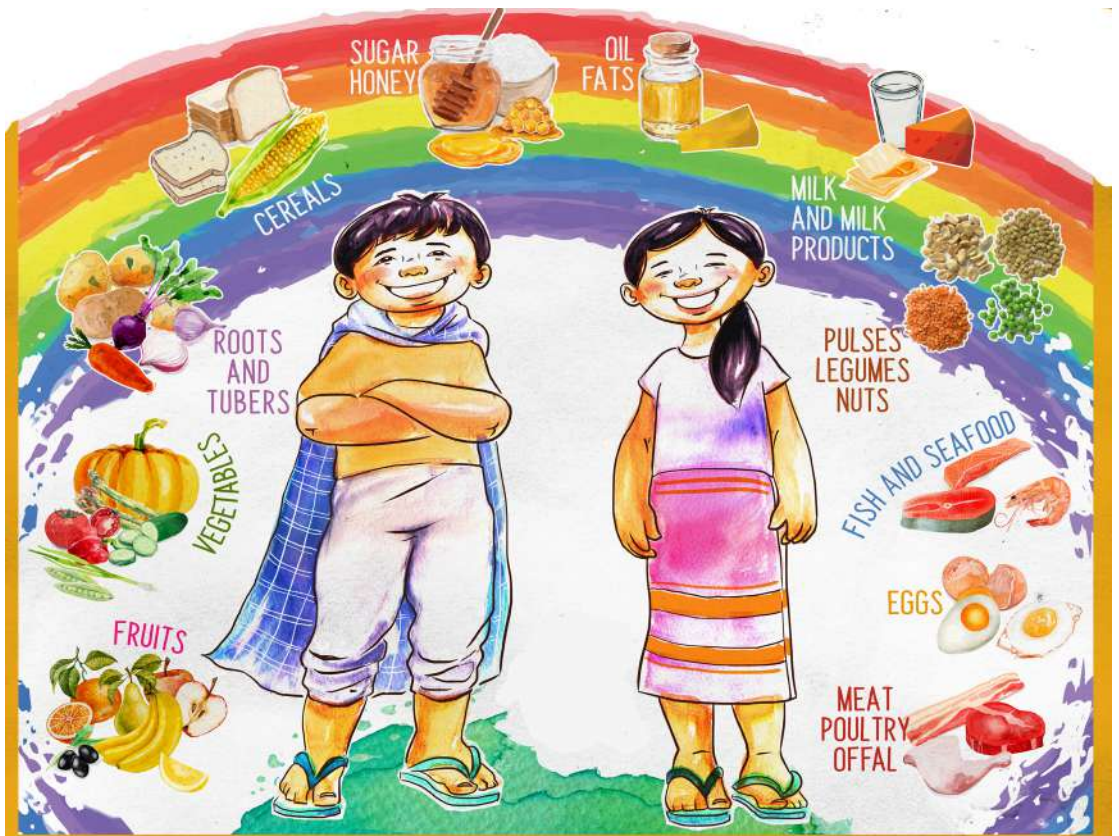


NUTRITIONAL MANUAL

A Manual for School Mid Day Meal Programs in
Meghalaya, India



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Meghalaya, India



giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH



Published by **NESFAS**

Kerie Ville, Arbuthnott Road, Behind Nazareth Hospital, Laitumkhrah
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We would like to express a deep sense of gratitude to Ms. Nirupama James of St. Mary's College, Shillong who graciously consented to examine the manual in detail. Her long experience has really enabled her to give practical suggestions that will be helpful for improving the functioning of the mid day meal programme in communities.

Without mentioning names, sincere gratitude also goes to all the staff of NESFAS who have given inputs for this manual as well as they carried out the work in the communities.

We extend our gratitude to Dr. Barikor Warjri from St. Mary's College and Dr. Grace Shylla Passah from Martin Luther Christian University who have also given their inputs.

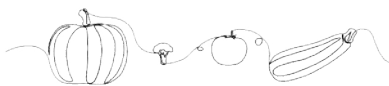
Last but not the least, a big thank you to our funders GIZ who have made it possible for NESFAS to carry out the work it has intended to.

Melari Shisha Nongrum
Executive Director, NESFAS

HEALTHY TODAY, SECURE TOMORROW!



INCLUDE AT LEAST 5 OR MORE
FOOD GROUPS IN YOUR DAILY
DIETS FOR AN ADEQUATE DIET



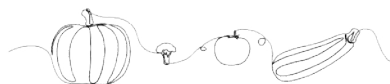
Introduction :

NESFAS is a society registered in 2012 with the Meghalaya Societies Registration Act, 1983. It aims to connect people to the pleasure of tasty, healthy, local food that is inseparable from our responsibility towards the environment and the preservation of agrobiodiversity. NESFAS believes that food, when responsibly produced, protects the environment, enhances our health and wellbeing and affirms pride in our culture. In doing so it also highlights the role of women as nurturers and custodians of our agrobiodiversity and our food ways.

Through the project “Enhanced nutritional diversity as a means of supplementing the mid day meals of primary school children using local resources” supported by GIZ it aims to work with the communities and schools to enhance the food diversity in school mid day meals through the school garden and communities with the involvement of parents, teachers, children and farmers.

The purpose of this manual is to provide the basis for which a good quality school meal programme can function. The manual draws its content from the existing rules and guidelines of the Mid Day Meal Programme of the Government of India and also other standardised norms for food safety from WHO, FAO and other organizations. This manual is user friendly and can be used by the cooks, school teachers, community members and school management committees. It contains practical steps that one can take to enhance the quality of the school meal programme.

It is understood that nutrition is a fundamental right for good health and development during the early years of life. If children do not eat the right amounts of macronutrients like protein, fat, and carbohydrates and micronutrients like vitamin A, iodine, iron and zinc, they may become more prone to illnesses, delayed mental and motor development that can have enduring adverse effects beyond childhood, or die.

