

School feeding in east and southern Africa: Improving food sovereignty or photo opportunity?

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**Regional Network for Equity in Health in Southern Africa
(EQUINET)**

EQUINET DISCUSSION PAPER NUMBER 46

March 2007

With support from SIDA Sweden

Table of contents

Executive Summary	2
1. Introduction	4
2. History of school feeding.....	4
3. School health and nutrition.....	5
4. Why do we need school feeding programmes?	5
5. Types of school feeding programmes	6
5.1. School feeding as an emergency intervention.....	7
5.2. School feeding as a developmental intervention to aid recovery	8
5.3. School feeding as a nutritional intervention.....	8
5.4. School feeding to improve child cognitive development.....	9
5.5. School feeding and short- and long-term food security	9
6. Design for a successful school feeding programme	10
7. Evaluating school feeding programmes	10
8. School feeding in east and southern Africa.....	12
8.1. South Africa	13
8.2. Malawi	15
9. New opportunities for school feeding in Africa	18
9.1. Food sovereignty.....	18
9.2. New Partnership for Africa's Development (NEPAD)	21
9.3. The Child-to-Child Approach	23
10. Conclusion and recommendations.....	24
10.1. Conclusion	24
10.2. Recommendations.....	25
List of acronyms	26
References.....	27

Executive Summary

In 2006 the Regional Network for Equity in Health in east and southern Africa (EQUINET) and the Health Systems Research Unit of Medical Research Council (MRC), South Africa commissioned a series of country case studies on existing food security and nutrition programmes in the region that demonstrate good practice in health systems promotion of food sovereignty and equity. This report outlines one of the case studies.

Health and education are the two cornerstones of human capital and form the basis of an individual's economic productivity. Both are valuable instruments in ensuring a healthy economy and creating a literate society. While school feeding interventions fall squarely within the scope of school health initiatives, programmes addressing school health are much wider in scope than school feeding and may include de-worming, HIV/AIDS prevention and education, life and health skills education, and interventions aimed at reducing alcohol or drug consumption. Proponents of school feeding point to a variety of logistical, empirical and moral factors that suggest the need for school feeding:

- The school is an important and convenient setting where health and education interventions can be implemented.
- In principle, SFPs improve educational outcomes such as the number of years spent in school.
- The association between low-achieving children and less regular breakfast meals.
- Micronutrient deficiencies, such as iodine deficiency, have been associated with poor performance on various achievement tests.
- Improvements in female literacy are associated with declining fertility and greater agricultural output.
- A 1% decrease in infant mortality levels for every extra year of schooling for a mother-to-be.

SFPs remain controversial – theoretically, politically and in terms of effectiveness of implementation. Problems include the following:

- There are methodological shortcomings in studies that purport to have found an association between hunger and school performance.
- The World Bank has argued that there is little evidence that school feeding programmes have a positive impact on nutrition for participating children.
- School feeding programmes benefit children in terms of increased school enrolment (particularly for girls) and they help to keep children at school, but they have no impact on the root causes of malnutrition and hunger.
- The timing of any intervention is problematic, particularly in contexts where food aid is finite. Food aid should be targeted at children under three years of age so as to ensure an appropriate developmental trajectory throughout life.
- Serious reservations remain about whether or not governments in resource-poor settings should be allocating resources to school feeding at all and, if they do, whether or not priority should be given to younger children.

In order to situate the discussion of a possible alternative model to current SFPs, the SFPs in two African countries are discussed in some detail.

The Primary School Nutrition Programme (PSNP) was established in South Africa in 1994. The objectives of the PSNP were to improve the health and nutritional status of South African primary school children, to improve school attendance and to improve the learning capacity of children, which would in turn lead to an improvement in the quality of

education. The South African SFP has been criticised because it has generally been a vertical school feeding programme rather than a comprehensive nutritional programme, making any proposed impact on nutritional status unlikely. It has also been expensive and logistically complicated, and beset by significant administrative difficulties and problems related to corruption. Coverage has been poor and inconsistent.

Unlike South Africa, Malawi does not have a national government-run school feeding programme. At present, school feeding is conducted and funded by the WFP and organisations like GTZ and ActionAid, which have supported the school feeding programme in emergencies. The WFP gives the most support to school feeding activities in terms of both numbers and geographical coverage. There is no direct financial contribution from the Malawi government, although the government does provide logistical staff from within various government ministries.

Recently, there has been a move away from the notion of food security to one of food sovereignty. Food sovereignty refers to the rights of communities to define their own agricultural, labour, fishing, food and land policies, which are ecologically, socially, economically and culturally appropriate to their circumstances. Self-sustaining practices are encouraged, including the right to safe, nutritious and culturally appropriate food. A food sovereignty approach comprises a number of different principles, ranging from market policies, food safety, food quality and the environment, to genetically modified organisms, the transparency of information and corporate accountability.

NEPAD is a vision and strategic framework for Africa's renewal that, adopted by the Organisation for African Unity (OAU) in 2001. One aspect of its approach is a flagship programme called the Home Grown School Feeding Programme (HGSFP). With school feeding NEPAD aims to increase children's direct access to food and aims to reach 50 million children of school going age by 2015. An important component of NEPAD's approach to school feeding is the emphasis on stimulating local food production. The key principles of NEPAD's (2003) approach are reliance on domestic food production, the diversification of diets with necessary fortification and supplementation, the stimulation of farm productivity, crop diversification and cottage industry development, infrastructure development, resource mobilisation and community ownership.

The child-to-child (CTC) approach is a participatory approach to health education. In the CTC approach children are seen as partners with their families and communities in promoting better health practices, and it acknowledges that a great deal of child learning takes place between children and not solely between adults and children. Another principle of the CTC is that of learning through involvement, both at school and within the family or community. Children are given out-of-school activities that help them to internalise the message, spreading it beyond the school's confines.

Worldwide, under nutrition accounts for 53% of all deaths among children under five years of age. In the context of scarce resources that characterise the health and nutrition systems of the developing world, the most cost-effective and effective use of these resources assumes particular importance. Given the political sensitivity of SFPs, it can be assumed that they will form part of the nutritional and educational landscape in the short and medium term. If they are to become more than simply a political photo opportunity, creative imagination will be needed by a broad range of African policy makers to ensure that school feeding does, in fact, meet the nutritional and educational needs of children in east and southern Africa.

1. Introduction

Health and education are two of the cornerstones of human capital and form the basis of an individual's economic productivity (World Health Organisation, 2001). They also help to keep a country's economy healthy and to create a literate society. There is considerable evidence that education plays a central role in empowering women, which in turn is linked to numerous long-term benefits such as smaller family sizes and increased agricultural production. Nevertheless, levels of education remain low worldwide: at least 113 million children do not attend school. Most of these children come from developing countries, where this problem is particularly severe. In Africa alone, more than 46 million children do not attend school (UNESCO, 2002). To make matters worse, many of them suffer from malnutrition, are stunted, or experience short-term hunger, which seriously affects their ability to learn.

In 2000, the United Nations met in Dakar to commit itself to the eradication of hunger and the attainment of universal primary education. School feeding programmes (SFPs) are one of the main interventions used to address these challenges. School feeding falls squarely within the ambit of the UN declaration, and at least three of the Millennium Development Goals (MDG), namely MDG 1 (to eradicate extreme poverty and hunger), MDG 2 (to achieve universal primary education) and MDG 3 (to promote gender equality and empower women). Furthermore, the greater focus on educational objectives arising from the UN commitments has seen the number of SFPs (funded by governments, donors and NGOs, mainly from Africa) increase greatly in the past five to 10 years (Bennett, 2003).

In light of these developments, this paper will briefly review the history of school feeding, highlight the principles that underlie many school feeding programmes, and present documented evidence that both supports and criticises SFPs. The experience of two countries with significantly different SFPs (South Africa and Malawi) will be presented in order to illustrate two models of SFPs. These models will be critically evaluated, as will the concept of school feeding as a form of intervention. Despite the fundamental difficulties with SFPs as they exist at present, they are unlikely to fall away and we predict that they will continue to be implemented in the future. As a result, we will propose an alternative model for school feeding, which draws on notions of food sovereignty, the Child-to-Child Approach, and recent developments arising out of the New Partnership for Africa's Development (NEPAD) and the proposed Home Grown Feeding Scheme (HGFS).

