



# Localized School-Based Feeding Concept

Autonomous Region in Muslim Mindanao



# FIT FOR SCHOOL

MAKING CHILDREN  
FIT FOR SCHOOL //  
TRANSFORMING SCHOOLS  
INTO HEALTHY PLACES

SCHOOL HEAD  
TEACHERS  
STUDENTS

PARENTS  
COMMUNITY  
EDUCATION OFFICE

## STAKEHOLDERS



HANDWASHING



TOOTHBRUSHING



DEWORMING



BRINGING DRINKING  
WATER TO SCHOOL



CLEANING &  
MAINTENANCE

## ACTIVITIES



WATER  
FACILITIES



GROUP WASHING  
FACILITIES



TOILETS



SUPPLIES

## INFRASTRUCTURE & MATERIALS



MONITORING

## SCHOOL MANAGEMENT



ROUTINE



PLANNING &  
BUDGETING



STAKEHOLDER  
INVOLVEMENT

## Foreword

Making schools healthy environments requires a holistic approach that should combine various interventions to ensure that children are fit for school. However, these interventions must be simple, scalable, sustainable, and integrated into existing systems to ensure that they can be feasibly implemented by school communities with limited resources. Increasing its usefulness could only be possible if they could easily blend with accepted practices and ensuing conditions.

School Based Feeding Programs have tremendous potentials to contribute to creating healthy school environments and improving education outcomes. Much of their success is anchored on strong School Based Management (SBM) approaches. At the school level, the School Head and wider school community must take the lead to ensure that programs are implemented well. However, with many competing demands on time and resources in low-income schools, the only way to acceptability are its simplicity and local applicability to allow school communities to implement the programs at scale.

In this context, the Localized School Based Feeding Program (LSBFP) concept was developed by the Department of Education in the Autonomous Region in Muslim Mindanao (DepEd ARMM) With support from the Australian and German governments, GIZ provides technical assistance on water, sanitation and hygiene (WASH) in schools to DepEd ARMM as part of the Basic Education Assistance to Muslim Mindanao (BEAM ARMM) program.

The objective of the feeding concept is to simplify processes and to localize the materials used to minimize the burden of school feeding on school communities.

Adopting the guidelines of DepEd's School-based Feeding Program, the LSBFP was piloted in 5 selected schools in the ARMM. The LSBFP had the aim of strengthening the role of the school community and the use of simple logistics for cooking. Recipes are designed to be easy-to-prepare using locally available ingredients to keep the cost of lunch and snacks low. Schools are encouraged to be resourceful and are encouraged to use vegetables that are grown in their own school gardens. In the pilot schools, it was noted that nutritional status of beneficiary children have improved and school attendance was noted to be higher compared to non-implementing schools.

This report provides an overview of the pilot experience of the LSBFP that aims to provide DepEd and its development partners the insights to an alternative approach to school feeding. While school-based feeding programs have tremendous potentials to improve learning outcomes, it will require the collective efforts of the education sector, its partners, and the whole community to ensure both efficiency and effectiveness.

Dr. John A. Magno  
Regional Secretary, DepEd ARMM

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# 1. Background



There are more than  
20 million school aged  
children in the Philippines.  
Of these, nearly 1.9 million  
learners are undernourished.

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Well implemented school feeding programs are one of the established strategies to improve the health and nutritional status of children, reduce absenteeism, improve education outcomes and ensure that children remain in school (1) (2). Thus, contributing to ensuring inclusive and equitable quality education, according to the Sustainable Development Goals (SDG no. 4), as well as consequently ending hunger (SDG 2), education opportunities for all children shall be increased.

## School-Based Feeding Program SBFP

The SBFP is characterized by on-site feeding of beneficiaries for a duration of 120 feeding days using a standard 20-day cycle menu (6). The budget allocation per child and day is 16 PHP. Each meal should provide child beneficiaries with at least 300 additional calories. A school-based feeding core group consists of teachers and parents who prepare meals and coordinate the feeding. Procurement of supplies and financial reporting are the responsibility of the school head of the respective beneficiary schools.

DepEd has also prescribed complementary activities to the SBFP such as the Essential Health Care Program (EHCP) and the School Garden Program. The SBFP was first implemented in a similar form in school year (SY) 2011–2012 and was initially called the “Breakfast Feeding Program” (BFP). The BFP initially covered about 42,000 children, who were categorized as severely wasted which was 7.5 % of the total number

## School-Based Feeding Programm SBFP

### Main Objective //

Rehabilitation of wasted and severely wasted learners into normal nutritional status after 120 days.