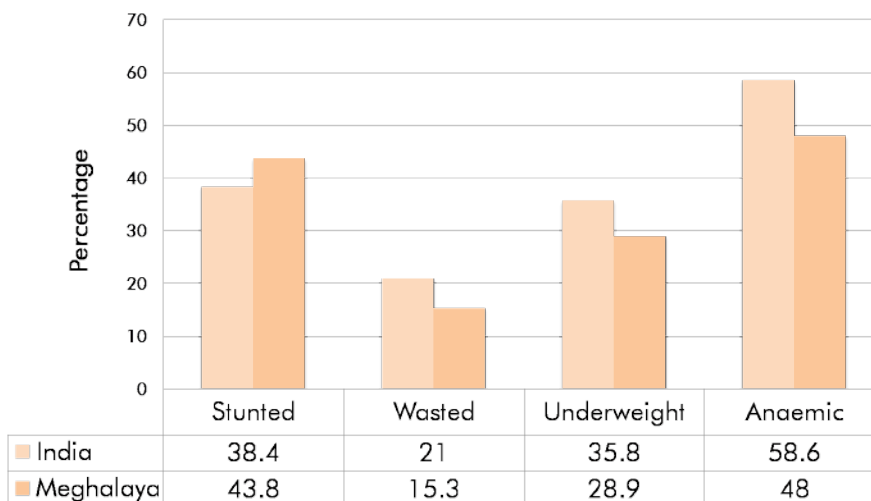


According to World Health Organization, correction of nutritional deficiencies below 2 years is of particular significance, as reversal may become very difficult. Though the building blocks of good nutrition starts in the womb, yet the good nutrition continues to play an important role in keeping children strong, healthy and free of disease. The nutritional status of children as shown in Table 1 is still bleak for a large proportion of children in the country and state of Meghalaya.

The government has taken measures to improve the nutritional status of children through the Integrated Child Development Services catering to children from 0 to 6 years and beyond this age, the Mid Day Meal of the government aims to increase enrolment, attendance and retention and also enhance nutritional status of children. The meals are intended to be packed with nutrition so that children not only grow physically but also their cognitive development is enhanced.

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Table 1: Nutritional status of children (6-59 months)



Source: National Family Health Survey 2015-16

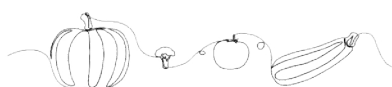
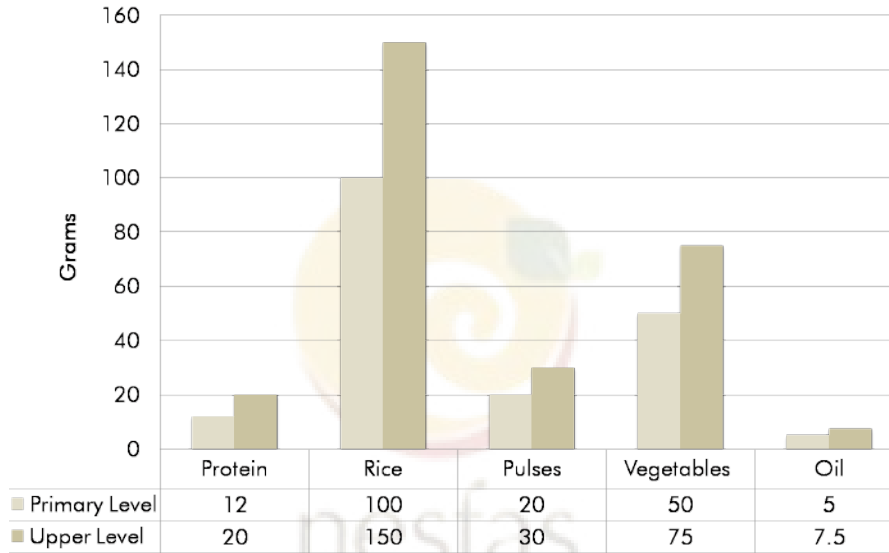


Table 2: Required quantity per child



Source: MDM Guidelines

The Mid-day Meal (MDM) scheme is a Centrally Sponsored Scheme which serves hot cooked meal to school children studying in Classes I-VIII of Government, Government aided schools, Special Training centres (STC) and Madarasas and Maktabas supported under the *Sarva Shiksha Abhiyan*.

According to the MDM guidelines, it envisages the provision of cooked mid-day meal with the quantities given in Table 2.

Recommended Dietary Allowances (RDA) are the levels of intake of essential nutrients required for the growth and development of children. The intent of the RDA is to be both safe and adequate but not necessarily the highest or lowest. This guideline emphasize vulnerable groups as infants and school going age groups to promote health of this vulnerable population and for prevention of diseases.

Knowing ideal body weight for age and gender is important to track the growth of children. Under nourish children are susceptible to many infectious diseases which indicates low immune system. The details of RDA are given in Table 3 and Table 4 and Weight for Age charts for boys and girls are given in Table 5 and Table 6.

