

School Feeding Programs

School feeding programs (SFPs) can be an effective tool to improve the food security of primary school-age children. The timing of the SFP should coincide when children are vulnerable, often during droughts, conflicts or floods. When the situation normalizes and the food security situation improves, the need for a SFP diminishes. However, in regions of chronic food insecurity, a longer-term SFP is usually necessary.

Many organizations implement SFPs to improve education. For this reason, they are commonly referred to as “Food Assisted Education” or “Food for Education” programs. Programs supported by Canadian Foodgrains Bank are unique in that the focus is improving food security rather than strictly achieving education outcomes. Therefore, the SFP must have a strong link to improving food security of the primary school children enrolled in the program.

1. Understanding the situation

The first step towards determining the suitability of a SFP is analyzing and understanding the problem of food insecurity among the primary school-age children in the region. What caused the food insecurity that is affecting the children? Are children not going to school because of the food insecurity? Is a SFP the most effective response to improve the food needs of children?

Assessing the nutrition of the children using anthropometric measurements is a rapid method to understand the level of food insecurity. Depending on the situation, regional food security reports may provide a strong enough justification for implementing a SFP.

Equally important is learning how well the schools are functioning. If enrollment is low, what are the main reasons? Is there a difference in female and male enrollment and attendance? What is the level of instruction? If the school is not operational, the impact of a SFP is severely limited.

2. Targeting

Schools in a given country or region should be targeted to maximize improvements in food security and education. There are a number of targeting approaches used by SFPs which are explained below.

Geographical targeting is most commonly used in SFPs. Programming is restricted to specific regions where food security and educational opportunities are limited, often because of poverty. Ideally, the program will serve all the schools in a region to avoid conflict. When only some schools are targeted in an area, a shift in attendance towards schools with SFPs is often observed. Blanket targeting (targeting all schools) is usually limited by the availability of inputs and/or capacity of the implementing organization. At a minimum, schools should have policies

in place that guide enrollment when the targeted school is close to non-targeted schools.

Nutrition targeting is often linked to geographic targeting. A survey on stunting (height and age) of first grade children can quickly and easily identify geographic areas at risk for malnutrition.

Gender targeting has recently become a focus whereby programs are concentrated in areas with low female enrollment and continuation in both primary and secondary school.

Age targeting focuses on providing food to children in the preschool and primary school years as this is the ideal window to address malnutrition and under-nutrition issues.

3. Objectives

School feeding programs supported by Canadian Foodgrains Bank must be focused on meeting immediate consumption needs of a student by combating protein-energy malnutrition, short-term hunger and micronutrient deficiencies.

Protein-energy malnutrition occurs when children are not receiving sufficient protein and calories through their diet. This period often coincides with the cyclical lean seasons before harvests when households are forced to cut back on their consumption by reducing both the number and size of meals and by relying on lower quality foods. Over the course of these critical weeks or months, a SFP helps to meet the immediate consumption needs of the child, provides additional calories and serves as an important source of protein and other nutrients that are deficient in the household diet.

Short-term hunger happens when access to food is limited or dietary habits are such that families don't eat until later in the day. As a result, many children arrive at school after walking long distances and not eating since the previous night. Consequences of short-term hunger include impaired cognitive function, reduced attention and a diminished interest in learning.

Reducing micronutrient deficiencies can be an added benefit of SFPs. These deficiencies are not only a common consequence of food insecurity, but they are also a cause of food insecurity because they increase morbidity and hamper utilization of food. Considering the high prevalence of vitamin A, iron and iodine deficiencies in developing countries, the cost-effectiveness of micronutrient interventions and the ease of using SFPs to provide micronutrients, this objective should be included whenever micronutrient symptoms are evident.

Other objectives which are commonly associated with SFP include increased enrollment and attendance and increased community involvement.

4. Improving sustainability

Sustainability questions are at the forefront of all SFP. Experience shows that when food assistance stops, there is a gradual dissipation of education outcomes as the situation reverts back to how it was before the program began. To maintain some of the gains in the program, it is advisable that SFP be implemented in conjunction with other interventions. Parallel interventions include parent outreach campaigns, teacher support, school infrastructure improvements, and education on health, hygiene and nutrition.

5. Available Resources

Resource availability influences the design and cost of the SFP. Common resources to consider include storage and preparation facilities, fuel availability, safe water (quality and quantity), and personnel (parents and teachers) to run the program.

In order for the SFP to achieve the desired outcomes, especially related to education through increased food security, there must be educational resources and school infrastructure in place. Without learning materials such as textbooks and teacher guides, the children will not capitalize on the learning opportunity. Teachers who are not adequately trained or are not being paid will likely not deliver a quality education program, a prerequisite for learning to happen.

