegetables</p>
<p>Serves 20 children</p>	

<p>2. Lentils with rice and vegetables</p>	<p>Work out and record quantities of the ingredients for more than 15 learners</p>
<p>Ingredients 500g lentils 4 cups rice 8 cups water 1 onion chopped 2 stock cubes Add 2 cups of whatever vegetables are available (Cabbage, spinach, carrots)</p> <p>Instructions</p> <ol style="list-style-type: none"> 1. Boil the lentils until tender – about 20 mins. Do not add salt until the are cooked 2. Fry the onion 3. Add the rice, water and stock 4. Cook for 10 mins 5. Add the vegetables 6. When it is all cooked add the cooked lentils 	
<p>Serves 15 children</p>	

<p>3. Pilchard and cabbage stew</p>	<p>Work out and record quantities of the ingredients for more than 5 learners</p>
<p>Ingredients 1 spoon oil 1 onion 1 green pepper, chopped 4 cloves garlic, crushed Half a cabbage, cut into thin strips 2 tomatoes, coarsely chopped 2 x 425g cans Lucky Star pilchards in chilli (or tomato) Salt, pepper and herbs to taste</p> <p>Instructions</p> <ol style="list-style-type: none"> 1. Heat the oil in a saucepan. Add the onion, green pepper and garlic. Simmer gently until tender, stirring frequently. Add tomatoes, stir well, simmer for 5 minutes. 2. Use a fork to break the pilchards into large chunks. Add to the vegetables, together with the sauce from the can. 3. Add the cabbage and stir for another 4 – 5 minutes. Season to taste. 4. Serve immediately, spooned onto rice or pap. 	
<p>Serves 5 children</p>	



<p>4. Pilchard fish cakes</p>	<p>Work out and record quantities of the ingredients for more than 5 learners</p>
<p>Ingredients 1x 425g tin of Lucky Star pilchards 2 potatoes cooked and mashed 1 egg lightly beaten 1 small onion finely chopped 1 teaspoon lemon juice Oil for frying</p> <p>Instructions</p> <ol style="list-style-type: none"> 1. Mix together the pilchards, potato, onion lemon juice and egg 2. Make into cakes 3. Fry in the oil until golden brown 	
<p>Serves 5 children</p>	

<p>5. Pilchard and butternut casserole</p>	<p>Work out and record quantities of the ingredients for more than 8 learners</p>
<p>Ingredients 1x 425g tin of Lucky Star pilchards 2 onions finely chopped 2 cloves of garlic (if available) 1 green pepper 1 teaspoon of curry powder 2 potatoes chopped 1 small butternut chopped 2 tomatoes chopped</p> <p>Instructions</p> <ol style="list-style-type: none"> 1. Fry the onion, green pepper and garlic 2. Add the curry powder and potatoes and cook for 5 mins 3. Add the butternut and tomatoes and cook until the butternut is cooked 4. Add the pilchards <p>Serves 8 children</p>	

<p>Other ideas for using soya mince</p> <p>Soya mince can be served with:</p> <ul style="list-style-type: none"> • Macaroni (use 1kg for 15 children) • Stiff porridge • Rice (use 4 cups for 15 children) • Stamp Korring • Samp 	<p>Soya Mince Cottage pie</p> <p>Make up the Soya mince as above Top with mashed potato</p>
--	---

Tool 19: Easy ideas for enriching menus

Purpose

Here is a useful resource for the NSNP School Coordinator. It shows what can be done to enrich simple menus at low cost.

The menu below was drawn up by the coordinator of the nutrition programme at Skosana Primary School, a Quintile 2 school in the Sekukhune district of Limpopo Province. It serves to illustrate the type of food generally provided as part of the provincially implemented nutrition programmes.

What to do

Look carefully at the menu and improve the nutritional value of the meals served on Monday, Wednesday and Friday without raising the cost very much.



Day	Menu
Monday	Pap and soup
Tuesday	Samp, vegetables and fruit
Wednesday	Pap and soup
Thursday	Soup and vegetables (carrot, pumpkin)
Friday	Bread, juice, soup

Comment

The meals on Monday, Wednesday and Friday are limited in their nutritional value, as they focus on starchy, energy giving food, but include little protein (body builders) and only a limited amount of vegetables that provide minerals and vitamins. For example, the balance and quality of the food can easily be improved, by cooking the following soups.