2. History of school feeding

School feeding has its origins in the 1930s, when schemes were introduced in the United Kingdom (UK) and the United States (US) with the explicit aim of improving the growth of children (Richter, Griesel and Rose, 2000). In the United Kingdom, a programme that subsidised milk for school children was initiated in 1934 and milk was provided free from 1944 onwards (Baker, Elwood, Hughes, Jones and Sweetnam, 1978). In the late 1960s and early 1970s this benefit was withdrawn from all, except for those children considered to be particularly needy (an early example of the targeting approach in school feeding). School feeding was soon introduced to South Africa, which started a programme to supply free milk to white and coloured schools in the early 1940s.

Since then, school feeding has broadened to include the provision of fortified biscuits, nutrient supplementation or full meals. These meals are either at full or subsidised cost (mostly in the UK and US), or free (more typical of countries in the developing world). It should be noted that most are of dubious quality and nutritional value.

3. School health and nutrition

While school feeding interventions fall squarely within the scope of school health initiatives, programmes addressing school health are much wider in scope than school feeding and may include de-worming, HIV prevention and education, life and health skills education, and interventions aimed at reducing alcohol or drug consumption. Having said this, many school feeding programmes have significant health intervention components and are often an important platform from which to deliver health interventions such as de-worming and iodine supplementation.

In low-income countries, poor health in the form of chronic protein-energy malnutrition, iron-deficiency anaemia, iodine deficiency or helminth infections, contribute significantly to poor educational outcomes. Traditionally, health and education have been seen as separate domains (Child Health Unit, 1997), with a consequent separation of responsibilities between government departments. Increasingly, however, the inextricable link between health and education is being acknowledged, and there is compelling evidence that shows how children's education can benefit from broad health and nutrition interventions (Del Rosso and Marek, 1996).

School feeding programmes (SFPs) occur in a number of different forms, depending on context and timing. Broadly speaking though, the two major goals of SFPs are education and food security (Bennett, 2003). The educational goals include increased attendance and enrolment (particularly for girls) and improved concentration during teaching, aided by the food provided. The goals of food security include the reduction of short-term hunger and the improvement of the nutritional status of school children, thereby reducing levels of malnutrition.

4. Why do we need school feeding programmes?

Proponents of school feeding programmes point to a variety of logistical, empirical and moral factors that suggest the need for school feeding. The following examples indicate the need for SFPs:

- Despite the fact that there are huge numbers of children not attending school, there are in fact many more children attending school in the developing world today than two decades ago. The school is, in principle, an important setting where health and education interventions can be implemented. Because of their existing infrastructure, schools have the potential to become important sites for the implementation of cost-effective health and education interventions.
- SFPs in principle improve educational outcomes such as increasing the number of years a learner will spend in school. This has important implications for other health issues because, the longer children stay in school, the less susceptible they are to certain problems, for example, contracting HIV or becoming pregnant teens (Bennett, 2003).
- Del Rosso and Marek (1996) state that at least fifteen studies have demonstrated that chronic PEM both in the past and in the present diminishes cognitive development,

and that even temporary hunger is associated with poor cognitive development (Grantham-McGregor, 2005)

- Chao and Vanderkooy (1989) have shown how in many developed countries up to a third of children do not eat breakfast regularly. Del Rosso and Marek (1996) quote studies that have found an association between 'low-achieving' children and less regular breakfast meals.
- In many developing countries, children's hunger is exacerbated by the fact that many of them will not have had a nutritious meal the evening before, so they are in fact attending school with hypoglycaemia (Jooste, Wolmarans and Oelofse, 1993). These low blood sugar levels affect their concentration and school performance (Levinger, 1994).
- Micronutrient deficiencies, such as iodine deficiency, have been associated with poor performance on various achievement tests (Pollitt, 1994). Extreme vitamin A deficiency can result in permanent blindness, with significant negative implications for schooling in low-income countries (McGuire, 1993).
- Improvements in female literacy are associated with declining fertility (Child Health Unit, 1997). Women account for 70–80% of household food production in Africa and play a key role in maintaining the three pillars of food security (Quisumbing, Brown, Feldstein, Haddad and Pena, 1995). By ensuring that girls complete as much schooling as possible, they are more likely to be able to use new agricultural technologies in the future, which might lead to greater agricultural output (Sibanda-Mulder, 2004).
- For every extra year of schooling a young girl receives, there is a corresponding 1% decrease in levels of infant mortality (Psacharopoulos and Woodhall, 1985).

5. Types of school feeding programmes

Bennett (2003) distinguishes between five types of SFPs, according to their different objectives:

- school feeding as an emergency intervention;
- school feeding as a developmental intervention to aid recovery;
- school feeding as a nutritional intervention;
- school feeding to improve child cognitive development; and
- school feeding and short- and long-term food security.

While the categories above are not mutually exclusive, they help to illustrate how SFPs are dependent on their context and timing, as well as showing how some SFPs have evolved historically. Bennett (2003) argues that conceptually one of the main difficulties with SFPs has been the mixing of objectives by proponents of school feeding. So, for instance, a SFP will be initiated in order to ensure that children are better able to concentrate at school, but the food provided might be in the form of a take-home ration, or might only be provided late in the school day, so it does not benefit learners in the classroom.

The rest of this section is a discussion of the five types of school feeding listed above, according to their objectives.

5.1. School feeding as an emergency intervention

In east and southern Africa, school feeding has been a major strategy to combat food shortages during crises such as drought or war. In the acute stages of a crisis, for example where schools are not even running, SFPs are not a priority and are rather a supplement to the food aid that is provided at household level (Bennett, 2003). In a crisis situation children are often withdrawn from school in order to assist with income generation, and in this context an SFP can be useful as an incentive to encourage the re-enrolment of children. In addition, where schools are operational, an SFP can operate both as an indirect transfer (a school meal) and a direct transfer (a take-home ration).

HIV/AIDS as an emergency

Bennett (2003) argues that the HIV/AIDS pandemic should be seen as a 'permanent emergency' (particularly in sub-Saharan African) because of the huge increase in the number of orphans and the withdrawal of children from school to assist in sibling care and income generation in households where a parent is sick or has died. In east and southern Africa one of the effects of HIV/AIDS is the increasing number of orphaned and vulnerable children and child-headed households. This has implications for food security, levels of childhood malnutrition and, in turn, the types of nutritional interventions that governments should implement in response.

Pieterse and van Wyk (2006) describe the relationship between HIV/AIDS, food security and African agriculture as a synergistic one. On the one hand, malnutrition increases the susceptibility to HIV infection, while on the other hand, HIV aggravates the cycle of inadequate nutritional intake and malnutrition. Pieterse and van Wyk point out that, while HIV has not led to a sizeable famine on its own, it undoubtedly exacerbates chronic food security. In this regard, Chopra (2004) has shown how the effects of recent droughts in southern Africa have been exacerbated by HIV/AIDS. It is clear that the ability of communities to cope with the challenges of poverty brings has been undermined by HIV/AIDS (Chopra, 2004). In addition, as HIV+ family members become ill, health care expenses increase. And income declines as family members become too ill to work, or because they are vulnerable to the demand for seasonal labour in the agricultural sector (Pieterse and van Wyk, 2006).

As people's household assets are reduced by the effects of HIV/AIDS, their nutritional status and health are affected by the shift from less capital-intensive crop systems to less nutritious, but more easily cultivated, crops such as cassava. Younger family members (in many cases children) are increasingly responsible for having to engage in food production, but without the necessary agricultural apprenticeship from parents and other community members (Chopra, 2004).

School attendance and enrolment

In conditions of extreme poverty, seasonal difficulties (drought), or events such as HIV/AIDS, families generally consider it a low priority to get their children to attend school. So it's promising to see that a number of studies have found that school feeding programmes lead to an increase in enrolment, attendance and even retention (Agarwal, Upadhyay, Tripathi and Agarwal, 1987; Ahmed and del Ninno, 2002; IOCC, 2002). With regard to enrolment, much of the focus of SFPs is on increasing the enrolment of girls, who in times of economic crisis or food emergency are usually the first to be withdrawn from school in order to assist with sibling care and to generate income. The benefits of increasing the enrolment and retention of girls are enormous. It has been shown how

girls who go to school are likely to marry later, and have on average 2.9 children, as opposed to 6.5 for uneducated girls (Bennett, 2003). For every year of additional schooling for a girl, there is a resulting 5–10% decrease in mortality among her children (World Food Programme, 2001). In fact, the best evidence for the effectiveness of SFPs is in terms of increasing enrolment (Bundy, 2005; Jamison and Leslie, 1990). While school meals are an incentive for school attendance, it should be borne in mind that some of the difficulties of access to school are, in fact infrastructural. Porter and Blaufuss (2002) have shown for example how bad roads, inadequate or expensive transport, and the chores that many children have to perform each day before they go to school commonly prevent children from attending school, particularly in rural areas.