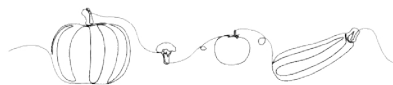


Table 3: Recommended Dietary Allowances for Indians suggested by ICMR 2010
(Macronutrients and Minerals)

Group	Particulars	Net Energy Kcal/d	Protein g/d	Visible Fat g/d	Calcium Mg/d	Iron mg/d
Children	1-3 years	1060	16.7	27	600	09
	4-6 years	1350	20.1	25	600	13
	7-9 years	1690	29.5	30	600	16
Infants	0-6 months	92 kcal/kg/d	1.16g/kg/d		500	46µg/kg/d
	6-12 months	80 kcal/kg/d	1.69g/kg/d	19	500	5

Table 4: Recommended Dietary Allowances for Indians (Micronutrients) suggested by ICMR 2010

Group	Particulars	b-carotene (mg/d)	Vitamin-C (mg/d)	Vit.B12 (mg/d)	Magnesium (mg/d)	Zinc (mg/d)
Infants	0-6 months	--	25	0.2	30	-
	6-12 months	2800	25	0.2	45	-
Children	1-3 years	3200	40	-	50	5
	4-6 years	3200	40	-	70	7
	7-9 years	4800	40	-	100	8

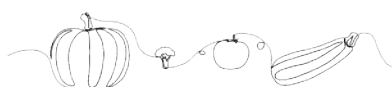


Table 5: Recommended Weight by Age (Girls)-



Groups	Particulars	Body Weight(in kg)
Infants	0 month	3.3
	1 month	4.3
	2 month	5.3
	3 month	6
	4 month	6.6
	5 month	7.1
	6 month	7.5
	7 month	7.9
	8 month	8.2
	9 month	8.5
	10 month	8.8
Children	11 month	9
	1 year	9.2
	2 years	12.0
	3 years	14.2
	4 years	15.4
	5 years	17.9
	6 years	19.9
	7 years	22.4
	8 years	25.8
9 years	28.1	

Source: National Institute of Nutrition

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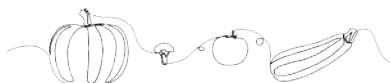


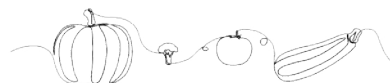
Table 6: Recommended Weight by Age (Boys)-

Groups	Particulars	Body Weight (in Kg)
Infants	0 month	3.3
	1 month	4.4
	2 month	5.6
	3 month	6.4
	4 month	7
	5 month	7.5
	6 month	7.9
	7 month	8.3
	8 month	8.6
	9 month	8.9
	10 month	9.1
11 month	9.4	
Children	1 year	9.6
	2 years	12.5
	3 years	14
	4 years	16.3
	5 years	18.4
	6 years	20.6
	7 years	22.9
	8 years	25.6
	9 years	28.6



Source: National Institute of Nutrition

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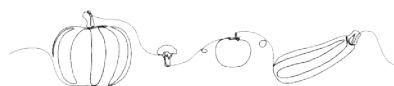


For easy understanding of food, food can be categorised according to their function as shown in Table 7. It is important to provide all the food groups and not restrict to one type as a child receives nutrients from a diversity of food.

Table 7: Classification of Food according to function

Major Nutrients	Other Nutrients
Energy rich foods	Carbohydrates and Fats
	Whole grains, cereals and millets
	Vegetables, oil, butter
	Nuts and oilseeds
Body Building foods	Proteins
	Pulses, nuts and oilseeds
	Milk and milk products
	Meat, fish and poultry
Protective foods	Vitamins and minerals
	Green leafy vegetables
	Other vegetables and fruits
	Eggs, milk & milk products and flesh foods

Source: National Institute of Nutrition, Dietary Guidelines for Indians, 2011



SEASONAL CALENDAR



I. Seasonal Calendars:

Seasonal calendars of local vegetables including fruits available in the communities should be made to help the cook to remember the available resources in the community. These calendars are to be pasted in the kitchen to aid the cook to create the menu.

Steps to create a seasonal calendar:

The teacher and cook to facilitate the creation of seasonal calendar.
Chart papers and sketch pens will be needed for creating the seasonal calendars.

A focused group discussion with 15 to 20 people from the community (elderly people, farmers, women, youth)

Sources of food in the community need to be identified such as cultivated fields, thum land or gardens

List the vegetables in each of the following groups:
Pulses/ Orange flashed vegetables and fruits / Green leafy vegetables/ Other vegetables (not included in the above categories) / Tubers/ Eggs. /Fruits. /Nuts and seeds

Categorise the listed vegetables and fruits according to the availability as in the following format.



Seasonal calendar format:

PRIORITISED CROPS FOR INCLUSION IN MID-DAY MEAL

DEWLIEH: GREEN LEAFY VEGETABLES

Local Name	Scientific Name	Planting/ Harvesting	Months											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tyso	<i>Brassica juncea</i>	Planting												
		Harvesting												
Jaid	<i>Allium hookeri</i>	Planting												
		Harvesting												
Jamvdoh	<i>Houttuynia cordata</i>	Planting												
		Harvesting												
Bar Pylon (W)	<i>Crotalaria asiatica</i>	Planting												
		Harvesting												
Jaling	<i>Brassica nigra</i>	Planting												
		Harvesting												
Jajew Hah Sla (W)	NA	Harvesting												
Jawieh (W)	NA	Planting												
Jabult (W)	<i>Polygonum maritimum</i>	Harvesting												
		Planting												
Jali (W)	<i>Gynura nopolensis</i>	Harvesting												
		Planting												
Jalyimiar (W)	<i>Sesbania arvensis</i>	Harvesting												
		Planting												
Tangdama (W)	NA	Harvesting												
		Planting												
Jajew Sxor Blang (W)	NA	Harvesting												
		Planting												
Jasim (W)	NA	Harvesting												
		Planting												
Jajew Maw/Jajew Kynih Sykar (W)	<i>Perbas cortizii</i>	Harvesting												
		Planting												
Jakhris (W)	<i>Rhynchosyris ellipticum</i>	Harvesting												
		Planting												
Jarain (W)	<i>Egocypium dibotry</i>	Harvesting												
		Planting												



MENU



II. Menu:

The Government of Meghalaya has suggested the weekly menu shown in Table 5. However the menu need to be more specific by mentioning the specific vegetables as shown (an example) and also the source is indicated so that the cook will know what to make, procure from farmers/market (only if not available) or pick vegetables accordingly. The cooks should refer to the seasonal calendar for knowing the crops available in the village while preparing the menu.