Monday

Add lentils and carrots to the soup. Lentils are cheap, but rich in protein, starch and minerals such as iron and calcium. Carrots will give the children vitamin C and A.

Wednesday

Cook soya mince (Imana) mixed with spinach instead of soup. The soya gives the children protein, while the spinach gives them Vitamin C, A, calcium and iron.

Friday

The bread can be served with a tomato, beans and onion soup and the children can drink water instead of juice. The beans are rich in proteins, while tomatoes give the children vitamin C.

Useful Tip

Beans can take a long time to cook and use a lot of fuel. You can cut down on fuel costs if you use smaller black-eyed beans and soak them overnight. The next morning, boil the beans on high for 20 minutes. Then put them 'to bed' by wrapping the pot tightly in a towel and putting it between blankets. This 'hotbox' will keep the pot warm enough so the beans can soften. They will be ready 3-4 hours later.

Tool 20: Calculating quantities and cost

Calculating accurately what kind of food you need, how much you need, and how much it will cost is essential for two reasons:

- it gives you a good idea of how much food to order, and
- it helps you to manage your budget.

Purpose

To show how you can work out quantities and cost for a particular menu.

What to do

Look at the recipe below and work out how much food you will need to provide this meal for 200 children in your school.



Imana (Soya Mince) and vegetables

1 onion chopped
 1 Spoon of oil
 1 bag of soya mince (500g bag)
 8 cups water (hot water cooks quicker but it can be cold)
 Add 2 cups of whatever vegetables are available (Cabbage, spinach, carrots)

Fry the onions in the oil until the onions are soft
 Add the soya mince and water
 Boil for about 10 mins
 Add whatever vegetables you are using
 Cook for a further 10 mins until the vegetables are just soft butnot "pap"

This recipe serves 20 primary school children. It is best served with boiled rice.
 Use 4 cups of dry rice for 20 children.

Comment

The dietician who helped us work out the quantities for the above recipe told us how much starch and protein the children need in a meal, not necessarily how much they would like to eat. If we take her recipe as a starting point, we can quickly do the following sums:

4 cups of rice for 20 children = 40 cups of rice for 200 children.

We weighed one cup of rice and found that it weighs 250g.

4 cups in 1 kg of rice = 40 cups in 10kg of rice.

If we do the same for the recipe, we can see that the recipe feeds 20 children, so we need to multiply each ingredient by 10 to get the correct quantity for 200 children.

Our shopping list for the meal will look like this:

- 10 kg of rice
- 10 onions
- 1 cup of oil
- 10 bags (500g) of soya mince
- 10 bunches of carrots or spinach or 2 cabbages

With these quantities, it is much easier to work out the exact cost of a school meal. You might find it useful to go through this exercise again with the NSNP coordinator and draw up a week planner that looks at the menu, the quantities and the cost at the same time:

Day	Menu	Quantity needed	Cost
Monday	Bean stew and macaroni with Fruit	Macaroni (use 1kg for 20 children)	
Tuesday	Mielie meal porridge and maas		
Wednesday	Soya mince and vegetables with rice	10 kg of rice 10 onions 1 cup of oil 10 bags (500g) of soya mince 10 bunches of carrots or spinach or 2 cabbages	
Thursday	Soup and bread Fruit		
Friday	Lentils with rice and vegetables		

Tool 21: Budgeting for the Nutrition Programme

Purpose

The purpose of a budget is to manage the financial aspects of the nutrition programme. If well managed it enables you to use funds optimally to provide nutritious meals for the vulnerable learners in your school.

What to do

Guidelines for budgeting:

1. Keep your budget realistic. This means that you have to include all your expenses. You also have to keep a check regularly on the cost of food items.
2. Budget for a surplus. You must expect that you won't always get your budget right. Do not spend every cent you have. Leave about 5% of your monthly income for expenses that amount to more than you budgeted, and also for unforeseen expenses.
3. Revisit your budget monthly to check how your budgeted amount compares to the actual expenses.