5.2. School feeding as a developmental intervention to aid recovery

While there is little difference between using SFPs as an emergency measure versus using them as a form of developmental intervention, there is some heuristic value in distinguishing them. Many of the same principles that govern school feeding as an emergency measure govern school feeding as a form of developmental intervention. The main difference is that, in aiding recovery, the targeting becomes more refined (Bennett, 2003). Developmental SFPs have, as their focus, improving the livelihoods of particular groups that are vulnerable to food insecurity, and not simply (for example) improving school enrolment. The argument here is that, if increased enrolment is the aim, then using government funds to reduce or waive school fees would be a more cost-effective way of ensuring this than an SFP (Bennett, 2003). The SFP here might also include take-home rations, with the explicit focus being on income transfer within the community and not solely on school feeding. The focus here is on wider food security within the community and increasing the availability of, and their access to, food.

The principles underlying the use of an SFP as a developmental intervention include the fact that school feeding and take-home rations add to the food baskets of families, and thereby indirectly alleviate the costs of education. In the developmental approach, school feeding is also considered to be an impetus for the community – and possibly the private sector – to become involved in the implementation of SFPs (Bennett, 2003).

5.3. School feeding as a nutritional intervention

To those unfamiliar with the concept of school feeding, it may seem like a form of nutritional intervention. School feeding has also been used a short-term intervention to increase the enrolment of girls and the retention of learners in schools. So, evidence for the nutritional benefits of school feeding is mixed, for the following reasons:

- School feeding is an ideologically sensitive and highly politicised arena, which makes the conducting of robust trials very difficult (Grantham-McGregor, 2005).
- Poor nutrition and health complaints that contribute to poor school performance are also associated with a variety of socio-economic conditions, which, in turn, impact on school attendance. In times of crisis, controlling for all the possible covariates is almost impossible (Grantham-McGregor, 2005).
- A further complicating factor is that many nutritional and growth difficulties have their origins during the first two years of life rather than during primary school years (Bennett, 2003). Mendez and Adair (1999) have shown that a child's ability to catch up early nutritional deficiency is limited after the age of two. In contrast, Del Rosso and Marek (1996) have argued that school-age children are, in fact, susceptible to a

variety of nutritional difficulties, while Adair (1999) has shown how some catch up (following stunting) is possible between the ages of two and eight. There is also considerable evidence of the benefits of micronutrient supplementation for the growth of school-age girls and the reduction of later childbirth complications (Bennett, 2003).

5.4. School feeding to improve child cognitive development

While early studies were equivocal about the link between nutritional deficiency and cognitive performance, subsequent evidence has shown how even a short-term lack of food (such as a lack of breakfast) can lead to a reduction in concentration, difficulties with the recalling of new information, and verbal fluency (Bennett, 2003). Vaisman, Voet, Akivis and Vakil (1996) have illustrated the benefits of a good breakfast on child performance on a variety of cognitive tests and how performance is significantly better shortly after a meal. Temporary hunger has been shown to decrease attentiveness through decreased mental and physical activity (Levinger, 1994). Nutritional supplementation will help with helminth infections and iodine and iron deficiencies, which are also implicated in poor cognitive performance. Improvements in cognitive performance and development (particularly in girls) are linked to the micronutrient supplementation of iodine and iron (Jamison and Leslie, 1990).

5.5. School feeding and short- and long-term food security

The link between school feeding and food security has usually been conceptualised in terms of how SFPs improve educational outcomes, which, in turn, help to improve literacy, enhance education (particularly among girls), ensure smaller families and improve household management. All of these improvements are linked to short- and long-term food security.

In his study of the impact of SFPs on short- and long-term food security, Hicks (1996) distinguishes between three variables of food security:

- the availability of food (such as crop yields and a diversity of food production);
- access to food (which depend on household income, the control of resources by women and safety nets); and
- the utilisation of food (referring to the nutritional status – protein, energy and micronutrient levels – of schoolchildren).

So, for example, Hicks argues that, with regard to availability, the short-term impact of SFPs on crop yields, diversity of food production and natural resource management are nil. However, if SFPs are targeted properly, they may have an impact on short-term food security by providing take-home rations as an income transfer to the household. With regard to utilisation, short-term food security may be enhanced by improving the protein energy and micronutrient status of children, if the SFP is targeted properly and if the meal that is provided is appropriately fortified and has the necessary energy content. The benefits of long-term food security (with regard to availability, access and utilisation) are all linked to improvements in literacy, numeracy and other educational variables.

6. Design for a successful school feeding programme

Del Rosso (1999) gives the following seven steps to help design a successful school feeding programme:

1. Consensus must first be built around a policy and objectives that focus on how school feeding can contribute to improving education and help to meet the nutrition and health needs of children. In this step, all players agree on what problems the programme is intended to address, who the programme will serve, and which models are feasible for implementation.
2. Thereafter, targeting criteria that focus on high-risk children and communities should be developed. Del Rosso (1999) argues that there is a built-in tendency towards universal coverage but that, in light of the fact that for most countries funding is finite, targeting should be an important component. Del Rosso (1999) is not referring to the targeting of individual children within a school but to economic (for example, household income) and geographic (for example, a poverty map) targeting, as well as targeting nutritional status (for example, linked to malnutrition status for example), and gender (for example, girls).
3. Alternative financing and cost options for SFPs need to be identified. Del Rosso (1999) argues for attempts to ensure that the *cost effectiveness* of SFPs is calculated and not simply the *cost*, which alone says little about the actual value of an SFP.
4. The programme should be explicit about guidelines for the composition of rations, as well as the timing of school meals. These issues should be calculated according to conditions in the education sector and the health and nutrition needs of school-aged children in that country.
5. Potential bottlenecks in implementation need to be identified and resolved. This is particularly relevant to an SFP that is already in operation, and covers factors such as cooking practices and the management of private sector inputs.
6. The development and implementation of monitoring and evaluation systems are crucial to the success of an SFP. Del Rosso points out that, even though SFPs have been used for decades, there is a singular lack of data regarding their functioning and effectiveness.
7. Finally, SFPs should be integrated with other interventions that address the primary nutrition and health problems of school children.

7. Evaluating school feeding programmes

In light of the political sensitivity of SFPs and the vulnerability of the target population (children), a great deal has been written about SFPs, both negative and positive. The main arguments are as follows:

- As a result of significant methodological shortcomings, Grantham-McGregor (2005) argues that caution must be expressed with regard to the findings of many of the studies that purport to have found an association between hunger and school performance (Grantham-McGregor, 2005).
- The World Bank (2006a) has argued that the jury is still out on the effectiveness and sustainability of SFPs, and that there is little evidence that school feeding programmes have a positive impact on nutrition for participating children. There is the added problem of parents in some circumstance providing less food for children in SFPs (the school meal simply replaces a home meal).
- School feeding programmes (which are often sold as nutrition programmes) may have benefits in terms of school enrolment, particularly for girls (Jamison and Leslie,

1990), and may help to keep children at school, but they have no impact on the root causes of malnutrition and hunger.