Table 8: Menu

Weekly	Proposed menu by MDM, Govt of Meghalaya	Specific Menu prepared weekly							
		Starchy Staples	Protein		Vegetables			Oils & Fats	Fruits
		Rice	Pulses	Egg	Orange fleshed	Green Leafy	Other vegetables	Nuts & Seeds	
Monday	Khichidi (Rice+dal+nutrela/any local and seasonal vegetable) Local and seasonal fruit	Rice	Rymbaisaw (red beans)	Egg		Jaut (<i>Allium hookeri</i>)			Guava
Source		School	Farmer	Grocery Shop		School Garden			School garden
Tuesday	Rice Dal Fried mixed vegetable (Potato+any local and seasonal green leafy vegetable like mustard leaves/radish leaves/spinach/any other)	Rice With squash	Pulses		Pumpkin	Khliang Syiar (<i>Crotalaria Asiatica</i>) with perilla seeds		Perilla seeds	Guava
Source		School & Farmer	Farmer		Farmer	School garden		Farmer	School Garden
Wednesday	Rice Egg curry (Cauliflower/squash/other gourds/any local and seasonal vegetable+ tomato + boiled egg)	Rice		Egg curry		Jamyrdoh (<i>Hottuyria Cordata</i>) & tomato salad	Banana flower with perilla seeds	Perilla seeds	
Source		School		Market		School garden & market	Farmer	Farmer	
Thursday	Rice Vegetable curry (Potato+tomato+kabuli/bengal gram/peas) Local and seasonal fruit	Rice		Egg	Pumpkin curry	Pumpkin leaves with egg			Star fruit
Source		School		Market	Farmer	Farmer			Farmer
Friday	Rice Dal Fried mixed vegetable (Nutrela+pumpkin/tomato/any other local and seasonal vegetable)	Rice	Pulses			Jatira (<i>Oenanthe linearis</i>)	Mashed Potato with Jatira		Star fruit
Source		School	Farmer			School garden	Farmer & School Garden		Farmer

A Register of the Menu should be maintained as shown and also it should be written on the white board.

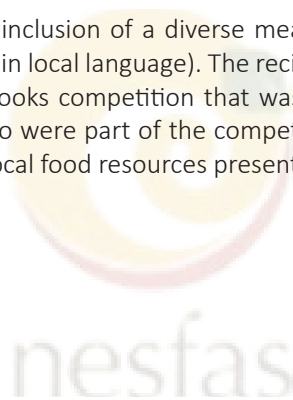


Contribution of wild edibles by children:

Parents can contribute to the MDM by contributing green leafy vegetables such as wild edibles if it is not enough from the school garden. The contribution can follow a routine based on the number of students in a class. For example, on Monday, students of Class I will each bring a bunch of wild edible Jatira (*Oenanthe linearis*). This routine will be made by the teachers such as follows:

Monday	Class I / Class VI	Jaut (<i>Allium hookeri</i>)
Tuesday	Class II/ Class VII	Khliang Syiar (<i>Centella Asiatica</i>)
Wednesday	Class III / Class VIII	Jamyrdoh (<i>Hottuynia Cordata</i>)
Thursday	Class IV/ Class VI	Pumpkin leaves
Friday	Class V / Class VII	Jatira (<i>Oenanthe linearis</i>)

The preparation and inclusion of a diverse meal is possible as the cooks can refer to the Recipes Book (in local language). The recipes in the book have been documented from the local cooks competition that was held in Mawmihthied. It was the cooks themselves who were part of the competition who came up with a number of recipes based on local food resources present in the villages.



KITCHENS



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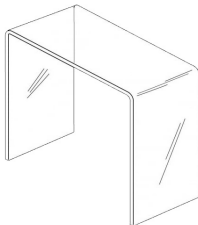


III. Kitchens

According to the MDM guidelines following are the minimum standards for an MDM kitchen:

- i. Every school that serves the mid day meals shall have a separate kitchen for cooking the meals which are separate from the classrooms.
- ii. Location of a kitchen should be in a clean and open place and free from filthy surroundings and should maintain overall hygienic environment.
- iii. The premises should be clean, adequately lighted and ventilated and have sufficient free space for movement.
- iv. Floors, ceilings and walls must be maintained in a sound condition.
- v. They should be smooth and easy to clean with no flaking paint or plaster. The floor and skirted walls should be washed as per requirement with an effective disinfectant.
- vi. The premises should be kept free from all insects. No spraying should be done during the cooking of Mid Day Meal, but instead fly swats/ flaps should be used to kill flies getting into the premises.
- vii. Handwashing area should be present so that children can wash hands before and after meals

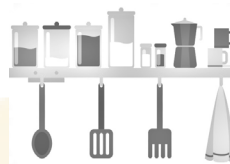
In the kitchen, there should some basic equipment to enhance its functioning such as follows:



Working table/
Platform.



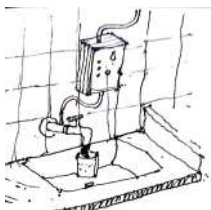
Sink to wash
vegetables.



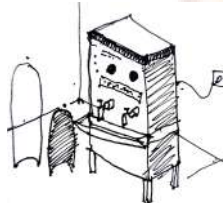
Racks to store food and
utensils.



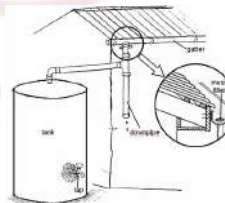
Air tight containers to
preserve food.