### Additional Goals //

Improve classroom attendance of target beneficiaries from 85 to 100 %.

Ensure 100 % deworming coverage of target beneficiaries prior to the feeding activity.

Ensure conduct of daily handwashing and toothbrushing activities of target beneficiaries as part of the feeding program in order to impart development of positive health promoting values and behaviors.



Promote health and nutrition information and awareness among feeding beneficiaries through the "K to 12" (Kindergarten and 12 years of basic education) curriculum and its alternative modalities of education.

Encourage vegetable school gardening and vegetable home gardening to help sustain the gains of the feeding program and to complement the nutrition and poverty reduction initiatives of the Philippine government (5).

of severely wasted children identified at that time. The SBFP coverage was extended to about 560,000 children in SY 2014–2015 targeting all severely wasted children in the Philippines and expanded to cover up to 1.2 million children in SY 2015–2016 to additionally include children classified as wasted (7).

The current school lunch program of DepEd exclusively targets severely wasted and wasted children (not all school children). It must provide at least 300 calories and a third of the Recommended Energy and Nutrient Intake (RENI) of energy, protein and certain micronutrients (e.g. iron and Vitamin A) according to the age standard group of the beneficiaries. As stated above, the standard school lunch is based on a 20-days cycle menu to avoid eating fatigue and to ensure food diversity, based on DepEd's "Standardized Recipes Using Malunggay for School Feeding Program" (6).

## School Health Situation in ARMM

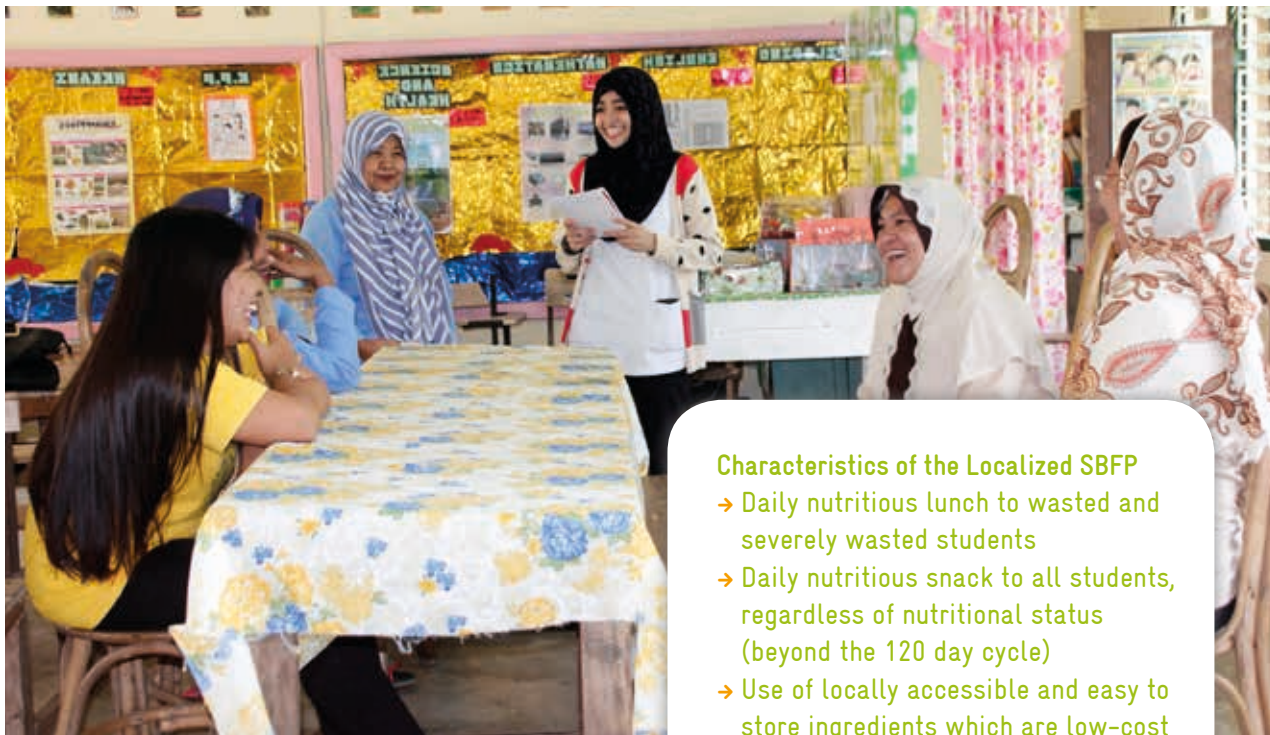
In the Autonomous Region in Muslim Mindanao (ARMM), only 4 out of 10 pupils complete elementary school (8). The average drop-out rate in elementary schools across all grade levels is 18 % and was more than double the overall dropout rate of the Philippines. The generally poor health and low nutritional status also contribute to high absenteeism and drop-out rates in early grades; 33% of students miss class due to poverty-related reasons which includes amongst others sickness and lack of food.