- The World Bank (2006b) has argued that one of the main reasons for the relatively weak commitment of many governments to nutrition programmes is that many governments claim that they are investing in nutrition because of their financing of school feeding programmes. Resources are then not allocated to other nutrition programmes even though there is limited evidence that SFPs work as a nutritional intervention (World Bank, 2006).
- School feeding is seen as less effective and less strategic in that there are tested technologies which, when implemented at scale, result in significant reductions in malnutrition and micro-nutrient deficiency (World Bank, 2006)
- Perhaps the most common criticism of school feeding programmes has to do with the timing of intervention. The best window of opportunity to address malnutrition and under-nutrition is in the first two years and the pre-school years, where the principal damage occurs. According to the World Bank (2006) school feeding programmes are likely to have little effect on reversing the damage to brain development (caused by early malnutrition and micronutrient deficiency), or on long-term productivity and human capital formation. Bundy (2005) states that, in countries where food aid can be safely assured for the entire community (antenatally for mothers, and from birth and onwards for children) then the question of whether school children should be targeted for food aid is not an issue. However, where food aid is finite (in most cases) then the appropriate target of food aid should be children under three years of age, to ensure an appropriate developmental trajectory throughout their lives (Bundy, 2005). One of the arguments in favour of nutrition programmes that focus on younger children is the finding that children in poor health start school later in life, and in many cases not at all (Del Rosso, 1999). According to Mook and Leslie (1986) the probability of a stunted child attending school was 5%. In addition, malnourished children in Ghana entered school later and completed fewer years of school than better-nourished children (Glewwe and Jacoby, 1994).
- Nutrition education, de-worming and iron supplements are widely seen as better school based nutrition interventions than school feeding. In addition, there is good evidence that iron supplements and de-worming improve schooling outcomes.
- It has also been argued that school feeding only improves learning when the food is accompanied by other inputs related to teaching quality (World Bank, 2006a).
- Bundy (2005) argues that, while there is convincing literature that the enrolment and participation of girls in school can be increased with a school feeding programme, there is also evidence that the same objective can be achieved by a monetary incentive such as a cash transfer.
- There is particularly good evidence that an appropriate early morning snack has some educational impact. A hot meal in the middle of the day (or other foodstuffs, as is often the case) has high opportunity costs and there is little or no evidence of any nutritional or educational impact (World Bank, 2006a).
- The World Bank (2006a) has also argued that most African governments are not in a position to sustain SFPs – the average cost per student in the development SFPs of the WFP in 2000 was \$34 for a 180-day school year.
- The clearest evidence of the benefit of SFPs is increased school enrolment, particularly of girls (Bundy, 2005).
- Cost effectiveness is a complex issue with regard to SFPs. Generally, feeding programmes (including SFP) are the most expensive nutritional interventions. Interestingly, there are no evaluations that assess the cost effectiveness of SFPs, and

no analyses that compare SFPs with other targeted food-based interventions (Bennett, 2003). When thinking about cost effectiveness it is useful to consider aspects such as whether food is cooked on site at the school or elsewhere (this is usually cheaper, as it does not involve a kitchen at the school and the necessary equipment). One should also consider whether the food is local or imported.

- In the case of school feeding being undertaken by an external agency, food aid in the form of a take-home ration is often seen as being essentially without cost and therefore clearly advantageous (for the national government) over a cash transfer. However, this does not take into account the long-term sustainability of food aid. More crucially, it does not take into account the effects of external food aid on local food markets and local farmers (who, in many instances, would be the potential beneficiaries of the food aid). This is particularly relevant with regard to issues of food sovereignty and the extent to which SFPs have an adverse effect on the global economy. Subsidies on food products are likely to distort prices in the local economy, which, in turn, may have negative implications for food production (Bundy, 2005) in the very same communities that SFPs are intended to assist.
- In light of the fact that the best evidence for the effectiveness of SFPs is increasing levels of school enrolment (Bundy, 2005; Jamison and Leslie, 1990), the World Bank (2006a) recommends that SFPs should target poor areas where enrolment and attendance are lowest and where the value of food is sufficient to attract children to school. They add, however, that the SFP must be integrated into a broader package that includes the promotion of balanced nutrition, clean water and high sanitary standards. These issues should form part of an educational reform programme that must include teacher training, curriculum reform and student assessment (World Bank, 2006a).

In summary, while it is socially desirable that children do not remain hungry or have to walk long distances home to eat, serious questions remain about whether governments in resource-poor settings should be allocating resources to school feeding, and whether priority should perhaps be given to younger children. To situate the discussion of a possible alternative model, a brief discussion of SFPs in two African countries is in order.

8. School feeding in east and southern Africa

There are significant differences between school feeding programmes in east Africa and those in southern African, based on factors such as socio-economic status, the number of food emergencies that have occurred, the nutritional status of children in various countries and, most importantly, the financial or infrastructural ability of governments to implement SFPs. In east and southern Africa there are two main types of SFPs:

- programmes that are entirely funded by the national government, typified by countries such as South Africa and Botswana; and
- programmes that are predominantly operated and funded by external sources (usually the WFP) and with only partial government funding, which are found in countries such as Lesotho and Malawi.

The rest of this section focuses on SFPs in:

- South Africa, in southern Africa, where SFPs are funded entirely by the national government; and
- Malawi, in east Africa, where SFPs are predominantly operated and funded by external sources.

8.1. South Africa

South Africa is unique in east and southern Africa: it is the only country considered to be food secure and self sufficient in terms of its own food production, yet statistics from 2003 show that more than 14 million South Africans were food *insecure* in that year (Pieterse and van Wyk, 2006). In addition, 1.6 million children were stunted by malnutrition and 43% of households were suffering from some level of food poverty (Pieterse and van Wyk, 2006). Levels of inequity in South Africa remain particularly high. For example, the poorest 20% of the population have a mere 3.5% share of national consumption, while the richest 20% have a phenomenal 62.2% (UNDP, 2005).

The Primary School Nutrition Programme (PSNP) was established in September 1994 as a Presidential Lead Project of the Reconstruction and Development Programme (RDP). The RDP was the brainchild of the new government, led by the African National Congress (ANC), which attempted to redress the imbalances and inequities of the apartheid era. At inception, the PSNP aimed to intervene at two crucial points in the future development of South Africa: nutrition and education. Its objectives were to improve the health and nutritional status of South African primary school children, to improve school attendance and to improve the learning capacity of children, which would in turn lead to an improvement in the quality of education. The aims of the PSNP were explicitly stated: The PSNP was intended to 'contribute to the improvement of education quality by enhancing primary pupil's learning capacity, school attendance and punctuality and contribute to general health development by alleviating hunger. Educating pupils on nutrition and also improving nutritional status through micro-nutrition supplementation. Parasite education where indicated. To develop the nutrition component of the general education curriculum' (Government of South Africa, 1994: 46).

Central to the RDP policy was an attempt to curb runaway government spending, which meant that provinces had to target their nutrition interventions at poor primary school learners while ensuring that overall debt did not escalate (Wildeman and Mbebetho, 2005). Wildeman and Mbebetho note that, despite the fact that the PSNP was a presidential lead project, it received weak funding prioritisation, as evidenced by a 15.4% drop in the number of participating schools between 1995 and 2003. From 1998 to 2004, the PSNP was administered by the Department of Health. Responsibility for school feeding in South Africa was transferred to the Department of Education in April 2004 and the programme was renamed the National School Nutrition Programme (NSNP).

In South Africa there are big differences in the ways in which provinces implement their SFPs. In the Western Cape Province, there are three service providers (which won tenders). The largest is the Peninsula School Feeding Association (PSFA), which is the largest non-governmental and non-profit organisation in South Africa solely involved in school feeding. Alternatively, in the Eastern Cape Province there are more than 3,000 service providers. The aim of their approach was to stimulate the growth of small businesses and income generation. One of the problems with this approach is that any food security aspect at community or household level is lost by opting for the cheapest food tender. In the Eastern Cape, the country's poorest province, farm schools poorly covered and other schools (Grade 1 to Grade 4) are only receiving food three days a week due to budget constraints. By contrast, schools in rich provinces like the Western Cape and Gauteng feed their children five days a week and coverage is from Grade R (the year prior to the first year of school) to Grade 7 (the last year of primary school). In other words, coverage is worst in South Africa's poorest province and best in its richest.

Further developments in South African SFPs have included attempts to address the issue of younger children receiving nutritional inputs, with the result that a number of provinces in South Africa have extended their SFPs to include children in Grade R (the year prior to the first year of school). Naturally, this should be applauded, but Wildeman and Mbebetho (2005) make the point that government-sponsored Grade R facilities are a drop in the ocean compared to the many early childhood development (ECD) facilities that exist throughout South Africa and that do not receive any government assistance. In addition, in rural areas and in urban poverty nodal areas, very few ECD facilities will even be registered and therefore will not be subsidised.

Targeting has been a particularly contentious issue in the South African context. With regard to targeting at present, there is a significant disjuncture between policy and practice between provinces. In some cases, because of budget constraints, grades receiving school feeding have been cut to Grades 1 to 4 only. There are a number of schools in South Africa that practise individual targeting, as opposed to school targeting (providing food only to particular children in schools rather than to all children in a targeted school). However, in the Eastern Cape, farm schools, which are arguably the most in need of school feeding, remain very poorly covered (Wildeman and Mbebetho, 2005).