Source of portable
water



Boiled water source
within reach of kids



Maintenance of rain
water harvesting
system



Segregation of
degradable and bio-de-
gradable
waste



FOOD QUALITY

FOOD GROUPS



IV. Food Quality

Food hygiene are the conditions and measures necessary to ensure the safety of food from production to consumption. The mid-day meal should contain adequate nutrients and should be, palatable, hygienic, and operationally feasible. These food safety guidelines are for school level kitchens only, where the mid-day meal is cooked for children.

Quality of raw food/ingredients:

Following are the parameters for ensuring raw food ingredients are of good quality. In Annexure 1, the checklist for ensuring quality of raw food ingredients is given

- i. Check quality of rice from each bag. If the quality is doubtful (mouldy) immediate action should be taken by the head teacher to report the same to the concerned authorities. The head teacher should instruct the cook not to use such food items.
- ii. The rice bags are kept in a dry place to prevent moulding. It can be placed on a plank at least 8 to 12 cm above the ground and at 1 feet from the walls to avoid absorption of moisture.
- iii. Once the rice bag is open, the rice needs to be transferred to a container with a proper lid
- iv. Food grade air tight containers are ideal for storage of dals, spices, condiments and other ingredients.
- v. In case of packaged ingredients, the 'Expiry Date', 'Best Before' should be considered. Packed dals, salt, spices, condiments and oil with AGMARK quality symbol should be purchased.
- vi. To prevent contamination and food spoilage, it is advisable to purchase the vegetables in the morning. This is possible if the vegetables are purchased from the community itself. This will prevent spoilage and vegetables will remain fresh.
- vii. The cook should ensure that any vegetables bought from local community or market is of good quality.
- viii. Perishable food items should not be stored in the kitchen as they get spoil easily
- ix. Only "double fortified salt" should be used for cooking mid day meals.
- x. Oils should not be reused
- xi. As there is no access to refrigerators, any left over food should not be given to the children the next day.
- xii. Hot cooked meals shall be served to children at school only. These meals will be cooked at the MDM kitchens and served to children during their meal times. Since the kitchens are small in size and a separate dining area is not available in most schools, the food can be served from the kitchen and children can eat in their classrooms.



HYGIENE



V. Hygiene

For providing nutritious meals to children, hygiene should be maintained at four levels; **the cook, food, kitchen and children**. Cleanliness and hygiene is one of the most important contributing factors to good and adequate nutrition. According to the World Health Organization (WHO), good hygiene is an important barrier to many infectious diseases, including the faecal–oral diseases, and it promotes better health and well-being.

Maintenance of hygiene:

- Cleanliness and personal hygiene of the **Cook** is crucial
- Hygiene maintenance while **handling food** both raw and cooked food is essential
- Cleanliness of **kitchens** including cooking vessels
- 7 steps **handwashing** techniques is to be followed by cooks and children before handling or eating food.

In the figures below, the minimum standards for maintenance of cleanliness by the cook are given. In Annexure 2, the checklist for these standards is given.

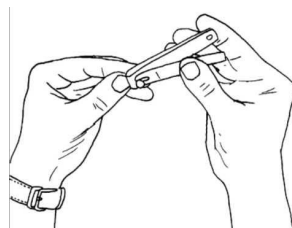
Maintenance of hygiene by the Cook:



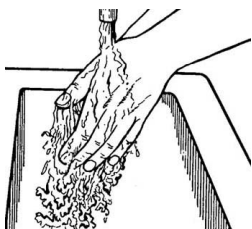
Cooks should wear clean clothes while cooking.



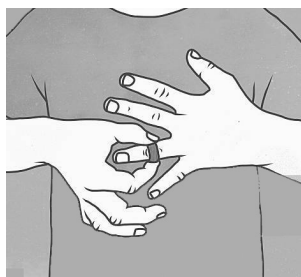
Usage of apron and head covers while cooking. (local khasi apron*)



Nails of the cook and the kids should be trimmed weekly.



Hands should be washed if in contact of bin, after handling raw food, after going to toilet or touching your pet .



Finger rings should be removed before cooking food.

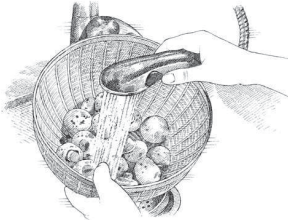


Cover your mouth while coughing or sneezing . Avoid contaminating food by any means .



In the figures below, the minimum standards for hygiene during food handling. A checklist for documentation is given in Annexure 3.

Maintenance of hygiene during food handling:



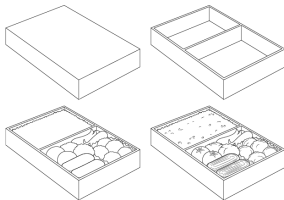
Vegetables should be washed thoroughly before cutting.



Raw as well cooked food should be at a safe distance of any detergents, soaps or cleaning agents to avoid contamination



The cereals and pulses should be manually cleaned before cooking to remove any extraneous matter



Artline Outline artlineoutline.com

Cooked rice or vegetables should be covered with lids



Before serving, tasting by one teacher (appointed by the school on a yearly basis), member of Mothers' Committee and the cook has to be done and these will signed on the register. Format is given in table above.

Format to document tasting of food:

Date of tasting	Person designated to taste MDM	Quality of food (Rate as very good, good, fair and poor)	Signature



Maintenance of Hygiene in Kitchens:

Following are the minimum standards for maintenance of kitchen. A checklist of the same is given in Annexure 4.

