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FEEDING MINDS, FIGHTING HUNGER
Initiatives among school children in India

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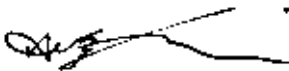
FOREWORD

Reducing hunger, food insecurity and malnutrition is central to the achievement of the United Nations Millennium Development Goals (MDGs) and the World Food Summit (WFS) targets. Commitment to and achievement of these goals and targets remain a major challenge for the world community and Asia in particular.

The Food and Agriculture Organization of the United Nations (FAO) has for years been assisting national governments and stakeholders to develop and strengthen their capacities to provide nutrition education and communication to the general public, school children and highly vulnerable groups. Through FAO's field programmes and other activities, various communication networks have been established to facilitate exchange of information on best practices and lessons learned regarding nutrition education programmes. A range of resource materials for nutrition professionals, trainers and educators have been developed that provide up-to-date information for promoting healthy food consumption patterns. The effective implementation of nutrition education and communication programmes depends on sound training so that knowledge and skills for behaviour change can be communicated to target audiences.

Strengthening public knowledge and information about nutrition education, and addressing problems of food insecurity are also areas of particular interest to FAO.

"Feeding Minds, Fighting Hunger" (FMFH) is an FAO global education initiative aimed at introducing young people to the issues of hunger, malnutrition, and food security. It enables and encourages children and youth to become actively involved in helping to create a world free from hunger and malnutrition. FAO, in collaboration with partners, is promoting the implementation of the FMFH initiative, including in its field programme in various countries in the Asia region. This report describes the outcome of the field implementation of the FMFH initiative by five project teams in the eastern, western and south-central regions of India. This publication demonstrates the feasibility of the FMFH approach and the sensitization of school children to hunger and malnutrition issues in India. I trust this document will be useful to school teachers and policy-makers in the region.



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“Feeding Minds, Fighting Hunger”

“Feeding Minds, Fighting Hunger,” (FMFH) is a global education initiative for schools and youth groups designed to enable and encourage teachers, students and young people to become actively involved in helping create a world free from hunger and malnutrition. Launched on World Food Day 2000, Feeding Minds has been created by a group of ten international partners and non-profit organizations, spearheaded by the Food and Agriculture Organization (FAO) of the United Nations and the U.S. National Committee for World Food Day. Together, the FMFH partners have created a global classroom and interactive discussion forum on key aspects of hunger, nutrition and food security.

In India, the FMFH approach was tested in four different regions of India involving school children from urban slums, rural areas and high income urban families. The FMFH models and materials were incorporated in classroom teaching and other activities by school teachers who underwent participatory training. Significant changes in children’s knowledge and perceptions of hunger, nutrition and food security were observed at the end of the intervention. Some project teams reached out to other members of the community through the school children who were inspired to work with children from disadvantaged communities. The initiative in India demonstrated that FMFH materials can be adapted and made part of larger multi-sector initiatives to address hunger, food insecurity and malnutrition.

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1. INTRODUCTION

The world has made impressive gains in past decades towards ensuring food and nutritional security to all, but tens of millions of people in many countries still do not have adequate food for leading a healthy and active life. This is so even in countries with sufficient food availability on a per capita basis. While reduced in its most severe forms, undernutrition in varying degrees continues to affect millions around the world.

According to estimates¹ by the Food and Agriculture Organization of the United Nations (FAO), approximately 854 million people in the world are chronically undernourished with no access to sufficient food to meet even minimum energy needs. In 2005, 16.1 percent of children below five years of age were reported to be severely malnourished with below normal height and weight for their age group.² Almost half of these 90 million children live in South Asia. Besides suffering from protein energy malnutrition (PEM), many are anaemic and most have a low birth weight. A much higher percentage of children suffer from mild-to-moderate undernutrition. The prevalence of malnutrition increases during seasonal food shortages and in times of natural and man-made disasters.

Commitment and a joint effort by all sections of society are essential to combat hunger and malnutrition. The fight against hunger has to start early in life by informing and educating young minds about the “what, who, why and how” of food insecurity. Accordingly, FAO, in partnership with other UN agencies including the United Nations Educational, Scientific and Cultural Organization (UNESCO) and multilateral organizations such as the World Bank, has launched “Feeding Minds, Fighting Hunger” (FMFH) global education initiative.