Evaluating school feeding in South Africa

A number of evaluations of the PSNP and the NSNP have been carried out. Perhaps the most comprehensive evaluation of school feeding in South Africa was conducted by the Child Health Unit (Child Health Unit, 1997). While praising the noble aims of the PSNP, they outlined a number of significant weaknesses in the programme (Child Health Unit, 1997). These included the following:

- Despite the broad aims of the PSNP (such as nutrition education and micronutrient supplementation), it has generally been a vertical school feeding programme, rather than a comprehensive nutritional programme, making any proposed impact on nutritional status unlikely.
- School feeding is expensive and logistically complicated and, in the South African context, has been beset by significant administrative difficulties and problems related to corruption.
- Many of the implementation problems have been due to management difficulties.
- Coverage in South Africa was poor and inconsistent. Unfortunately, the number of schools that were reached by feeding programmes is often seen as a marker of success. But this is misleading because it says nothing about the quality of the food, which days were missed, which children were at school to receive the meal, or which schools were able to provide the food only later in the day, and not at breakfast.

But other researchers have come out in support of SPFs. For example, Louw, Bekker and Wentzel-Viljoen (2001) claim that the benefits of a properly designed and effectively implemented SPF would far outweigh its costs. It should be noted here that their assessment was based on their evaluation of the government's programme in principle and not on the actual planning and implementation of the programme. Kallman (2005) observed that teachers were positive about school feeding because they saw it as contributing to greater learner cognitive attentiveness, improved school attendance, reduced absenteeism and better household food security. However, these teachers' claims have not been empirically supported by well-controlled, large-scale studies.

In her evaluation of the NSNP, Kallman (2005) concludes that it is virtually impossible to evaluate the extent to which the primary aims of the NSNP have been met, as data on the various factors that affect school performance, drop-out rates, enrolment and concentration is not available. In addition, in South Africa it is often the case that primary and high schools occupy the same premises. If a family has one child in primary school and another in high school (and only a primary school feeding scheme is in operation), it is possible that one child will be fed and not the other. The South African Human Rights Commission (2004) evaluated South Africa's SFP and concluded that the steady drop in numbers of children being fed since the inception of the programme in 1994 compromised the programme.

Louw, Bekker and Wentzel-Viljoen (2001) support targeting in SPFs, but believe that targeting has been undermined by political imperatives to cover as many schools as possible. Mtyala (quoted by Wildeman and Mbebetho, 2005) has stated that individual targeting is socially undesirable because of the inevitable stigmatisation that occurs. But the director of the PSFA responded by saying that individual targeting is unavoidable and that he did not believe that stigma was that much of an issue (David Galland, personal communication). In some schools, only 20 children are fed, while in others over 1,000 children are fed. Louw et al (2001) state that teachers' perceptions are that individual targeting leads to intimidation, victimisation and stigmatisation.

It is likely that SFPs are here to stay in South Africa, with increases in the school feeding budget having been announced by the National Treasury, up to and including 2008. Kallman (2005) notes that this grant is likely to continue for at least the next 10 years.

Recommendations for school feeding in South Africa

In 1997, the Child Health Unit made three broad recommendations with regard to the PSNP in South Africa:

- **Targeting criteria should be more stringent.** As a result of the particularly poor SFP coverage, it was recommended that fewer schools should be targeted, and on a sounder financial basis, to ensure that SPFs do not continue to deteriorate. Feeding should focus on children that are likely to benefit the most. Fund allocation should be based on infrastructure and location.
- **School feeding management should be improved.** Management systems should be developed to work effectively in the rural and under-resourced areas of the country. Non-governmental organisations should be used. Local needs should be considered and community involvement should be encouraged.
- **The quality and quantity of school meals should be optimised.** Meals must be provided early in the morning and their energy content should not fall below 20–25% of the current recommended daily allowance (RDA). Guidelines about the minimum quantity of micronutrient content should be developed and the use of fortified commercial foods should be discouraged, as they promote unhealthy eating habits.

8.2. Malawi

In this section, we will focus on school feeding in the east African country of Malawi. Two organisations that play a big role in food aid in Malawi are the World Food Programme (WFP) and Food for Education (FFE). These organisations will be discussed first, followed by an analysis of Malawi's school feeding programme and recommendations for the future.

The World Food Programme

The World Food Programme (WFP) is a United Nations organisation and is the world's largest international food aid organisation, tasked with combating hunger throughout the world. WFP has operations in 82 countries and, in 2005, it distributed food to 97 million of the poorest people in the world. While predominantly meeting emergency food needs, the WFP also supports economic and social development through a policy of deterrence or prevention. The WFP describes food aid as one of the most effective means of preventing malnutrition and thus an effective deterrent against long-term poverty (World Food Programme, 2007).

The WFP is the largest organiser in the world of Food for Education (FFE). While the WFP provides food to schools in 70 countries, FFE includes a broader basket of interventions that aims to improve school enrolment, attendance, community-school links and learning (WFP, 2006). The FFE programme provides in-school meals or snacks to reduce short-term hunger and the associated cognitive impediments. In addition, the FFE programme provides take-home rations targeted at girls, orphans and other vulnerable children who attend school regularly. Finally, the FFE intervention uses a food-for-work scheme targeted at teachers and parents to improve schooling outcomes (Sibanda-Mulder, 2004). The WFP's FFE programme has operations in Malawi and other African countries such as Angola and Lesotho.

Food for Education strategies

Food for Education (FFE) has adopted the following strategies to deal with school feeding:

- **Plan SFPs according to a programme design:** From the outset, the potential benefits of the intervention, the nature of government partnerships and the exit strategy need to be assessed and planned. Sibanda-Mulder (2004) argues that good planning with regard to programme design allowed the WFP to phase out its operations in Botswana in 1997, after which Botswana continued with the same school feeding programmes without the WFP's assistance.
- **Promote the education of girls:** Sibanda-Mulder (2004) states that a priority of the WFP programme is the education of girls, not only because of the gender disparities in schooling that exist in many schools, but also because women play key roles in maintaining the three pillars of food security – food production, economic access to available food, and nutritional security.
- **Develop home-grown SFPs:** Home-grown SFPs aim at expanding school feeding programmes in order to increase enrolment, while at the same time promoting local food production and the incorporation of agriculture into the school curricula.

School feeding in Malawi

The Malawian government's Free Primary Education Initiative has been successful in increasing school enrolment, but has created a gender gap in favour of boys. Enrolment in primary school in Malawi is estimated to be about 78%, but 30% of poor children do not even begin school, while only 38% of children who enrol in primary school will go as far as completing Grade 8 (World Food Programme, 2006).

Unlike South Africa, Malawi does not have a national government-run school feeding programme. At present school feeding is conducted and funded by WFP and organisations like GTZ and ActionAid, which have supported the school feeding programme in emergencies. The WFP provides most of the support for school feeding

activities, in terms of both numbers and geographical coverage. There is no direct financial contribution from the Malawian government, although it does provide logistical staff from within various government ministries.

The objectives of the Malawian school feeding programme are:

- to improve school enrolment and the attendance of girls and orphans;
- to reduce short-term hunger, which slows the learning process, thereby improving children's concentration and their assimilation of information; and
- to reduce disparities in enrolment and drop-out rates between boys and girls, especially in grades 5 to 8 (Roka, 2004).

The WFP programme aims at minimising the number of school drop-outs, increasing enrolments (particularly among girls) and improving concentration among children living in food insecure districts. The programme currently supports 410,000 pupils in 489 schools in 14 districts. In the programme, pupils in targeted schools receive a daily mid-morning meal of porridge on each school day, while the programme also provides a take-home ration of 12.5 kg of maize per month for girls and for boys that have lost both parents who attend 80% of school days as an incentive to stay in school (WFP, 2006). The WFP and the Ministry of Education, in collaboration with the Ministry of Health, have also provided de-worming tablets for targeted schools. Other donor agencies, such as UNICEF and the World Bank, also assist the project by providing water and sanitation facilities, as well as establishing school gardens, in about 76 schools (WFP, 2006).

Malawi is currently developing a Nutrition and School Feeding Policy, and has proposed an institutional framework for a nation-wide school health and nutrition programme that is intended to operationalise school feeding activities supported and implemented by the government and other stakeholders. The policy has not as yet been implemented. The framework draws equally on the existing structures and current resource bases of the Ministry of Education and the Ministry of Health. At school level, it is proposed that specific committees should be established for school health and nutrition. Essentially, these committees will consist of members of currently existing school committees and village health committees.