- i. Kitchens should be swept clean after use
- ii. Kitchen floor should be washed with soap at least once a week
- iii. Table tops and counters should be wiped clean with warm water to prevent spread of bacteria
- iv. Dish cloths should be washed with soap and dried
- v. Waste Management: Each Kitchen will have covered dustbins for biodegradable waste and non biodegradable waste. The dustbin of the biodegradable waste will be emptied everyday after use into the compost pit in the school garden.
- vi. Soda is used for cleaning wash basins, drains and pipes once a week to prevent foul odour
- vii. Windows are cleaned regularly
- viii. Surrounding of the kitchen is clean
- ix. Drains outside the kitchen are clean and there is no water logging

Maintenance of hygiene by children before and after meals:

All children in the schools should maintain cleanliness at least in the following two aspects:

- i. Trimmed nails:
Children should keep short and clean nails.
- ii. Hand washing:
All children should washing hands with dettol/ savlon soap before meals and after meals. (Refer to Annexure 7 for the 7 steps in handwashing). This poster is to be pasted at the hand-washing area.
- iii. Older children clean the classroom after eating meals



COMMUNITY PARTICIPATION



VI. Community Participation

To ensure that the school meal programme meets its objective, the participation of the community is imperative. There are various roles that the community can take part. However first and foremost, the perspective that this school meal programme is for the betterment of their own children is very essential. With this understanding comes, ownership and participation in the programme.

Parents' contribution to the MDM:

- Parents become members of the Parents'/ Mothers Committee to monitor the quality of food such as tasting of food and maintenance of cleanliness
- Parents can contribute wild green edibles for MDM
- Parents can assist in preparation of land, fencing and seeds for the school garden
- Headman or Locality Head will be part of the Parent's Committee

Sharing of MDM expenses with Parents:

The School Management Committee (SMC) which is the main body for the implementation of the government programme is responsible for effective implementation, record keeping and monitoring of the programme. As part of the regular procedure, the details of the receipts and expenditure of the MDM programme is being presented to the SMC. However there are one or two parents who are members of the SMC. The same details of the MDM can be presented during the parent teachers meeting at the end of the year. This will enhance the understanding of the parents regarding the implementation of the MDM and the challenges that the school faces and the strategies to overcome these challenges can be discussed with the parents.

The logo for Nesfas, featuring a stylized sun or smiley face above the word "nesfas" in a lowercase, sans-serif font.

Contribution of wild edibles:

In Meghalaya, during the rainy season in the villages, there is abundance of wild edibles in the kitchen gardens, fields and forests. As indicated in the previous section of 'Menu', the teachers can create a routine whereby a class of students can contribute a bunch of wild edibles for the meal.

Connection between local farmers and school:

The cook will prepare procurement details of the vegetables required weekly based on the menu that has been prepared. She/He will contact local farmers for procurement. The vegetables would be supplied on the morning of the school day. This would ensure that fresh vegetables are consumed and also this saves on transportation costs. If some items are to be procured from market outside the village, the cook will take necessary steps to procure such items. All details of procurement are maintained in the following format.

Procurement Format:

Sl no.	Date of Order	Date of Requirement	Food items	Source (local shop, farmer, market)	Quantity	Amount (Rs.)

Contribution towards maintenance of school gardens:

To enhance the productivity of the school garden, the parents can be involved in the following way:

- Parents help the school in preparing the land and fencing
- Parents who are farmers can inform the schools and children about sowing and harvesting season.
- Parents can contribute seeds which are traditional and where schools can save seeds for the next season

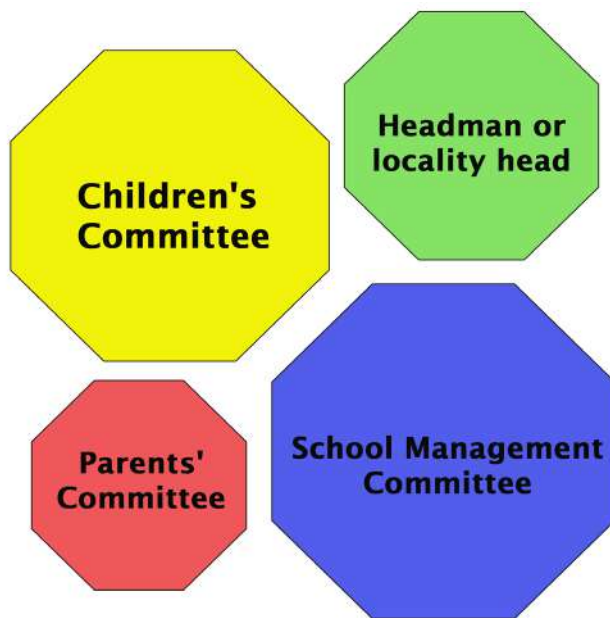


MONITORING



VII. Monitoring:

Monitoring is a required so that the MDM can achieve its goals. Apart from the monitoring from the government and its functionaries, the monitoring process at the school level can be by the school authorities (Head Teacher), Mothers' Committee & Children's Committee as well as the Headman of the village..



Reporting by Head Teacher:

In accordance to the government norms, the Head teacher has to send reports to the concerned departments before the 10th of every month in the format provided. A utilization statement for rice and sanctioned funds has to also be submitted.

A quarterly report needs to also be sent and discussed at the School Management Committee (SMC).



School Management Committee

The School Management Committee (SMC) mandated under Right to Free and Compulsory Education Act, 2009 shall also monitor implementation of the Mid day meal Scheme and shall oversee quality of meals provided to the children, cleanliness of the place of cooking and maintenance of hygiene in implementation of mid day meal scheme.

Mother's/Parents Committee

A mothers' committee should be constituted in every school. All the parents of the school children will be members of the Parents Committee. Schools will prepare a register for maintenance of records.

