



INITIATIVE ON
Fragility, Conflict,
and Migration

Nigeria School Feeding Program: Train the Trainers Training Manual

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About IFPRI

The International Food Policy Research Institute (IFPRI) is an international non-governmental organization under the CGIAR global agricultural innovation network. Its mission is to provide evidence-based policy solutions to sustainably reduce poverty, hunger, and malnutrition in developing countries. IFPRI's research focuses on strategic areas: climate-resilient and sustainable food supply; promoting healthy diets and nutrition for all; building inclusive and efficient markets, trade systems, and food industry; transforming agricultural and rural economies; and strengthening institutions and governance. The IFPRI-Nigeria office, based in Abuja, collaborates closely with the Federal Ministries of Agriculture & Food Security, and Humanitarian Affairs & Poverty Alleviation to strengthen agricultural policies and strategies that support Nigeria's national development plans.

National Home-Grown School Feeding Program

The National Home-Grown School Feeding Programme (NHGSFP) was launched in 2016 with an aim to increase school enrolment, reducing the incidence of malnutrition especially amongst the poor; empowering cooks while supporting local agriculture through small builder farmers, thereby stimulating economic growth through the socio-economic value chain.

Nigeria faces a significant burden of childhood malnutrition, with over 42% of schoolchildren affected and high levels of primary school absenteeism attributed to malnutrition disorders and 110 million Nigerians live below the poverty line due to high unemployment. The National Home-Grown School Feeding Programme (NHGSFP) was established to address this challenge through a cost-effective school feeding initiative that leverages smallholder farmers and local procurement. The program has benefitted more than 9.9 million pupils drawn from over 56,000 schools, with the participation of 80,000 farmers, 127,000 food vendors (cooks) and 100 aggregators across 35 states in the country.

The meals served through this initiative are crafted from locally sourced food items cultivated by local smallholder farmers. More importantly, the process of catering, processing and food handling is carried out by community members, effectively boosting the local economy, and creating opportunities for growth. The enabling structure of the programme in Nigeria allows for the implementation of the programme at the grassroot level; community and schools, coordination at the state level; with state governments dictating the overall structure of the program and public administration in the state and political support; policy formation, oversight and standardization occurring at the Federal level.

Menus are developed based on the following nutrition standards

- I. One (1) serving of lean meat or meat alternatives: 14g of edible cooked meat, fish, chicken, 45-65g of eggs, or meat alternative.
- II. Two(2)servings of vegetables: 1/2cup or 15g equivalent may serve an additional vegetable instead of a fruit.
- III. One (1) serving of fruit:1/2 cup or 50g - 70g of equivalent-may serve an additional fruit instead of a vegetable.
- IV. Two (2) servings of grain, bread, or bread alternate, preferably whole grains: for example, 2 slices of whole grain or enriched bread, 100g or 1 cup of cooked rice.
- V. Whole grain or enriched bread each or 1 cup of cooked rice.

School Feeding in Osun State

Justification for school feeding in Osun state:

- Children under 15 years makes up 45% of Osun Population
- 40% of children aged 6 to 11 do not attend any primary school
- 30% of school pupils drop out at primary schools
- 24% of children under 15 years are malnourished

The program has benefited the state in various ways:

- Education: Increasing school enrolment
- Value transfer
- Agriculture
- Wider economic benefits
- Health and Nutrition

The program covers 1,312 schools and benefits 95,983 pupils in the 30 LGAs in Osun state.

Role of Cooks on the Programme

Cooks are people who source, handle, prepare and supply ready-to-eat food to allocated children. It is because of this that:

- The food safety of the meals depends on the cooks
- The health and nutrition of the children also largely depends on the cooks
- The cooks require good health and nutrition practices to succeed in the programme.

Study Background

School feeding programs have emerged as promising multi-sectoral interventions that not only provide food to 368 million children annually, but could also improve diets, stimulate agricultural productivity for smallholders, and increase their incomes through "home-grown" school feeding procurement models. There is limited rigorous evidence on the effects of smallholder participation in school feeding markets and the trade-offs within different pro-smallholder procurement approaches. In parallel, many smallholders in Africa face market constraints and lack market orientation for commercializing production.