6. Rations

The type of ration used in SFPs depends on the objectives and food inputs available. A school snack or meal usually provides from one-third to one-half of the recommended daily allowance for energy and protein. Table 1 provides nutritional information for different school types.

Table 1: Recommended Nutritive Value of Rations for Primary Schools (WFP Data)

School Type	Acceptable range of rations nutritive value (children 6-12 years)		
	Energy (Kcal)	Protein (grams)	Fat (grams)
Half-Day School	600-900 (30-45%)	16-24 (40-60%)	7-11
Day School	1200-1500 (60-75%)	28-36 (70-90%)	14-17

Based on the required nutritive value of the ration, the available food quantities per ration must be calculated. Table 2 provides the necessary information for this calculation.

Table 2: Nutritive Values of a Few Common Foods

Serving Size	Food	Energy (Kcal)	Protein (g)	Fat(g)	Vitamin A (I.U.)	Iron (mg)
100 g	Maize Meal	360	9.0	3.5	-	2.5
100g	Sorghum	335	11.0	3.0	-	4.5
100 g	Corn Soya Blend	375	17	6.9	2,600	17.5
100 g	Rice	360	7.0	0.5	-	1.2
100 g	Bulgur Wheat	350	11.0	1.5	-	7.8
20 g	Beans	67	4.0	0.2	-	1.6
20 g	Peas	67	4.4	4.8	-	0.5

Rations may also be fortified with micronutrients. The key micronutrients identified in the literature are vitamin A, iron and iodine. Table 3 summarizes the recommended mean daily intakes. Fortified rations must be prepared knowing the micronutrient deficiencies of the beneficiaries.

Table 3: Recommended Daily Intakes for Vitamin A, Iron and Iodine

Age Group	Vitamin A (mg retinol)	Iron (mg)	Iodine* (mg)
Pre-Primary (3-5 yrs WFP) (1-6 yrs WHO)	400	9-10	90
Primary (6-12 yrs WFP)	400	10-16	120

*3-6 grams of iodized salt per day should be included in the ration where salt iodization is not in place and the prevalence of goiter amongst the children is above 5%.

Ration timing is related to the objectives and school schedule. Often breakfast or mid-morning snacks are preferred to improve cognition, short-term memory and concentration early in the day to combat short-term hunger. Practical considerations such as preparation time, cultural acceptance, and standard meal times should be considered.

7. Monitoring and Evaluation

The purpose of **program monitoring** is to monitor the output of the SFP. The primary output of the program is to assure that the targeted children consume the meals that are prepared. See the output column of the logical framework in Table 4.

Evaluation activities focus on measuring the impact of the SFP on the protein-energy malnutrition, micronutrient deficiencies, short-term hunger and community involvement. Evaluation is a key component to provide feed-back into planning. Based on continued evaluations, the program should change and adapt to more effectively meet the objectives.

Table 4 lists several desired outcomes and corresponding indicators for a SFP. Anthropometric measurements are not included because the research literature on SFPs indicates a weak link between nutritional changes and SFPs. The main reason for this disconnect is because the child's diet is only partly provided through the SFP. School does not run every day and the child is usually consuming other meals at home. As well, a substitution affect also happens if meals at school replace a normal meal at home. For these reasons, the impact of a nutritional change, either positive or negative, cannot be directly linked to the SFP. Therefore a SFP with a food security focus relies more on qualitative analysis and focus group discussions to determine impact.

Table 4: Logical Framework for a SFP

INPUTS	ACTIVITIES	OUTPUTS		OUTCOMES	
		Description	Indicators	Description	Indicators
Food Firewood Pots and plates	Situation Assessment	X meals consumed by students per day	Meals consumed	Protein-energy nutrition	
	Mobilization and organization of communities and schools			Parents indicate that their children are receiving an extra meal each day as a result of the SFP (Focus Group Discussions)	Number of meals primary school-age children eat per day
				Short-term hunger	
	Food Procurement			Teachers indicate that children are able to concentrate more in class (Focus Group Discussions)	Attention span of primary school-age children
				Less than X% of students faint in class	School health records
	Baseline survey			Enrollment increases by X%	Enrollment records
				Micronutrient deficiency	
	Regular deworming of students			Less than X% of students are diagnosed with Bitot's spots caused by Vitamin A deficiency	Bitot's spots frequency
				Community involvement	
	Monitoring of health standards in food preparation			X% of parents provide X inputs (e.g.: fuel, cooking implements, condiments, etc.) for running the program	Input provision by parents
X% of parents assist in food preparation		Parent involvement in food preparation			

Resources

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