The prevalence of underweight, stunted and wasted children (6 – 10 years) are higher than the national average of the Philippines (ibid.).

As much as DepEd and school communities are eager to implement feeding programs for their students to address classroom hunger and absenteeism, challenges in implementation and scale-up of SBFP exist, particularly in ARMM – largely a remote and impoverished region with issues of insecurity.

## 2. Localized School-Based Feeding

in ARMM



### Characteristics of the Localized SBFP

- Daily nutritious lunch to wasted and severely wasted students
- Daily nutritious snack to all students, regardless of nutritional status (beyond the 120 day cycle)
- Use of locally accessible and easy to store ingredients which are low-cost and meet nutritional requirements (mung beans and rice)
- Basic recipes to be augmented with seasonal vegetables
- Recipes minimize manpower needed for preparation

The Department of Education in the Autonomous Region in Muslim Mindanao (DepEd ARMM), with the technical assistance of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Fit for School Program (FIT) jointly supported by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Australian Department of Foreign Affairs and Trade (DFAT), piloted a localized school feeding concept which follows the SBFP guidelines and is adapted to the unique challenges and opportunities within ARMM. This concept is based on the guidelines in the DepEd Order on the “Implementation of School Feeding Programs” (5) and harnesses experiences of earlier interventions such as the Free Noon Meal Program (FNM) implemented in Negros Oriental from November 2009 until September 2010. Further, the pilot attempts to document underlying procedures to understand if the simplified procedures which were used in the piloting are effective.

The concept was piloted in five schools in ARMM which were selected based on the following criteria:

- Implementation of the Essential Health Care Program (i.e. practice of daily group hand washing and toothbrushing, and bi-annual deworming), and availability of toilets.
- Availability of a school garden (including container gardening where there is a lack of space).
- General accessibility and location in a low-risk environment to allow entry of local personnel.
- Acceptance of the concept by the school principal and community.

## Localized School-Based Feeding Programm SBFP in ARMM

### Objectives //

.....  
Improve school attendance by providing low-cost snacks for all students on all school days as an incentive to attend school.  
.....

.....  
Improve nutritional status by creating alternative recipes that meet nutritional content.  
.....

### The FIT Approach in the SBFP



The localized SBFP in ARMM meets the minimum standards for nutritional requirements outlined in DepEd Order No. 33 (5) and complies with the FIT 4-S principles:

**Simple //** Recipes are easy to prepare (based on rice and mung beans) which do not require peeling, only soaking. Recipes rely primarily on local and seasonal resources. Recipes also contribute to simplified logistics in purchasing, accessibility and storage.

**Scalable //** Recipes are based on use of inexpensive and locally available ingredients, are designed to be as uniform and simple as possible, and modular so that they can suit the diverse contexts of ARMM.

**Sustainable //** Recipes use local ingredients, primarily nutrients from plant sources and less from animal meat, hence fostering environmental and climate friendly local agricultural production systems.

**System-oriented //** Concept follows the guidelines of DepEd's SBFP. It can be easily integrated into DepEd ARMM's existing structures as it relies only on the manpower already available in the divisions and school communities.