The impact evaluation (IE) of the home-grown school feeding program on smallholder sales and revenues: an effectiveness trial in Osun State, Nigeria is a one-year (2023 – 2024) form project implemented by IFPRI and other key stakeholders including the World Food Programme (WFP). The IE will randomly select schools from which the cooks in the selected schools will receive training (the treatment group) and those from schools in non-participant areas that receive no training. The IE will evaluate key outcomes related to the proportion of smallholder farmers selling their agricultural products to schools as well as to traditional markets; farmers' sales volume of locally grown agricultural outputs to both the market and schools (cooks); farmers' sales revenue from locally produced agricultural outputs to both the market and cooks; cost per unit of school meal to schools and cooks; menu quality and quantity assessment; awareness of food safety and accessibility to fresh produce; subjective evaluation of hygiene standards; empowerment and well-being initiatives for women.

Survey Objectives

1. To evaluate the impact of training activities aimed at linking school feeding to smallholder farmers on smallholder farmer market participation, sales and revenue.
2. To evaluate the impact of the training activities on the share of food procured by cooks from smallholder farmers for school meals; and
3. To examine the impact of the training activities on the quality, regularity, perceived hygiene standards of school meals, as well as any empowerment and well-being initiatives for women.

Study location and Scope.

The survey will take place across twelve (12) local government areas in Osun State. The twelve LGAs were chosen because crops like yam, cocoyam, sweet potatoes and vegetables are produced in the areas, and it is expected to remain unchanged by the time of the intervention. The twelve selected LGAs are similar across several important contextual factors including size, socioeconomic and agroclimatic conditions, and road

and market access. From the twelve LGAs, we have selected 300 schools, with 100 schools for the control and the remaining 200 schools for the treatment groups. Within these schools, all the cooks were selected and will be interviewed, and a total of 1500 farmers will be interviewed.

Table 1: LGAs Surveyed

State	LGA		
Osun State	Boluwaduro	Ife North	Ilesa West
	Ede North	Ifelodun	Odo Otin
	Ede South	Ila	Olorunda
	Ife East	Ilesa East	Orolu

Objectives of the Training

The primary objectives of the training are as follows:

1. To communicate the objectives of the research project to the cooks involved in the school feeding program.
2. To review and reinforce the key concepts covered in previous training sessions, including:
 - a) Personal hygiene
 - b) Food hygiene
 - c) Water and sanitation
 - d) Food storage, handling and transportation
 - e) Food preparation
 - f) Food presentation
3. To equip the cooks with knowledge and skills to improve the quantity and quality of meals

Preparing for the Training

- Prepare teaching aids
- Go over teaching timeline
- Administer pre-training questionnaire

Introduction to Basic Nutrition

The Key concept is ensuring Nutritional Adequacy.

- Adequate nutrition is essential for growth, health, and development of children
- Creating meals for children involves understanding the different food groups and appropriate portion sizes.
- By including a variety of foods from each food group in the right amounts, we can ensure that children receive the nutrients they need for growth and development.

Basics of childhood nutrition

- Childhood is the stage in a human's life associated with growth and development.
- Growth:
 - o is rapid in early life,
 - o is slow down in middle childhood
 - o accelerates at puberty before linear growth ceases.

Carbohydrates

- Carbohydrates are a source of energy and a range of vitamins and minerals and fiber.
- Fiber is a type of plant material, which is found only in foods such as unrefined cereals beans, vegetables, and fruit.
- Fiber is important for good intestinal health and can help reduce the risk of heart disease.
- They are categorized into two types: complex and simple carbohydrates.

Complex Carbohydrates: Found in foods such as whole grains, legumes, vegetables, and unrefined cereals, complex carbohydrates are made up of longer chains of sugar molecules. These take longer to digest, providing a steady release of energy.

Simple Carbohydrates: Found in foods like fruits, milk, and processed products with added sugar. Simple carbohydrates consist of one or two sugar molecules, making them easy to digest and quickly available as energy.

Proteins

- Proteins are vital for building, repairing, and maintaining body tissues.
- They are composed of amino acids, which are the building blocks of muscles, skin, enzymes, and hormones.
- Proteins can be sourced from both animal and plant-based foods.

Animal-Based Proteins: Found in meat, poultry, fish, eggs, and dairy products, these proteins are considered complete proteins because they contain all essential amino acids needed by the body.

Plant-Based Proteins: Found in beans, lentils, nuts, seeds, and whole grains, these proteins are often incomplete, meaning they may lack one or more essential amino acids. However, by combining different plant-based foods, such as beans and rice, one can obtain all necessary amino acids.

Important sources of protein for children.

- **Eggs** are a highly nutritious protein source, containing essential amino acids, vitamins, and minerals. They are rich in protein, healthy fats, and vitamins.
- **Fish** is a rich source of high-quality protein, essential omega-3 fatty acids, and various vitamins and minerals. It promotes brain development, improves cognitive function, and supports overall growth and development in children.
- It can be introduced into school meals through flakes and stock.