- i. Date of Constitution of Mothers'/Parents Committee:
- ii. Convener of the Committee (for a period of one year)
- iii. Secretary of the Committee (for a period of one year)
- iv. Routine of the parents who will supervise MDM daily to be made by the Secretary with a copy to the Head teacher
- v. Duties of members:
 - a. Supervising the quality of food hygiene maintained while preparing meals
 - b. Monitor the cleanliness of the kitchen
 - c. Taste the food before it is served
 - d. Report irregularities to the Head Teacher and if problems cannot be solved, it should be reported to the SMC

Children's Committee (CC):

Children's committee can be instituted in the school. It is an innovative teaching tool and strategy that let educators incorporate hands-on activities in a diversity of interdisciplinary ways. It also engages students by providing a dynamic environment in which to observe, discover, nurture and learn. Beyond academics, children's committee provides broader life lessons, including contributing to students' knowledge of how to maintain a healthy lifestyle. Strong support from parents, teachers, administrators, and the community ensure such programs will continue to grow and thrive.

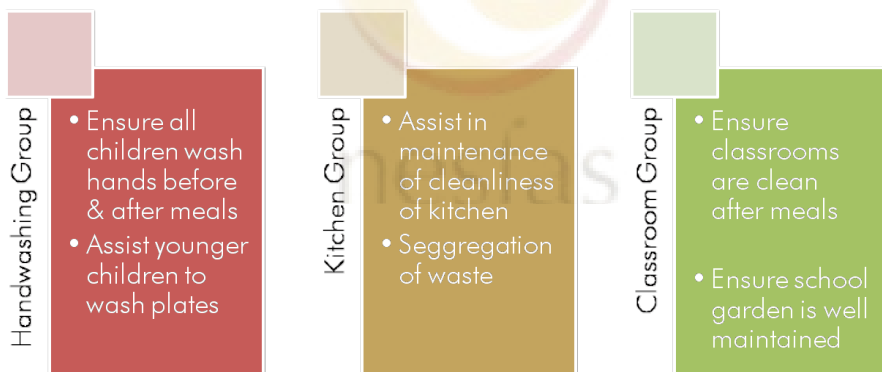


Formation of the Children’s Committee:

- i. A Childrens’ committee will be formed with not less than 10 students and not more than 25 students in one month
- ii. A teacher in charge of monitoring the committee will be assigned by the Head Teacher
- iii. Members can be from Class III to Class V in Primary School and Class VI to Class VIII in Upper Primary Schools
- iv. There will be one Leader and one Assistant Leader in each Committee
- v. The committee will be divided into 3 groups:



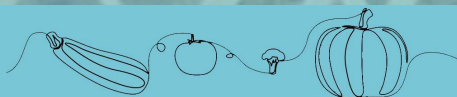
Duties of the Children’s Committee:



The leader and assistant leader can document the quality of food in the MDM and also the hygiene in the following format. The assessments are to be maintained by the Children’s Committee and one copy to the Head Teacher. The checklist is given in Annexure 5 for weekly assessment and Annexure 6 for daily assessment.



SCHOOL GARDENS



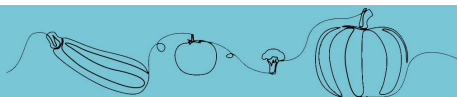
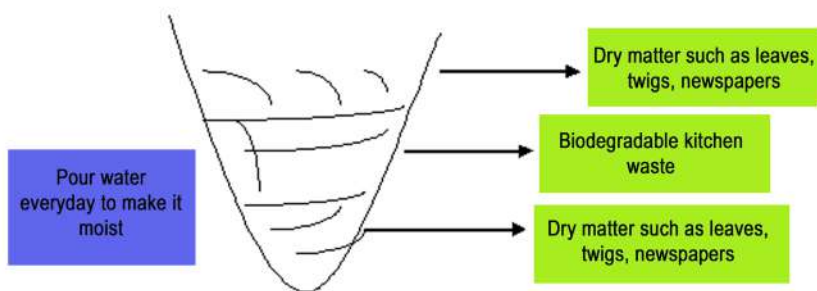


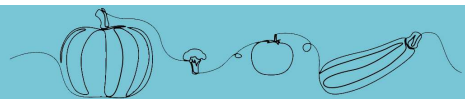
VIII. School Gardens:

The main aim is to enhance the diversity of food in the school meals served to the children. The body of a child needs a variety of energy giving foods, body building food and protective foods. These various nutrients are available in various types of food and not only in one type. Thus the concept of food diversity is the basis to attain nutritional diversity. This can be attained through a school garden:

- i. Every school has to have a school garden in its own back yard or any space available in the community
- ii. Mixed crops has to be planted in the school garden so that these crops can be included in the meals. Custodian Farmers can be consulted for this aspect.
- iii. Mothers'/Parents Committee will assist in preparing land, fencing and also seeds
- iv. The head teacher will assign a teacher in charge for the school garden for a period of 3 months. The teacher can then assign students to work in the school gardens.

A compost pit can be dug in the school garden so that biodegradable waste can be converted into compost. Following diagram shows process of creating compost. In 2 weeks, the waste has been converted to compost.





Annexure 1:

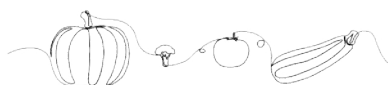
Checklist for ensuring quality of food

Particulars	Yes	No	Remarks
Rice is mouldy			
Rice is of good quality suitable for consumption			
Rice is kept in a dry place			
After opening, rice is kept in a container/box with a lid			
Lentils (Dal), spices, salt kept in air tight containers			
All packaged ingredients are before the 'expiry date'			
Vegetables purchased in the morning			
Vegetables bought from local community			
Vegetables are of good quality			
Perishable food items such as vegetables, eggs or fruits are stored in the kitchen			
Double Fortified Salt is used in the meals			
Left over oil is reused			
Left over food is given to students on the next day			
Table tops are wiped clean with warm water after use			
Dish cloths are washed with soap and dried			
Hot cooked meals are served to children at school			
Children eat their meals indoors (in the classroom)			

Annexure 2:

Checklist for minimum standards for maintenance of cleanliness by the cook:

