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# School Nutrition Programme, Bangladesh: WFP-BRAC Initiative

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#### About this paper

This is a qualitative case study of the school nutrition programme operated by BRAC from the value chain perspective, as part of the research on post-farmgate agri-food value chains under LANSA. The study draws attention to potential for scaling up the operation with the assistance of government and donors, to reduce undernutrition levels in the country. The authors are grateful for comments from reviewers and to Dr. R V Bhavani, Programme Manager, LANSA for help in finalising the paper.

#### About LANSA

Leveraging Agriculture for Nutrition in South Asia (LANSA) is an international research partnership. LANSA is finding out how agriculture and agri-food systems can be better designed to advance nutrition. LANSA is focused on policies, interventions and strategies that can improve the nutritional status of women and children in South Asia. LANSA is funded by UKaid from the UK government. The views expressed do not necessarily reflect the UK Government's official policies. For more information see www.lansasouthasia.org



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## Acronyms

DPE	Directorate of Primary Education
EU	European Union
FDGs	
	Focus Group Discussions
FLA	Field Level Agreements
GAIN	Global Alliance for Improved Nutrition
GoB	Government of Bangladesh
IFPRI	International Food Policy Research Institute
MDG	Millennium Development Goals
MoPME	Ministry of Primary and Mass Education
PEDP3	Third Primary Education Development Programme
SDG	Sustainable Development Goals
SFP	School Feeding Programme
SMCs	School Management Committees
SNP	School Nutrition Programme
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme



### Abstract

High rates of malnutrition in children, adolescents and women are a major concern in Bangladesh. World Food Programme (WFP) and BRAC initiated a school feeding programme in 2012 targeting children from poor households. This case study was conducted in Islampur upazila in Jamalpur district where micronutrient deficiencies are widespread. The objectives of the study were to understand the value chain of the school feeding programme, the role of the different actors, and its potential for impact. A qualitative approach was undertaken using focus group discussions. It was observed that there is a relatively unstructured value chain in the school nutrition programme from food supplier to consumer, with BRAC playing an important role as implementer. The initiative has scope to improve the nutritional status of children, as well as provide a much-needed source of income for ultra-poor women in the community.

## I. Introduction

Bangladesh is the world's seventh most populated country, with a population of 160 million. Significant progress has been achieved in recent decades in food security and nutrition but challenges persist. The country still faces nutrition burdens that are estimated to cost USD I billion in lost productivity every year, and even more in health costs. Micronutrient deficiencies remain widespread, contributing to sub-optimal development of children and increasing the risk of disease. Vitamin A deficiency affects one child in five, and vitamin  $B_{12}$  deficiency, one child in three. Zinc deficiency is prevalent, and a third of pre-school children and half of pregnant women are anaemic. Undernutrition and micronutrient deficiencies are also prevalent among adolescent girls (WFP 2017).

Globally, school feeding schemes were introduced as early as in the 1940s in South Africa and largescale school feeding programmes were implemented in China in the 1970s and 1980s. Various organisations have been working in collaboration with the UN over the past two decades to achieve the Millennium Development Goals (MDG) and now the Sustainable Development Goals (SDG) relating to health, hunger and poverty. Numerous studies have shown that school feeding can increase enrolment and decrease dropout. According to the DPE (Directorate of Primary Education), Bangladesh, the net enrolment rate in schools reportedly rose from 74 per cent in 1992 to 98 per cent in 2008; whereas, dropout rates fell slightly from 35 to 33 per cent in the same period (Afroze et al. 2013).