The four programmes that are envisaged are:

- health and nutrition education
- the distribution of de-worming medication
- the distribution of micro-nutrients
- water and sanitation improvements.

The policy framework also notes that, if sufficient funds were available for a more comprehensive programme for school health and nutrition, other programmes would also be supported. These programmes include promoting the building of school gardens, as well as active learning, school-based physical assessment and school feeding.

Evaluating school feeding in Malawi

In 2004, Roka conducted an evaluation of school feeding in Malawi in a number of districts. Unfortunately, it was not a properly controlled study and therefore its results should be read with some caution. These results are listed below:

- There was an overall increase of 37.7% in the enrolment of girls, which was attributed to the fact that girls, and not boys, were given take-home rations.
- Girls' enrolment in non-project schools declined by 9.7%.

- Boys' enrolment in project schools increased by 24.4%, compared with a drop of 7.7% in non-project schools.
- Both project and non-project schools registered increases in girls' pass rates during the project implementation period, while boys' pass rates remained the same at 69% in project schools.
- The increase in enrolment has meant that the teacher-to-pupil ratio has increased, placing additional pressure on existing teachers, as well as generating an increased demand for more teaching and learning materials in project schools.

Absenteeism was seen as the main factor affecting boys' performance in project schools. In families where there are only boys and no take-home rations are received at school, household food insecurity is an important factor in determining boys' school attendance. Roka (2004) argues that during certain months of the year, parents call upon boys to participate in piecework, which earns them food, or cash to buy food. Roka's (2004) report makes few recommendations, unfortunately. Perhaps the most important is his recommendation that take-home rations should be given to boys during critical food-shortage months in order to partially improve household food security and thereby increase levels of school attendance.

9. New opportunities for school feeding in Africa

Despite the shortcomings of SFPs in Africa and elsewhere, they are not likely to go away and will continue to be used in the near future. So, the question remains: how can SPFs be improved? In this section, three strategies will be presented:

- food sovereignty
- the New Partnership for Africa's Development (NEPAD)
- the Child-to-Child Approach.

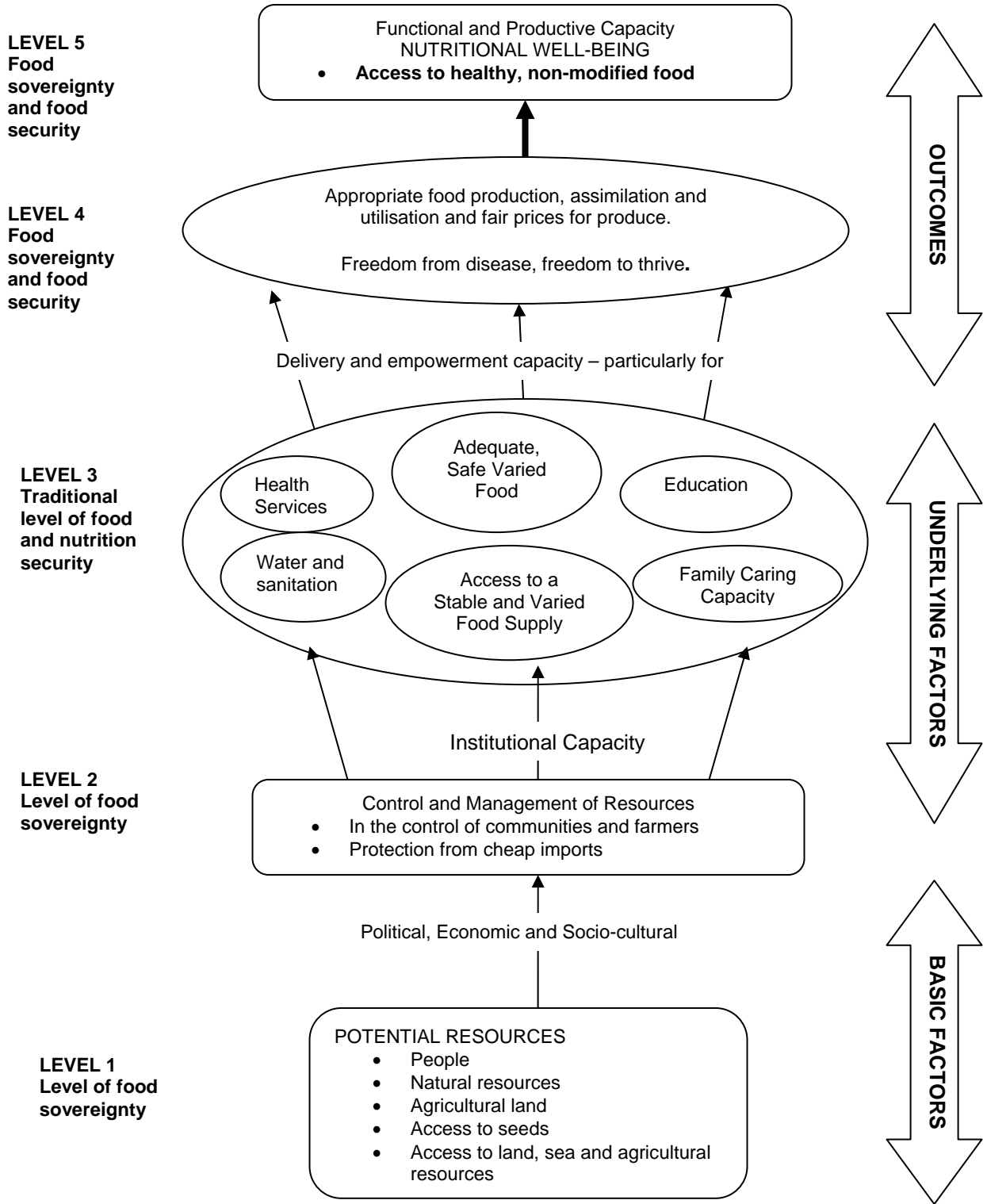
9.1. Food sovereignty

What is food sovereignty? So far, this paper has discussed only food security and nutrition security, but these two concepts have their limitations. Let's take a closer look at food security and nutrition security before we move on to food sovereignty.

Traditionally, food security has been understood as the availability and accessibility to food of sufficient quality and quantity in a socially and culturally acceptable manner. The concept of nutrition security is much broader, and it focuses on the environment and good care practices, in addition to household food security (World Bank, 2006). Nutrition security acknowledges that gender, education, access to water and sanitation all impact on nutrition status, over and above the simple problem of food availability. Food security is a necessary, but not sufficient condition, for nutrition security (World Bank, 2006).

Figure 1 illustrates the determinants of nutritional well-being. Level 3 illustrates the traditional understanding of food security and its emphasis on access to a stable and varied food supply.

Figure 1: Food sovereignty and school feeding



(Adapted from: Determinants of Nutritional Well-being [UNICEF, 1994])

The limitation of both these approaches is that little mention is made of access to the means by which the food is produced such as access to land, fishing resources, or seeds. As the absolute number of malnourished children in sub-Saharan Africa actually increases (Chopra, 2004), and the achievement of the MDG 1 of eradicating extreme poverty and hunger appears increasingly unlikely, people's access to the means of food production is increasingly taking centre stage. In recent years, with the increasing influence of economic policies championed by the World Trade Organisation (WTO), the International Monetary Fund (IMF), the World Bank (WB), the United States and the European Union, the concept of food security has been redefined as a global market function that assumes a free market, where the criteria that govern food security are corporate rather than social (Chopra, 2004). It has been argued that, instead of ensuring food security for millions of people around the world, these institutions in fact prioritise export-oriented production, and the concentration of agriculture in the hands of a few, thereby alienating millions from productive assets and resources (People's Food Sovereignty, 2001). While the notion of food security may previously have had some use, it has been misused by rich nations to encourage poorer nations to import food from the North, rather than producing it themselves (Grain, 2006). Another problem is the distortion of local food production in the developing world as a result of the way in which food aid is linked to food production in the United States. The US is the single largest provider of food aid and, under US law, 75% of food aid must be sourced, fortified, processed and bagged in the USA (Grain, 2006). Unsurprisingly, many of the same transnational companies that largely control worldwide food production and distribution also control the US food aid process.