Fats and Oils

- Fats and oils are important sources of energy and play a crucial role in absorbing vitamins, protecting organs, and maintaining cell membranes.
- They are categorized into saturated and unsaturated fats.

Saturated Fats: Typically found in animal products like meat and dairy, as well as in some tropical oils like coconut oil and palm oil. High consumption of saturated fats can raise cholesterol levels and increase the risk of heart disease.

Unsaturated Fats: Found in plant-based oils (such as olives, sunflowers, and canola oil), nuts, seeds, and fish. These fats are considered healthier options and can help reduce bad cholesterol levels.

Osun State Feeding Menu

Weekday	Menu	Go	Grow	Glow
Monday	White Rice + Melon Soup + Egg			
Tuesday	Beans Porridge + Beef Sauce			
Wednesday	White Rice + Melon Soup + Egg			
Thursday	Sweet Potatoes /Cocoyam + Beans porridge + Fish Sauce			
Friday	White Rice + Beans + Beef Sauce			

3Gs concept

The infographic illustrates the 3Gs concept with three main categories of food groups:

- GO (Energy Giving Foods):** Includes grains, legumes, and oils. It is associated with an image of children playing.
- GROW (Body Building Foods):** Includes proteins like beans, fish, and meat. It is associated with an image of children measuring their height.
- GLOW (Protective Foods):** Includes fruits and vegetables. It is associated with an image of children drinking water.

Three arrows point from these categories towards a central image of two children drinking water, symbolizing the combined benefit of all three food groups.

** Participants will based on the menu and possible meal ingredients determine if the children are receiving adequate nutrient from each meal.

Basic Hygiene

The key concept is instilling practices that prevent the spread of diseases and promote overall health

Food Safety: Understanding Germs and Hygiene

Germs are little organisms that can cause diseases. They're so small that you can't see them with your eyes.

Types of Germs in Food:

- **Bacteria:** These are mostly found in raw meat, poultry, and seafood.
It can cause foodborne illnesses if not properly handled or cooked.
- **Fungi:** It is mold growth on food items (bread, fruits)
It can produce harmful toxins when eaten. Always throw away moldy food.
- **Viruses:** They are less common in food but still important.
Proper hygiene and sanitation are crucial to preventing viral contamination

Common Modes of Contamination

- i. Cross-Contamination: Transfer of germs from one surface or food item to another.

Preventive measures:

- Separate raw meat from ready-to-eat foods.
- Use separate cutting boards and utensils or wash properly before next use
- Wash hands thoroughly after handling raw ingredients

- ii. Dangerous Temperatures: Bacteria multiply rapidly in warm environments.

Preventive measures:

- Keep perishable foods out of warm environments
- Cook meat properly
- Store food appropriately using appropriate techniques

- iii. Personal Hygiene: taking care of the whole body daily to be healthy and free from diseases.

- Wash hands the right way. (Scrubbing for 20 secs and rinsing properly, especially before and after cooking and after using the toilet)
- Don't touch your face or other body parts while cooking
- Cough or sneeze into your elbow, away from the food while cooking. Dispose of tissue. Wear a mask if need be.
- Carry out daily hygiene routines – brushing teeth, bathing regularly, cutting nails, washing, and grooming hair to prevent hair diseases.

iv. Environmental Hygiene: Taking care of the environment is important to avoid harboring insects and small animals that cause infection.

- Always clean surfaces
- Wash cooking equipment after using with clean water, till it is clean.
- Dispose dustbins frequently, don't wait till an overflow or for foul odor.
- Keep bins far from water sources and food storage
- Dispose waste properly
- Frequently clean waste bins

Food Handling and Preservation

The key concept is to equip cooks with the knowledge and skills needed for safe food handling and effective preservation.

Food Storage Basics

- i. Temperature control: Perishable items should be refrigerated or cooked immediately.
- ii. First-In, First-Out: Older ingredients should be used before new ones. Always remember to check the expiry date or taste before use.
- iii. Separation: Separate raw meat and poultry from ready-to-eat foods to prevent cross-contamination
- iv. Dry storage: Store dry foods like rice in a cool and dry place, away from direct sunlight. Store in a dry container and seal properly to prevent insects
- v. Reheat the leftovers properly
- vi. Apply food preservation techniques to extend shelf life. Techniques like
 - a. Dehydrating: dry out vegetables to remove moisture
 - b. Canning: Putting food and vegetables in glass jars
 - c. Freezing: Putting in airtight containers and in the refrigerator
 - d. Salting and Smoking: Fish or Meat to remove moisture and make bacteria inhospitable. Also adds flavor.

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