In Bangladesh, where nearly half the population is considered food insecure and many children do not regularly attend school, if at all, initiatives like school feeding are critical. Ensuring school enrolment and continuing attendance of school-aged children remains a problem across the most poverty-prone areas of the country. Families living in poverty face difficulty in prioritising education for their children, and girls in particular are often found staying at home to work or help, instead of going to school. Food provision in schools in Bangladesh started in 2002, when the UN World Food Programme collaborated with the government to launch the school feeding programme in less food-secure areas of the country. This programme aimed to deal with short-term hunger to improve



performance in classrooms, and reached 1.2 million pupils in 33 upazilas<sup>1</sup> by distributing fortified biscuits. The same year, the European Union (EU) funded distribution of tetra-pack milk and fortified biscuits in 10 upazilas and covered 100,000 primary school students. Subsequently, a pilot project was initiated by Land O' Lakes Foundation with support from the US Department of Agriculture (Afroze et al. 2013). The International Food Policy Research Institute (IFPRI) conducted a comprehensive evaluation of the impact of the School Feeding Programme (SFP) in Bangladesh and found that SFP had raised school enrolment by 14.2 per cent, reduced the probability of dropping out of school by 7.5 per cent, and increased school attendance by about 1.3 days a month. Academic performance was also seen to have improved with increase in test scores by 15.7 percentage points (Ahmed 2004).

This case study is part of the research under the programme on Leveraging Agriculture for Nutrition in South Asia (LANSA) that examines how agri-food value chains that deliver food to households beyond the farmgate can be improved so that substantive and sustained consumption of nutrient-dense foods by poor households is achieved, with particular focus on children and adolescent girls. Nutrient-rich food are foods that, if consumed in adequate quantities (WASH and health conditions not considered), are likely to improve the nutritional status of individuals who are undernourished in terms of micronutrients (Henson and Humphrey 2015). The school nutrition programme is an example of a food distribution value chain. The objectives of the case study were to understand the value chain of the programme, the role of different actors including involvement of women and other community members, impact on the schoolchildren targeted, and the advantages and drawbacks of the initiative.

# 2. Background

The School Feeding Programme in Bangladesh is currently transitioning from an externally-funded and -executed programme towards full government ownership and implementation. As part of this transition process, WFP is working with the government of Bangladesh (GoB) to formulate the first national school feeding policy and strategy and also to undertake action research initiatives as part of the process. These measures will generate policy- and programme-relevant evidence that will be used to inform the development of the national school feeding policy. The initiative, a localpurchase-based school meal plan, has been taken up by WFP at the request of the Ministry of Primary and Mass Education (MoPME). This is in line with the government's declared strategic objective of moving towards delivering nutritious school meals, in place of the existing fortified biscuits modality for school feeding (BRAC 2015). WFP is assisting the government in conducting an institutional review to integrate SFP in poverty-prone areas into the Third Primary Education Development Programme (PEDP3), which provides technical and financial support to improve the guality and efficiency of, as well as equitable access to, primary education, and further to assist in the development of a school feeding strategy. The Directorate of Primary Education (DPE) and the Ministry of Primary and Mass Education are the relevant government departments involved in this initiative.

<sup>&</sup>lt;sup>I</sup>Sub-district



In May/June 2012, Dubai Cares and GAIN jointly inaugurated a new pilot School Nutrition Programme (SNP) sanctioned by the GoB. Primary school children (5-11 years of age) were provided hot cooked meals under it. BRAC and Banchte Shekha<sup>2</sup> (Learning to Survive) were the two implementing agencies of the project. Both government and BRAC primary schools were included as intervention sites. Schools were chosen from Dhaka (urban) and two rural areas of Mymensingh district. BRAC works in the urban area and one of the rural sites, and Banchte Shekha in rural areas. Nutritious foods were prepared in eight centralised cluster kitchens operated and managed by the implementing organisations. By integrating cross-cutting interventions such as nutrition awareness, sanitation and good hygiene practices, as well as focusing on sustainability aspects through community empowerment, gender and governance, the programme was expected to deliver positive impact. It was a one-year programme, till August 2013. BRAC served 3,614 students of 23 schools in rural areas and 8,444 students of 57 schools in the urban area, and Banchte Shekha served 6,208 students of 22 schools. The key strategy of SNP was to develop an effective mechanism to improve educational and nutritional outcomes by engaging the local community without interrupting regular school activities. The pilot programme was, to some extent, successful in terms of maintaining food quality, effecting on-time delivery, creating good impression with the community and students, and increasing student retention and attention span in classrooms.