Particulars	Yes	No	Remarks
Clothes of the cook is clean			
Cook wears headcovers while handling food			
Cook wears apron or jainkyrshiah			
Nails of the cooks is trimmed and clean			
Cook follows the 7 step handwashing technique			
Cook washes hand before preparing & cooking food			
Cook washes hand after handling raw meat, uncooked eggs or unwashed fruits and vegetables			
Jewellery or fingers are worn by the cook			
Cook sneezes or coughs over the food			



Annexure 3:

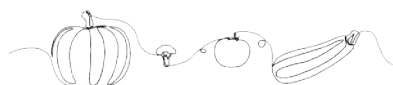
Checklist for maintenance of hygiene during food handling:

Particulars	Yes	No	Remarks
Vegetables are washed thoroughly before cutting			
Cereals and pulses are cleaned before cooking			
Cooked food is covered with a lid			
Detergents or soaps are placed far from any food item or ingredients			
Cooked food is tasted by one designated teacher			
Cooked food is tasted by one member of Mothers/Parents Committee			
Cooked food is tasted by the cook			
Food Tasting is documented in the Tasting Register			

Annexure 4:

Checklist for maintenance of hygiene kitchens:

Particulars	Yes	No	Remarks
Kitchens are swept clean after use			
Kitchen floor are washed with soap at least once a week			
Table tops and counters are wiped clean with warm water to prevent spread of bacteria			
Dish cloths are washed with soap and dried			
There are covered dustbins for biodegradable waste and non biodegradable waste.			
The dustbin of the biodegradable waste are emptied everyday after use into the compost pit in the school garden.			
Soda is used for cleaning wash basins, drains and pipes once a week			
Windows are clean			
Surrounding areas are clean			
There are proper drains or soak pits outside the kitchen			



Annexure 5:

Weekly Assessment by Children's Committee

Sl no.	Particulars	Yes	No	Remarks
	Date of the Assessment :			
	Name of leader/ Assistant leader :			
1	Raw rice is good in quality			
2	Rice bags kept in a dry place			
3	Opened rice is kept in sealed containers			
4	Dal, salt, oil, other condiments are kept in food grade air tight containers			
5	Expiry dates of packaged food has been checked and noted			
6	Menu for each day is written on the board			
7	Vegetables are purchased in the previous evening			
8	Vegetables are purchased in the morning			
9	Traditional and local vegetables bought from the community itself			
10	Old unused rice or vegetables are served to the children			
11	Double fortified salt is used			
12	Cooked Oil is reused			
13	Cooking vessels are washed with soap and scrubbed			
14	Clean utensils are kept dry on the shelf			
15	Vegetables are washed properly before cooking			
16	Detergents, soaps or cleaning agents are kept at a safe distance from the food			
17	Kitchen is clean and well maintained			
18	Dustbins are clean and waste is disposed appropriately daily			

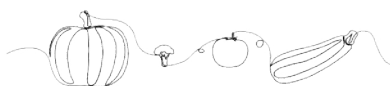
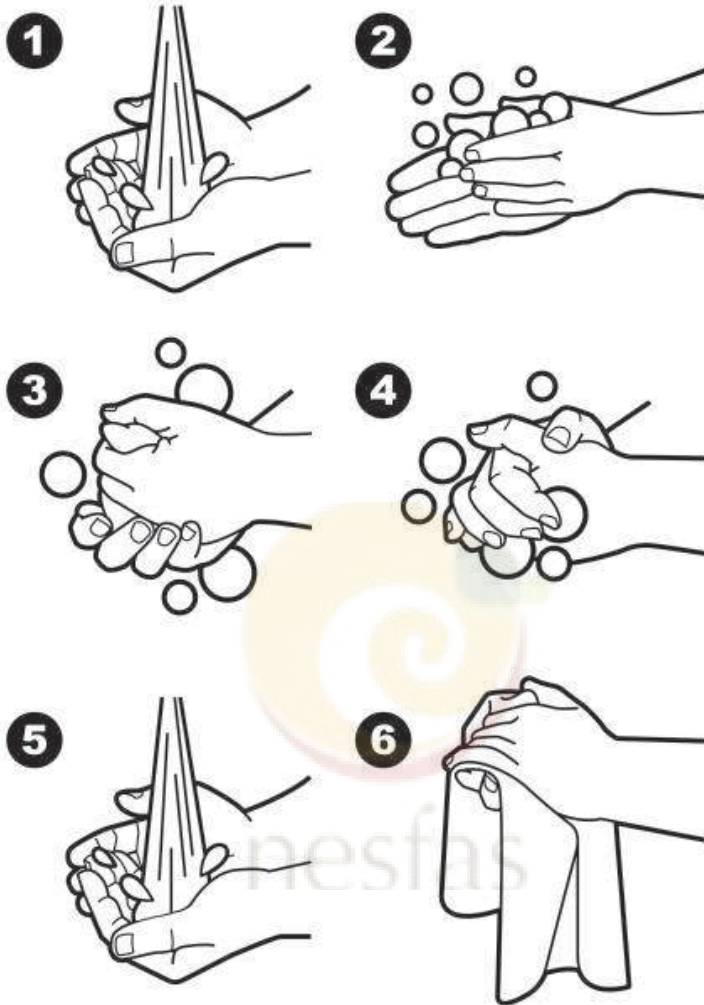
Annexure 6:

: Daily Documentation by Children's Committee (Write the names of food being served in the appropriate columns)

Name of the Leader/ Assistant Leader:										
Day	Date	Starchy Staples	Protein		Vegetables			Oil and Fats	Fruits	Meat
		Rice	Pulses	Egg	Orange fleshed	Green Leafy	Other vegetables	Nuts & Seeds		
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										

Annexure 7:

Hand washing techniques:



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