### 3. Benefits of localized SBFP in ARMM



#### Strengthened school community involvement

The localized SBFP concept was formulated in collaboration with DepEd ARMM and the school community. Consultations with the school principals and teachers were conducted. Orientation on the actual implementation of the localized SBFP concept was also conducted. During the course of actual implementation, the following key stakeholders and their roles have been identified:

##### School Heads

- Lead advocate of SBFP
- Ensure quality and regularity of implementation
- Oversee budget and procurement
- Mobilize school community to support and participate in SBFP

##### Teachers

- Assist in anthropometric measurements
- Ensure food is prepared according to recipe
- Oversee daily feeding
- Cleaning

##### Nurses

- Identify wasted and severely wasted children
- Monitor improvements in nutritional status
- Orient school community on food hygiene

##### Parents

- Cook food
- Assist in cleaning

##### Learners

- Older children assist in cooking and cleaning

## Eased logistical processes

In order to simplify school lunch recipes and at the same time fulfill the minimum nutritional requirements, 20 recipes, which are based on mung bean and rice were designed (Table 1). These basic ingredients are preferred because they:

- Are available nationwide, can be bought in large quantities and can be stored easily;
- Provide basic carbohydrates and they are complementary protein sources;
- Can be complemented by a wide variety of local vegetables, fish and other meat sources, which are in season and hence, less costly. These add-ons may come from home or school gardens and local markets.

List of recipes for lunch // Table 1

1	Ginataang Monggo with Squash, Okra and Kangkong
2	Monggo Chicken Tinola with Malunggay
3	Monggo Curry
4	Monggo with Fish, Malunggay Fruits & Sweet Potato
5	Ginataang Monggo with Langka and Alugbati
6	Monggo with Fried Fish and Gabi
7	Tortang Monggo
8	Monggo Sotanghon Soup
9	Monggo with Sardines and Kulitis
10	Monggo with Misua, Patola and Saluyot
11	Monggo with Dilis and Malunggay Leaves
12	Monggo with Hipong Tagunton
13	Dinengdeng na Monggo
14	Tortang Monggo at Talong
15	Ginataang Monggo with Banana Heart
16	Sprouted Monggo with Scrambled Egg
17	Monggo Meatballs
18	Monggo Congee
19	Monggo with Kalabasa, Patola and Alugbati
20	Monggo Bihon with Chicken



In addition, 10 different nutritious and low-cost snacks following the FIT 4-S principles were developed and distributed to all children every day, regardless of nutritional status.

// For more information on the recipes, see the Monggo-based Lunch Recipes and 4S Snacks for Simplified School-based Feeding (9).

List of recipes for snacks // Table 2

1	Sweet Banana (Ripe)
2	Peanuts (Boiled)
3	Sweet Potato (Boiled)
4	Papaya (Ripe)
5	Cooking Banana/Saba (Boiled)
6	Squash Maja Blanca
7	Chamorado with Dilis (Glutinous Rice with Cacao and Dried Anchovies)
8	Ube Rice Cake
9	Palitaw (Glutinous Rice Dipped in Grated Young Coconut)
10	Kalabasa Halaya (Boiled Squash with Coconut Cream)



**Minimized costs by using low-cost ingredients with sufficient nutritional value**

Recipes were formulated by GIZ FIT nutritionist in close consultation with the Food and Nutrition Research Institute (FNRI) of the Philippines' Department of Science and Technology (DOST) and the recipes were tested by parents and teachers in schools. This was done to ensure that the FNRI minimum requirements and matches the nutritional composition of the existing SBFP recipes. Table 3 shows the breakdown of average nutritional content (energy, protein and vitamin A) calculated using the Food Composition Table and Menu Evaluation of FNRI (10). The government allocated budget for school feeding in the Philippines is 16 PHP per meal per child. This is comprised of 15 PHP per child per meal for ingredients and 1 PHP per child per meal for consumables, such as gas. This amount is allocated for a feeding period of 120 days. Based on the DepEd Standard Recipe Book (6), the actual values of the DepEd lunch for protein energy (kcal), protein (g)

and vitamin A ( $\mu\text{g}$ ) exceed the minimum standards set by FNRI. However, based on actual market data from Cotabato City in June 2015, the average cost of 16.60 PHP per child per meal for ingredients surpasses the amount provided by DepEd by 1.60 PHP (Table 3). In a related study, the Philippine Institute for Development Studies found that the current allocation of 16 PHP per child per day was insufficient for the current SBFP considering the cost of food ingredients and other related expenditures (11).