WFP and BRAC initiated the next phase of the school feeding programme in July 2013. Bamna upazila in Barguna district in the south and Islampur upazila in Jamalpur district in the north were selected. The programme was to run for one year like the earlier phase but is still continuing at the same areas, targeting socio-economically disadvantaged and nutritionally-vulnerable children in preprimary and primary public schools. The overall objective of the initiative is to support the government to reduce undernutrition, while also testing an alternative to the current model under which just biscuits are distributed; and to generate lessons and create evidence for desired outcomes to inform the GoB school feeding policy and facilitate a decision on the school feeding model to adopt.

The specific objectives of SNP are:

- to increase enrolment, attendance and completion rates in pre-primary and primary schools in food-insecure areas, by providing a hot cooked meal to the children
- to contribute to improving the learning ability of primary school children
- to enhance the government's capacity to implement school feeding activities efficiently and effectively

Children covered under the initiative are provided with cooked meals and fortified biscuits to withstand the negative impact of short-term hunger. The meal plan includes a cooked meal, such as khichuri, on five days of the week (Saturday to Wednesday), and a snack on Thursday when the school hours are shorter.

The cooked meal comprises khichuri — a common and widely accepted dish in Bangladesh that can be easily adapted to include various ingredients according to the season and availability. Traditionally

<sup>&</sup>lt;sup>2</sup>One of the largest non-profit organisations working for women and children in the southern part of Bangladesh, based in Jessore district



the staple ingredients of khichuri are rice, pulses and vegetable oil, to which various fresh seasonal ingredients are added, including leafy and non-leafy vegetables. Khichuri was selected based on the consideration that the meal should provide adequate dietary energy, have sufficient protein to support the growth of the children, provide vitamins and minerals to alleviate micronutrient deficiencies, be socially acceptable and use ingredients locally available and affordable by poor people. The dish is made with fortified rice which consists of normal polished rice blended in a ratio of 1:100 with processed kernels made from crushed rice enriched with six essential micronutrients: folic acid, iron, zinc, vitamins A, B1, and B12; this has been developed by WFP in partnership with the Government.

The school meals initiative has three key components: the provision of a daily school meal to the children, creation of income-generating opportunities for local women growers, and delivery of the essential learning package to identified stakeholders.

# 3. Methodology

Initial information was collected through a review of literature, published documents, annual reports, journals, as well as unpublished documents. Different websites pertinent to the interventions were also visited to collect relevant information. Following this, the case study was undertaken to answer the research questions detailed in **Annexure I**. Four focus group discussions (FGDs) were conducted at 13no Boliadaho Govt. Primary School, Chinadoli Union, Islampur, Jamalpur on 12 January 2015, a school under the project. The four groups for the FGDs were:

1. Implementer group: Five quality controllers described the implementation procedure and the supply chain of the school meal initiative.

2. Parents' group: Twelve mothers were selected randomly. Mothers are closely associated with the school meal initiative with one or more of their children studying in the school. They shared their opinion on their understanding of the initiative and also gave their comments on alternatives to the food that is provided under the programme.

3. Teachers' group: Four teachers participated in the FGD and shared their ideas and comments on the school meal initiative.<sup>3</sup>

4. Students' group: There were 12 participants. This was a mixed group with students from classes one to five. The students expressed their opinion about the mid-day meal, attending classes and on nutritional awareness.

Two programme organisers were involved as note takers and the key researcher was the interviewer. The answers were analysed and transcribed into English by the researchers.

<sup>&</sup>lt;sup>3</sup> In general, there are 4-5 teachers in a village level primary school in Bangladesh.



The findings were analysed using the conceptual framework discussed in Henson and Humphrey 2015 and Maestre et al. 2017. The school nutrition programme, a means of promoting access by children from poor households to more nutritious food, fulfils the desired outcomes in the conceptual framework of Henson and Humphrey (2015), viz., being nutrient-dense and "...be consumed in adequate amounts on a sustained basis to bring about the desired nutritional outcomes".

## 4. Results and Discussions

### 4.1 Value chain actors

WFP provides overall oversight for the planning, management and implementation of the operational component of the School Nutrition Programme. Officials of DPE, MoPME and the cooperating partner NGO, both at central and field level, are trained by WFP through workshops and orientation sessions to ensure smooth implementation.