Start up expenses

You have to calculate the start-up costs such as the purchase of a gas stove, gas cylinder, equipment such as cooking pots, plates, cups, spoons and forks, and allocate a portion of your initial income to cover these expenses.

Monthly expenses

It is useful to work out a budget to cover monthly expenses. There are three main categories of expenses: fixed, variable and irregular.

- *Fixed expenses* are regular cost items that are the same every month, e.g. stipends to the food handlers and gardeners.
- *Variable expenses* are regular items that vary every month. All your food items are variable expenses. List each type and quantity, e.g. 20 kg rice, 25kg samp, etc.
- *Irregular expenses* are cost items that may occur at different times during the year. For example the replacement of plates or cups that break or get lost, as well as the repairs and maintenance of stoves.

Use the budget template provided on the following page to plan and record the spending on your school nutrition programme.



Monthly Budget Template

Month _____				
Date _____				
Income	Amount	Expenses	Budgeted	Actual
Department of Education grant		Fixed expenses		
Income from funders		Stipend for cooks		
		Stipend for gardeners		
Donations				
Other income				
		Variable expenses		
		Food		
		Items and quantities		
		Gas		
		Transport		
		Irregular expenses		
		Replacement of equipment		
		Total		
		Surplus/Deficit		

Tool 22: Selected organisations that offer assistance with school food gardens

Starting and maintaining a food garden that is productive and that provides suitable crops of sufficient quantities to supplement school meals, requires know how, careful planning, appropriate selection of vegetables and ongoing care and maintenance.



Organisations that offer assistance with school food gardens		
Organisations	Contact details	Services offered/examples of support
1. National Department of Agriculture	Resource Centre, Directorate Agricultural Information Services Private Bag X144, Pretoria, 0001 South Africa Website: www.nda.agric.za/loadme.html Publications and Tips and Tricks on Farming	1. Information packs on a variety of topics: <ul style="list-style-type: none"> Plan and prepare a vegetable garden Growing cabbage Compost Crop rotation You can get these information packs from the Resource Centre 2. Support from agricultural extension officers who work in your area. They offer this support: <ul style="list-style-type: none"> test soil and water provide seedlings and fertilizer provide fencing and poles conduct training sessions
2. Department of Health	Department of Health Private Bag X828 Pretoria, 0001 Tel 012 312 0000 Fax 012 326 4395 www.doh.gov.za/	<ul style="list-style-type: none"> Partnership with the DoH resulted in irrigations systems being set up in 37 schools Donation of vegetable seeds
3. Department of Education	Contact your nearest District Office www.education.gpg.gov.za/	Information and support services
4. Food Gardens Foundation	P.O.B ox 41250 Craighall Johannesburg 2024 Tel (011) 880 5956/7 Fax (011) 442 7642 www.foodgardensfoundation.org.za/	This NGO teaches people small-scale, low cost food gardening. They do gardening demonstrations at schools in various provinces and have information and videos to teach the basic skills. They also provide good cheap seeds to their members, and advise them on how to make their own compost and when to plant what.
5. Woolworths Trust Eduplant	Food & Trees for Africa Tel: 011 803 9750, email info@trees.org.za www.trees.co.za/woolworths-trust-eduplant.html	The trust offers free Permaculture food gardening workshops

Tips on what to plant

The selection of vegetables to plant in the school gardens is of particular importance. The National Food Consumption Survey of 1999 among children aged 1-9 years, indicated that up to 50% were deficient in Vitamin A intake. Among the vegetables to plant in school gardens would be orange-fleshed sweet potato and green leafy vegetables, such as spinach and *Imifino*. This will highly increase the Vitamin A content of the children's diet.

Some general tips for managing gardens

We contacted the *Food Gardens Foundation* who informed us that gardening requires good management, consistent effort and regular work. Schools that run successful school gardens usually have the following structures and resources in place:

- A gardening 'champion', who is enthusiastic, keeps an eye on things, encourages participation and makes sure the plants are well watered and cared for every day.
- Enough gardening tools to allow for people to work in teams.
- A good sowing guide, to ensure the best crops for each season, and also a regular harvest throughout the year.
- A planting plan that allows easy access to crops and uses the space effectively.
- A strategy for feeding the soil with compost and crop rotation to make sure the harvest is good every time.