Recently, there has been a move away from the notion of food security to the notion of food sovereignty. Food sovereignty has been defined as:

...the right of peoples, communities, and countries to define their own agricultural, labour, fishing, food and land policies, which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food and to food-producing resources and the ability to sustain themselves and their societies.

From: Via Campesina, 2003: 2.

Food security and nutrition security are necessary, but not sufficient, conditions for food sovereignty. A food sovereignty approach comprises a number of different principles, ranging from market policies, food safety and quality, and the environment to genetically modified organisms, the transparency of information and corporate accountability. See Figure 1 (levels 1 and 2) for an outline of how a food sovereignty approach broadens the notion of food security.

Selected food sovereignty principles include the following:

- Locally produced food should be used for SFPs. Food is produced for local markets based on peasant and family farmers, thereby affecting the development of local food economies and food outlets (Chopra, 2004; People's Food Sovereignty, 2001). Using local produce for SFPs will stimulate the local economy, supply appropriate food for school children and, if correctly managed, will lay the foundation for the transfer of agricultural skills between generations.
- Farmers must be offered fair prices for their produce. At present, because of agricultural subsidies in richer countries, EU beef (for example) is sold in southern

Africa for 30 pence a kilogram, whereas it costs one pound to produce (Chopra, 2004). This inequity will invariably have a negative impact on any school feeding intervention – whatever the form.

- Central to the food sovereignty approach is the equitable access to land, seeds water, credit and other productive resources.
- The role of women in agricultural production should be promoted. This issue has particular relevance to school feeding and the enrolment of girls, given the link between years spent at school by girls and subsequent increased agricultural production.
- Dangerous technologies, such as food irradiation that negatively effect nutritional content, should be banned.
- Attempts should be made to establish criteria for food quality and variety that are relevant to the needs and preferences of local communities.
- The government should support the activities of families and communities that are aimed at increasing production, as well as promote and support local control and production of food.
- Food sovereignty implies that a country is free to determine its modes of food supply. However, for the globalisation of the food trade has led to the rise of transnational food companies that are increasingly dictating the extent to which individual countries are able to determine the nature of the crops they plant and the food they produce. In essence, these companies control the entire food chain, from agricultural inputs to production and distribution.

To illustrate how transnational food companies operate, one may consider the example of US-based Cargill, which manages a food chain on a global scale. It manufactures fertiliser in the US and ships it to Argentina, where it is used to grow soya beans, which are then exported to Thailand to feed chickens. The chickens are finally sent to the United Kingdom for human consumption. Cargill manages the entire process. (Hawkes, 2006). The Slow Food Movement (SFM), which originated in Italy, is an example of a global initiative that opposes the growth of the fast food industry governed by transnational food companies like Cargill. The SFM promotes local traditions, local food and respect for the environment, avoids the use of synthetic fertilisers, herbicides and hormones, and ensures fair and sustainable agriculture (Slow Food Movement, 2006).

9.2. New Partnership for Africa's Development (NEPAD)

The New Partnership for Africa's Development (NEPAD) is a vision and strategic framework for Africa's renewal that was adopted by the Organisation for African Unity (OAU) in 2001. Some of NEPAD's primary objectives are to eradication of poverty, to place African countries, both individually and collectively, on a path of sustainable growth and development, and to accelerate the empowerment of women. Central to the its approach is the involvement of role players beyond those in African governments. One of NEPAD's flagship programmes, and a new initiative, is food security and nutrition. For NEPAD, food security is a necessary, but not sufficient, condition for ensuring adequate nutrition. In order to improve upon past efforts to achieve food security, NEPAD has developed the Comprehensive Africa Agriculture Development Programme (CAADP), which was endorsed in 2003. The CAADP has four priorities (referred to as 'pillars') for investment and action:

1. extending the area under sustainable land management and providing more reliable water control systems (increasing access to irrigation);

2. ensuring that locals may have better market access by improving rural infrastructure;
3. reducing hunger, increasing the food supply and improving future responses to food emergency crises; and
4. improving agricultural research, adopting appropriate new technologies and giving more support to farmers so that they may be able to use these new technologies.

Pillar 3 includes a coordinated plan to improve nutrition, such as the fortification of processed foods, the dietary diversification of nutrition crops at the household level and nutrition education. One aspect of Pillar 3 is a flagship programme called the Home Grown School Feeding Programme (HGSFP), which will be discussed in some detail later in this section. Part of NEPAD's philosophy is to acknowledge that, in order to alleviate hunger and malnutrition, no long-term solutions are possible without short-term ones. With school feeding, it aims to increase children's direct access to food through school feeding programmes, with a target of 50 million children of school-going age by 2015.

NEPAD emphasises the need for SFPs to stimulate local food production. Many SFPs (including the WFP) may use food from the country in which they work (although, in many cases, it comes from external sources) but, in most cases, it is not food produced within the local vicinity of the schools. NEPAD aims to give local smallholder farmers the opportunity and assistance to provide schools with the necessary food products. According to NEPAD's calculations, if 50 million children were fed for 220 days a year, 5 million tons of food per year would be consumed in the programme, which would require the produce of at least 2 million poor farmers. NEPAD's aim is that, in addition to creating a demand for basic crops like maize and bananas, demand will also be created for groundnuts (for their oil), sugarcane, various fruits, cassava and livestock.

The key principles of the NEPAD (2003) approach are as follows:

- **Relying on domestic food production:** Food must be produced within the local vicinity of individual schools.
- **Diversifying diets with the necessary fortification and supplementation:** For example, cassava is more drought resistant, yet it is not as nutritious as maize and needs to be fortified. Technical assistance, in the form of increased soil fertility, better water management and improved seed supply, may also be provided to marginal farmers, thereby ensuring more nutritious crops. NEPAD concedes that it is unlikely that local food production will be able to meet all the nutritional requirements, so some ingredients will have to be sourced nationally or regionally. It recommends that the school meal provide at least 50% of the RDA of nutrients such as iron, zinc and iodine. In outlining a basic lunch meal, NEPAD concedes that the energy, iron and zinc may be below 50% and so, in addition to a lunch meal, it recommends a school snack for breakfast. However, any nutrition intervention also needs to have an educational aspect if the provision of macronutrients and micronutrients is to prove successful (NEPAD, 2003).
- **Stimulating farm productivity:** By creating local demand, SFPs can stimulate local crop production. As has already been stated earlier, this needs to be done with the assistance of governments, in terms of technical expertise. Because farmers have a guaranteed market for their crops, it may be easier for them to obtain micro-credit to buy seeds and other agricultural products.
- **Crop diversification and cottage industry development:** NEPAD argues that cottage industries such as those that produce oil, sugar and fruit drinks can be

developed with minimal investment. It also recommends the development of school gardens and even suggests that schools should keep some livestock for milk and eggs.

- **Infrastructure development:** Infrastructure includes all infrastructure required to produce the meals, the use of soil power satellite communication and the development of storage facilities.
- **Resource mobilisation and community ownership:** NEPAD's recommendation with regard to control of the HGSFP is that parent/teacher associations (PTA's) should manage the flow of money to local farmers in payment for food. The recommendation is also that PTA's have access to a bank account and have simple bookkeeping skills and systems in place for the control of expenditure.

9.2.1. The Home Grown School Feeding Programme (HGSFP)

The central aim of the HGSFP is the adequate nutrition of school-going children, which is achieved by supplementing their diet with a complete meal that is adequate in energy, protein, vitamins and minerals (NEPAD, 2003). The reasons NEPAD gives for focusing on school-going children are to improve nutritional status in formative years. Since primary education is compulsory in most African countries, children can be more easily reached by going to schools, so schools can be used as efficient distribution centres. They also argue that school feeding will enhance enrolment and attendance, with attendant improvements in literacy (particularly for girls), an important component of poverty reduction (NEPAD, 2003).

The HGSFP includes many of the principles of a food sovereignty approach and, as such, is an important step forward in the fight against child hunger. Unfortunately, many of its important initiatives have thus far not been incorporated into SFPs. One of the difficulties is that it is, at its core, a nutrition programme rather than an educational one, with the potential difficulties of obtaining 'buy in' from education ministries. In addition, cassava is the only crop that is being promoted, whereas this could be the perfect opportunity to promote other 'lost crops of Africa' such as the bambara bean, baobab, cowpea, enset, and locust bean, all of which have significant potential to improve food security and rural development in Africa (National Research Council, 2006).