Standard guidelines and procedures are followed in selecting NGOs working in the programme areas to support and facilitate the implementation of research activities. The cooperating partner NGO implementing the school meals initiative at the field level remains under the guidance of WFP, and coordinates and liaises with the local committees. It is selected on the basis of its involvement in enterprises in agriculture and homestead gardening, and its ability to establish effective community links to services. The NGO is responsible for the recruitment of the cooks and formation and supervision of other local-level committees as also delivery of necessary training and orientation to the groups. Selection is based on an assessment of the NGO's capacity, including an analysis of the risks involved. The selection is endorsed by WFP, and a Field Level Agreement (FLA) is signed with the selected NGO. WFP pays the NGOs for their services as per provisions under the agreement signed. BRAC is the cooperating partner NGO in Jamalpur.

Local committees and stakeholders include the schoolchildren, school management committees (SMCs), purchase committees, teachers, mothers' groups and women growers' committees.

The SMC has 12 members and provides the link between the school and the community. SMC is established in each school by the concerned upazila-level DPE officials.

Purchase committees are formed by the partner NGO, and include mothers of the children, the school cook and assistant cook, representatives from the SMC, and the Agriculture Extension Officer. The committee purchases vegetables from the growers.

Mothers' groups are formed by the NGO in consultation with the SMC and teachers, and comprise interested mothers whose children attend the school; they provide assistance in preparation and distribution of the meal. A group of five members provide support for a school of 200-250 children. The NGO engages capable and interested women from the community who have children attending



the school. The group has a leader and the members collectively decide upon a flexible roster outlining their regular engagement. The group's responsibility is to assist the cooks in the preparation of the food for school meals. The mothers also ensure the quality and hygiene of the food as well as the environment. The mothers' groups are not reimbursed for their engagement but it is expected that they become motivated to contribute, knowing that their children will be benefited. It is expected that through their engagement, mothers will also learn and transfer positive nutrition and hygiene practices to their homes.

Women growers are selected with preference to households where the woman is the primary earner, with a large number of dependents, including at least one child of pre-primary or primary school-going age. They are identified by the NGO from the local community from among those who had previously engaged in a livelihood programme run by the NGO. The growers are trained in vegetable cultivation and production. Trainings for 19 batches, comprising 570 women on the whole, were conducted to cultivate vegetables in their homestead gardens. The women growers and other identified local suppliers form a supplier collective. They supply vegetables to the purchase committee.

Students who attend school are benefited from the programme and are achieving academic excellence, according to the teachers. The students are responsible to provide feedback to teachers and other partners.

The wider community is involved in the initiative by prioritising the production of locally-available food commodities that form the food basket. They are also involved in the provision of firewood, water, utensils, and management of physical facilities such as kitchens and stores.

WFP briefs the School Management Committee/school authorities, mothers' groups, cooks, purchase committee and supplier collectives about the school meals initiative and sensitises them about their responsibilities for the proper implementation of the programme. Community participation is ensured through sensitisation, awareness building, and clarifying the benefits of school meals among parents and community members. The value chain diagram of SNP is shown **Annexure 2**.

### 4.2 School feeding activities

The most nutritionally-vulnerable school in the most vulnerable village in the most vulnerable upazila of the most vulnerable district has been the selection criteria for the school to be covered under the initiative, thereby ensuring that the students are definitely a nutritionally-vulnerable group. The children are provided school meals six days in a week. There is no meal on Friday, that being a government holiday. The mothers' group and the teachers' group are interested and involved, and have expressed their commitment to continue the activities for a long time. They are of the opinion that the help of government or other external organisation is essential for sustainability of the initiative.