The FMFH initiative aims to transform children into key agents of change by informing and educating them about the problem of hunger, malnutrition and food insecurity, and what can be done to eradicate this. The initiative is based on the premise that teachers can inculcate a sense of caring and commitment in children, motivating and enabling them to be active participants in the fight against hunger. This can also sow the seeds of political commitment in future generations to ensure food security.³

The value of interventions seeking to enhance knowledge and awareness of nutrition leading to nutritional improvement has been recognized for decades. The World Bank’s first community nutrition loan to Indonesia in the 1970s is widely cited for significantly improving the nutritional status of 40 percent of the targeted children through nutrition education alone and without the transfer of other tangible resources.⁴

¹FAO. 2006. *State of Food Insecurity in the World*. Rome, Food and Agriculture Organization of the United Nations.

²>-3 standard deviation below the median of the international reference population. UNICEF. 2005. *The State of the World’s Children, Children under Threat*. New York, United Nations Children’s Fund.

³Menza, V. & Spagnoli, F. 2003. *Feeding Minds, Fighting Hunger: A Global Educational Initiative for Children*. Rome, FAO.

⁴Webb, P. & Block, S. 2004. Nutrition information and formal schooling as inputs to child nutrition. *Economic Dev. and Cultural Change*, 52:4.

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Central to the initiative is the sharing of information among students and teachers with the aim of encouraging an exchange ideas and experiences among youth around the world. It is believed that if children from different cultures and circumstances around the world learn about the problems of global hunger and malnutrition early in life, this will make them want to work together to remove hunger from the world. This will also develop responsible global citizenship in the younger generation. School teachers have an important role in making children realize they have an important role in ensuring a world free from hunger.

2. EVOLUTION OF THE INITIATIVE AND METHODOLOGY

The initiative described in this publication evolved from a regional workshop organized by FAO in collaboration with UNESCO in 2002 at Hyderabad, India with the participation of several Asian countries.⁵ The consultation was held, in turn upon the recommendation of members of the Asia Pacific Network for Food and Nutrition (ANFN)⁶ and other collaborators who found the FMFH initiative could supplement other main development initiatives targeted at hunger, malnutrition and related problems.

The Hyderabad workshop reviewed the FMFH educational materials and the practical issues in using education to fight hunger and malnutrition. Subsequently, four of the participating countries, namely Bangladesh, India, Indonesia and Nepal, formulated and finalized action plans for using the FMFH materials in schools and socially disadvantaged communities. In Bangladesh and Nepal,⁷ the FMFH educational material was reviewed by relevant national-level actors in order to adapt this to local conditions and formulate strategies for country wide implementation.

In India, it was decided to adapt the FMFH educational initiative for use in 27 schools in four regions of the country in partnership with leading public health and educational institutions and a non-profit organization.

FMFH educational materials

The FMFH educational package was developed by FAO to serve as a “springboard” to stimulate reflection, discussion and action. The model classroom lessons on key aspects of hunger, nutrition and food security are meant to be used by teachers to encourage students explore the root causes of hunger and malnutrition. There are three categories of lessons for each of three broad school levels: primary, intermediate and secondary. All three levels cover the following topics: “What is hunger and malnutrition?”, “Who are the hungry?”, “Why are people hungry and malnourished?” and “What can we do to help end hunger?”⁸

FMFH Lessons
<i>What is hunger and malnutrition?</i>
<i>Who are the hungry?</i>
<i>Why are people hungry and malnourished?</i>
<i>What can we do to help end hunger?</i>

⁵NIN. 2002. *Report of the FAO-UNESCO Inter-Country Workshop on Feeding Minds, Fighting Hunger, Malnutrition and Food Insecurity*. Hyderabad, India, National Institute of Nutrition.

⁶FAO. 2001. *Report of the Regional Expert Consultation of the Asia-Pacific Network for Food and Nutrition on reviewing implementation of national food-based dietary guidelines (FBDGs)*, Bangkok, Thailand, 20-23 November 2001. Bangkok, FAO Regional Office for Asia and the Pacific.

⁷TU. FAO. 2004. *Feeding Minds, Fighting Hunger Nepal Project. Implementational consideration of Fighting Hunger educational package. Report of the Expert Consultation Workshop*. Kathmandu. Kathmandu, Tribhuvan University, FAO.

⁸FAO. 2001. *Feeding Minds, Fighting Hunger Partnership. Feeding Minds, Fighting Hunger. A World Free from Hunger*. Rome, FAO.