The primary objective of the NEPAD approach is to reach the 50 million children in Africa that are food insecure. Its secondary objective is to help farmers to diversify their crops and increase their production. NEPAD (2003) acknowledges a number of barriers to implementation, such as a lack of credibility that the system can work, the possible misappropriation of funds a lack of infrastructure to deliver the goods and prepare the foods, and a lack of capacity in systems such as PTA's to order the food and get the meals made. Given the lack of capacity of many African governments to implement even basic SFPs, it is likely that the implementation of the NEPAD HGSFP is going to be difficult.

9.3. The Child-to-Child Approach

The child-to-child (CTC) approach is a participatory approach to health education that originated in Africa in 1979 in preparation for the International Year of the Child. It has been implemented in many African countries as well as in other countries in the developing world. The aim of the CTC approach is to broaden traditional ideas of education, where didactic interaction between teacher and child predominates. Instead,

children are actively involved in various health-related activities and become an important conduit in conveying health and nutrition messages to their siblings, their parents and even their communities. One of NEPAD's recommendations that fall squarely within the CTC approach is that the nutritional intervention should have a nutrition education aspect. Part of their reasoning for this is that often children are the ones that teach their parents nutrition concepts, so an educational component delivered to children will benefit the entire family.

In the CTC approach children are seen as partners with people in their families and communities in terms of promoting better health practices (Kitsao and Waudo, 2002). This approach acknowledges that a great deal of child learning takes place between children and not solely between adults and children. It is this learning that the CTC approach tries to harness.

Another principle is that of learning through involvement at school, as well as within the family and in the community. The process involves providing children with out-of-school activities, which help the child to internalise the message and spread it beyond the school into their families and communities (Del Rosso and Marek, 1996). Del Rosso and Marek (1996) state that, despite the abundance of child-to-child programmes, very few have been systematically evaluated, which makes claims of efficacy difficult. Examples of programmes that have been implemented include some that required children to bring salt from home in order to test it for iodine at school, and others that aimed to change children's dietary practices and educate them about anaemia (Del Rosso and Marek, 1996). Further programmes aimed to ensure clean drinking water and improve levels of hand washing, and twinned older children with younger children (Gibbs, 1997). The effective implementation of a CTC approach has the potential benefit of diluting one of the major criticisms of school feeding – the lack of focus on younger children. An effective CTC intervention may lead to significant benefits for younger siblings.

10. Conclusion and recommendations

10.1. Conclusion

School feeding is a highly contested and politicised terrain. Despite limited evidence for the effectiveness of SFPs (especially when not implemented optimally), SFPs continue to be implemented in a variety of forms. In this paper, a theoretical overview of the principles underlying SFPs was provided, as well as a discussion of the criticisms of such programmes. Case studies of South Africa and Malawi were presented to highlight the financial costs, logistical constraints and management difficulties of implementation that are characteristic of SFPs in the region. An aspect of school feeding that is omitted from most evaluations is its political nature. For instance, the introduction in 1994 of school feeding in South Africa by the new democratic government was an intervention based more on the political imperatives of the time than on any scientific evidence of school feeding effectiveness. As a result, terminating the South African SFP has become almost impossible (despite its significant problems and limitations). It is likely that this is more to do with the political mileage and the photo opportunities that school feeding affords than with any measured impact that school feeding might be having.

Unless the aims and objectives of SFPs are closely tied to the mode of implementation (such as ensuring a breakfast meal, if improving child concentration in the classroom is

the aim), SFPs are likely to prove unsuccessful, and will waste limited resources. In addition, this paper has shown that, despite the noblest intentions, there is little or no focus in SFPs on improving household food security or food sovereignty. NEPAD's ambitious proposals are intended to reverse this, but they have not yet been implemented by any country in the region.

10.2. Recommendations

What lessons can be learned from the current state of SFPs in east and southern Africa and how should they shape future interventions in the region? Here are this paper's main recommendations:

Mechanisms and processes must be instituted in order to facilitate better coordination between the Ministry of Health and the Ministry of Education. Added to this, in terms of the preceding discussion on food sovereignty, processes must also be instituted to ensure that the Ministry of Agriculture is involved in ensuring the broadening of school feeding principles and objectives. This will obviously vary from country to country.

Despite the ethical implications of conducting large-scale, randomised controlled trials to assess the effectiveness of school feeding programmes, significant effort must be expended in evaluating SFPs at scale. Unsubstantiated claims and assumptions are frequently made regarding the design of SFPs and their effectiveness.

Levinger (1994) makes the crucial point that resistance to the implementation of school feeding programmes must be addressed. In low-income countries with scarce resources, educational authorities are unable to see the direct benefits of a school feeding scheme (in educational terms), so they don't want to 'sign up' for the extra work involved in running school feeding schemes in their school, district or country. Increased enrolment and attendance in contexts where classroom sizes are already unmanageable may in fact be counter-intuitive for already overworked teachers and educational authorities.

Active community participation is often cited as missing in many school feeding programmes, and is integral to both the NEPAD approach and the food sovereignty approach. Significant community mobilisation and cooperation is needed to broaden the scope of SFPs.

In sub-Saharan African, the increasing numbers of orphaned and vulnerable children due to HIV and Aids will place a bigger burden on the health and education systems. SFPs can encourage enrolment and reduce drop outs, but are unlikely to present enough of an incentive to severely labour-constrained households, particularly child-headed households. Combining school feeding with a food sovereignty approach and CTC approach will pass on agricultural and indigenous knowledge to orphans and vulnerable children, giving them better skills to grow more food (Slater, 2004). Basic education affects small landholders and subsistence farmers' productivity immediately and positively. A farmer with four years of elementary education is, on average, 8.7% more productive than a farmer with no education at all (Gasperini, 2006). In line with the CTC approach, one possibility is to provide take-home rations as a means by which younger children can access food. 'Children First' have recommended this approach, where orphans get take-home rations to take home to other siblings (Children First, 2004).

As Gasperini (2006) has argued, many children will be the farmers of tomorrow, and educated children have a better chance of becoming more productive farmers, and nutrition education, including school gardening and small animal care which bring alive the content of science and social studies, provides shared experiences for language development and settings for mathematic skill development. These can also provide life skills, basic entrepreneurial and self employment skills, while also contributing to enhance the relevance of the curriculum and quality of education (Gasperini, 2006).

In essence, the scope of SFPs needs to be broadened by incorporating food sovereignty, the HGSP approach of NEPAD and the Child-to-Child Approach to education.

In the context of the worldwide reality of endemic malnutrition, stunting, and helminth infections, and where undernutrition accounts for 53% of all deaths among children under five years of age, nutritional interventions are crucial (Hyder, 1998). However, in the context of scarce resources, which characterises the health and nutrition systems of the developing world, the most cost-effective and efficacious use of these resources assumes particular importance, not only in addressing the nutritional needs of Africa's children, but also in ensuring the right of people to food that is safe and nutritious, and to the means with which they can sustain themselves. Given the political sensitivity of SFPs, it can be assumed that they will form part of the nutritional and educational landscape in the short and medium term. If they are to become more than simply a political photo opportunity, creative imagination will be needed by a broad range of African policy makers to ensure that school feeding does, in fact, meet the nutritional and educational needs of children in east and southern Africa.

List of acronyms

ANC	African National Congress
CAADP	Comprehensive Africa Agriculture Development Programme
CTC	Child-to-child approach
ECD	Early childhood development
FFE	Food for Education
HGSFP	Home Grown School Feeding Programme
MDG	Millennium Development Goal (MDG)
NSNP	National School Nutrition Programme
NEPAD	New Partnership for Africa's Development
OAU	Organisation for African Unity
PSA	Primary School Agriculture Projects
PSFA	Peninsula School Feeding Association
PTA	Parent and teacher association
RDP	Reconstruction and Development Programme
SAHRC	South African Human Rights Commission
SFM	Slow Food Movement
SFP	School feeding programme
WFP	World Food Programme

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Equity in health implies addressing differences in health status that are unnecessary, avoidable and unfair. In southern Africa, these typically relate to disparities across racial groups, rural/urban status, socio-economic status, gender, age and geographical region. EQUINET is primarily concerned with equity motivated interventions that seek to allocate resources preferentially to those with the worst health status (vertical equity). EQUINET seeks to understand and influence the redistribution of social and economic resources for equity oriented interventions, EQUINET also seeks to understand and inform the power and ability people (and social groups) have to make choices over health inputs and their capacity to use these choices towards health.

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