Using locally available ingredients, the lunch recipes used in the localized SBFP in ARMM also meet the FNRI requirements, while falling below the allocated DepEd budget by minimizing costs to an average of PHP 10.26 per meal per child. The recommended snacks fulfill the minimum requirements in energy, protein and vitamin A contents and cost between 1.70 PHP (e.g. banana) and 4.20 PHP (e.g. ube rice cake), thus they are inexpensive and healthy. If DepEd were to consider scaling up the provision of daily low-cost snacks for all children, regardless of nutritional status, an increase in the funds allocated for SBFP would need to be pursued.



Comparison of nutrient content and costs (per meal, average of 20 lunch recipes) // Table 3			
	Localized SBFP in ARMM	Regular SBFP	Minimum requirements
Energy (kcal)	446	524	300
Protein (g)	13	15	12
Vitamin A ( $\mu\text{g}$ )	150	240	113
Cost (PHP)	10.26	16.60	

// References (12) and (13) page xx

## Increased school attendance

To assess the impact on school attendance, random spot-checks of attendance were done by GIZ's school feeding advisor during unannounced school visits. DepEd ARMM selected schools implementing regular SBFP as control schools to allow comparison. Each intervention school matched a control school in terms of location, student enrollment, size, number of undernourished children, and socio-economic environment.

The schools implementing the localized SBFP had a much higher attendance compared to control schools – a result which could be attributed to the provision of snacks for all children every day. During unannounced visits, 91 % of the learners in schools implementing localized SBFP were present compared to only 72 % of children in control schools. This result is particularly interesting as, if scaled up, it may provide an avenue for DepEd ARMM to improve attendance through low-cost intervention on school grounds.

Results also revealed a wide gender gap in the attendance with boys being more disadvantaged. This gender disparity was more pronounced in control schools with 81 % attendance for girls and only 63 % attendance for boys. Whereas girls in localized SBFP schools had 94 % attendance and boys had 86 % attendance. These findings were consistent with anecdotal evidence that boys are more likely to be tasked to help out in farming chores and thus are more

likely to miss classes. Further, teachers report about children missing afternoon classes because they have to go home to eat lunch and no longer go back to class while those receiving school lunches would wait to be given food then go home – both times lead to absences in the afternoon.

## Improved nutritional status of undernourished children

A simple study was conducted to assess the impact of the localized SBFP on nutritional status. A total of 148 undernourished children were identified at baseline prior to the start of feeding. In addition to the regular snacks given to all 1173 children in pilot schools, these 148 undernourished children were provided school lunch. After 60 feeding days and 120 feeding days, the children were once again measured to identify changes in their nutritional status. Table 5 shows the improvement in nutritional status.

148 wasted and severely wasted children benefitted from the feeding intervention. An improvement in nutritional status was observed in these five target schools over the course of the feeding intervention. After 60 feeding days, 41 % (n=60) of beneficiaries shifted from wasted or severely wasted to normal status in terms of their Body Mass Index (BMI). After 120 feeding days, 65 % (n=95) of beneficiaries, moved from wasted or severely wasted to normal status.

Average attendance by gender by type of SBFP implemented // Table 4

Group	Localized SBFP in ARMM	Regular SBFP
Girls	94 %	81 %
Boys	86 %	63 %
All	91 %	72 %

Results of feeding intervention (baseline compared to 60 days of feeding and 120 days of feeding) // Table 5

Feeding days	Children who improved n (%)		Total improved n (%)
	Severely wasted to normal	Wasted to normal	
60 days	5 (3 %)	55 (37 %)	60 (41 %)
120 days	8 (5 %)	87 (59 %)	95 (65 %)

## 4. Conclusions



Benefits  
of localized  
SBFP in  
ARMM

The concept of a localized SBFP in ARMM piloted in 5 schools showed that challenges in the implementation of the regular SBFP could be addressed with simple solutions. Having a school feeding program that considers the unique characteristics of the region was beneficial to ease logistical concerns, thereby allowing more time and resources to be allocated to the actual feeding. Through the mobilization of the school community to participate, available resources are maximized. By using local and simple ingredients, costs can also be minimized while still improving nutritional status of children. In particular, a daily snack which benefits all children regardless of nutritional status could be a low-cost means for the education sector to improve school attendance, especially for boys.

Strengthened School  
Community Involvement

Eased logistical processes

Minimized costs by using  
low-cost ingredients with  
sufficient nutritional value

Increased school attendance

Improved nutritional status  
of undernourished children

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## Notes




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