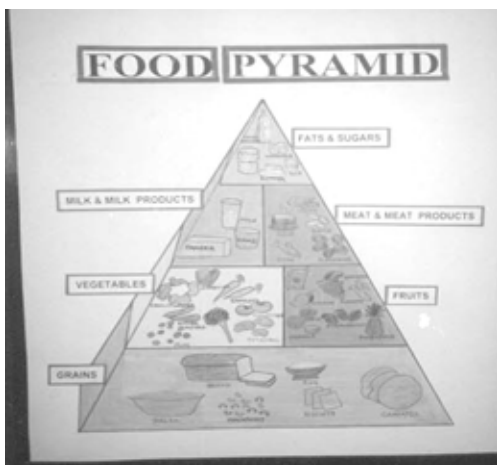
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The lessons can be modified in scope, language, discussion and activities to suit local conditions and the level of cognitive development of the students. Teachers are free to develop other approaches and hold additional classroom and extra-curricular activities.

The teachers were encouraged to use the FMFH materials throughout the school year after adapting the lessons to local circumstances, culture and available classroom facilities. The duration of the lessons could be changed, although each lesson is meant to be covered in three classes of approximately 45 to 60 minutes each. Teachers could thus cover a topic in greater or less detail in keeping with the students' needs. Moreover, international events and days such as World Food Day offered an opportunity to build on children's awareness of food security issues.

Outline of FMFH lessons

<i>Lesson</i>	<i>Objectives</i>	<i>Concepts</i>
What is Hunger and Who are Hungry	To understand why we need food To know that we need many different foods To know who is hungry	Importance of food Nutrients and basic nutrition concepts Importance of consuming variety of food What is hunger Magnitude of the problem, who are most at risk All countries and regions have some people who are hungry
Why are People Hungry	To understand the food system that feeds people To understand what it means to be food secure	The system and processes that provide food; the system can break down at any time point Food security and its three pillars: availability, accessibility and use of food The food system must work to help ensure food security
What can we do to Help End Hunger	To know that we all can and should act to fight hunger To identify how we can fight hunger and malnutrition in our communities	Everyone can be a 'hero' in fighting hunger and contribute even in small ways to fight hunger Actions that can be taken Children are encouraged to apply what they have learned to their own communities



Initiative locations

Five locations were chosen in north, east, west and south-central India for using the FMFH initiative: one in the north, in Delhi by the Lady Irwin College; one in the east, in Kolkata by the All India Institute of Hygiene and Public Health; one in the west, in Mumbai by St Gregorius School; and two in south-central India, in Hyderabad, urban by the National Institute of Nutrition (NIN) and Hyderabad, rural by the Dangoria Charitable Trust (DCT). The number of schools and school children covered were different for each location (Table 1).

The duration of the initiative in all five locations was between three to five months. The five implementing teams selected the schools after consulting with local authorities. Four of the five teams worked with urban school children. The exception was the Dangoria Charitable Trust (DCT), Hyderabad, which worked with rural high school children in Medak District, Andhra Pradesh state.

The initiative also targeted children of low-income urban families who could not afford a formal education for their children. The team from St Gregorius School in Mumbai reached out to migrant construction workers' children between five and ten years of age. The aim was to make school children from relatively affluent families aware of the hardships faced by underprivileged children by bringing the two groups of children together through collaborative activities, thereby instilling in the former a spirit of partnership and empathy with the latter.

FMFH lessons were adapted and taught to 1123 urban and rural children from different socio-economic backgrounds in four regions of India

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The Mumbai school involved 26 auxiliary staff members in the initiative for communication with the migrant construction worker parents in the local language. Similarly, the Kolkata team reached out to urban slum communities whose children were studying in the schools covered by the FMFH initiative. Story telling sessions, drama performances, group discussions and exhibitions were organized in the slum communities to encourage the involvement of the residents.

Table 1: Number of schools and children provided FMFH lessons

<i>Location</i>	<i>Institution</i>	<i>Number of schools</i>	<i>Description of children</i>	<i>Number of children</i>
Hyderabad (Urban)	National Institute of Nutrition	10 (5 experimental 5 control)	From grades VIII and IX.	Experimental: 358 Control: 312
Hyderabad (Rural)	Dangoria Charitable Trust	3 rural high schools	From grades VII and VIII	Coverage not mentioned
Mumbai (Urban)	St.Gregorius School	1	From grade IX Children of migrant construction workers	160
Delhi (Urban)	Lady Irwin College	10 (6 government 4 public)	From grades V, VII and IX (Govt. schools cater to low income [settlement colonies] and public schools to upper income children)	Grade V: 363 Grade VII:367 Grade IX: 393
Kolkata (Urban)	All India Institute of Hygiene and Public Health	3	Primary school children from urban slums	Coverage not mentioned

Delivery of FMFH lessons

The teams implementing the initiative were free to choose the teaching methods. Each team first held training workshops for science teachers in the chosen schools. Based on the response obtained from the teachers, the FMFH lessons were and modified to suit local conditions. The teachers took part in the design of the teacher training to make it relevant and practical. The Delhi team also prepared a Nutrition Primer for use by the teachers. All teams used supplementary teaching materials/methods (Table 2).

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The Mumbai team combined the FMFH activities with existing social service programmes that reached out to underprivileged social groups such as the literacy skills programme.

Table 2: Supplementary teaching aids used by the various project teams

<i>Location</i>	<i>Institution</i>	<i>Aids used</i>
Hyderabad (Urban)	National Institute of Nutrition	Ten posters prepared on topics identified by teachers Skit covering all concepts highlighted in FMFH, performed by children's theatre group
Hyderabad (Rural)	Dangoria Charitable Trust	Drawing competitions Message for the day on notice board Maintenance of vegetable gardens in two schools with space Discussion on the daily diet of children Exhibitions at the end of the project. Exhibits prepared by children and teachers: charts, models, display of local food varieties, models showing distribution of hunger in the world.
Mumbai (Urban)	St. Gregorius School	Workshops Essay competitions Case studies Social service (literacy) programme for children of migrant construction workers
Delhi (Urban)	Lady Irwin College	Posters, charts, flip book, stick puppets and flash cards Nutrition primer for teachers
Kolkata (Urban)	Government school, Community, NGO	Charts, games, role plays and demonstrations

The school children themselves took active part in the translation of the FMFH manual during an interactive workshop organized for this purpose. This ensured that the lessons were meaningful for them. More workshops were held later after many children showed keenness to participate in such sessions. A physician and nutritionist held awareness building workshops for auxiliary staff participating in the FMFH initiative.

In Delhi, the team from Lady Irwin College held a consultation involving nutrition experts, academics, researchers, administrators and teachers before modifying the FMFH lessons.

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Their suggestions also led to the inclusion of some government schools catering to underprivileged children so as to cover children from all socio-economic backgrounds and not just children from high-income families.

The Delhi team reached out to children from all three levels of education covered by the FMFH modules. A total of 1 123 children were included in the initiative. The majority of children were under nine years old. About one-third of the children were 9 to 18 years old and studying in intermediate and secondary level classes.



The Kolkata team used the same approach as the Delhi team in adapting the FMFH materials. Community leaders as well as teachers took part in workshops to understand the FMFH approach. Besides primary school children, the Kolkata initiative also reached out to community members including the children's parents using role playing, exhibitions and group discussions.

Assessment of impact of FMFH lessons on school children

Each team used a different method to assess the impact of the FMFH lessons on the pupils. The Kolkata team used a qualitative approach while the teams in Delhi, Mumbai and one in Hyderabad measured the impact using the children's responses to pre- and post-test questionnaires.

The school children themselves took active part in the translation of the FMFH manual during an interactive workshop organized for this purpose. This ensured that the lessons were meaningful for them.

The National Institute of Nutrition (NIN), Hyderabad used a statistical analytical method to assess impact. For this, NIN carried out a pilot study involving 49 member schools of the Confederations of Voluntary Associations (COVA) located in the old city of Hyderabad. Seventy-five children were randomly selected and given a questionnaire with 22 multiple-choice questions. The questions were related to hunger, food insecurity, nutrition deficiency disorders and FAO.

Two questions also related to the children's preferences of learning methods. The assessment found that 80 percent of the children preferred classroom lectures followed by teaching aids like charts, posters as well as the play-way method.

For the main study, NIN selected ten schools at random from among control and experimental groups. The children were given questionnaires to test their knowledge before and after the FMFH intervention. One school dropped out of the study. Post-

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intervention responses were obtained from 254 out of 358 children in the control group and 216 out of 312 children in the experimental group. In order to see if the children remembered the FMFH lessons taught them, they were given a second post-intervention test after two months.

St Gregorius School in Mumbai evaluated the impact of the FMFH lessons through a post-intervention test questionnaire, essays written by the children and discussion of case studies. The knowledge acquired by the auxiliary staff was tested by holding cookery competitions for them.

The teams from Lady Irwin College, Delhi, NIN and DCT, Hyderabad compared the pre- and post-test scores both for teachers and children. The first two teams conducted pre- and post-intervention tests on all children who took part in the initiative.

However, DCT held two tests with a sample of between 15 to 22 children) in each of the three schools, selecting the children on the basis of regular school attendance prior to the FMFH intervention.

A quiz was conducted including objective questions on nutrients, their functions and food groups. Data were analyzed by the proportion *t-test*. Open-ended questions were asked to judge the children's knowledge and opinions on FMFH issues.