The WFP manual recommends 555-830 kcal for primary schoolchildren and 390-585 kcal for preprimary schoolchildren. The school nutrition programme is maintaining these norms. The consumer



group — i.e., students — are very happy to have khichuri as a midday meal; additionally, the biscuits and sometimes fruit given on the last day of every week makes them more happy. To avoid monotony, the SMC decided to provide different kinds of khichuri such as vegetable khichuri, egg khichuri and meat khichurii which makes the meals more attractive for the students. Some of the students expressed a desire for fruits or sweets. Tamim, an eight-year-old boy said "We prefer the khichuri very much but if we get some fruits like banana or apple on the last day of the week, we are so happy."

Women growers produce the necessary vegetables in their homestead land. Fortified rice, pulses, vegetable oil, and fortified biscuits are supplied by WFP. The supplies are stored in the NGO's office and distributed to the school, as per requirement, through rickshaw vans. The vegetables are purchased through a purchase committee comprised of mothers who select the meal. The SMC recruits the cook locally and monitors the cooking activities. The cook also remains associated with the mothers' group and partner NGO. A member of the SMC tastes the meal first before it is served to the children, to ensure quality maintenance.

There are some rules on the quantity of the daily meal provided and this is positively taken by the consumer group. Diversified nutritional products like vegetables, eggs are being added to reduce the monotony of the midday meal. For meal distribution, the SMC forms groups and one group is responsible for meal distribution/serving on each day. The group formation and maintaining the group responsibly is also positively impacting the activities. There are some regulations on purchase of vegetables from the women growers. The purchase committee ensures the quality and buys these at market price. The women growers can sell the excess produce in the open market and avail the benefit.

There are some additional advantages of the school meal initiative. All the students and mothers are made aware of messages on good nutrition and hygiene. All teachers said that, "Students are healthier and disease attack is being reduced day by day." There are some limitations also. The fortified food will not become available after the completion of the project period. One member of the SMC said that "It will be difficult to manage the activities when WFP or BRAC withdraw their support". "If the project sustains for long, people will be educated and their long-term self-engagement can make the initiative sustainable and it is possible to get a better outcome," said a teacher.

### 4.3 Nutritional awareness

Mothers' groups are trained on the necessity of nutritious food for children by trainers from the partner NGO. Feedback sessions are also organised where mothers' groups give their feedback on the daily school meal. A book on *pushti* (nutrition) is distributed among the mothers to educate them more about the nutritional value of different vegetables. Women growers are also trained on homestead gardening and the production technology of nutritious vegetables.

On Thursdays, when the school day is shorter, children are provided with a 75 gm packet of vitamin- and mineral-fortified biscuits. Any available fruit is a complement to the biscuits that children receive on the shorter school day and the preference is for banana. **Table I** gives details of the meal provided.



	Saturday-Wednesday	Thursday
Meal	Khichuri	High energy biscuits + I fruit (when available)
Ingredients (uncooked)	90 gm rice, 20 gm non-leafy vegetable (minimum), 25 gm lentil, 15 gm leafy vegetables (minimum)	
Quantity	193 gm (uncooked)	75 gm biscuits and fruit approx. 140 gm
Energy	558 kcal	338 kcal
Protein	12 gm	10.8 gm

#### Table I: Meals provided under the School Meal Initiative

Washing hands before meals is mandatory under the programme and plastic bottles with detergent powder are placed for the purpose. This is cost-effective and moreover people prefer to use powder rather than soap. A clear message is also distributed through fact sheets on handwashing and sanitation in the school compound. Engagement of mothers' groups in growing vegetables and supervision of cooking for hygiene and quality is an appreciable innovation under the initiative, poor hygiene often being a major cause of illness among poor households.

### 4.4 Impact

#### 4.4.1 Impact on school attendance and enrolment

Discussion with parents and teachers revealed that the school meal initiative had positive effect on increasing school attendance of children as well as a positive impact on going to school regularly too. School attendance which was 56 per cent in 2013 increased to 80 per cent in 2016. Student enrolment also increased through the years. **Table 2** gives the details.

Table 2: Percent increase of enrolment and attendance in all WFP-BRAC-assisted
primary schools

Outcome Indicator	Base value in 2013	Latest follow-up in 2016	% increase
Total number of boys enrolled	2441	3091	26.6 %
Total number of girls enrolled	2687	3169	17.9 %
Attendance rate – boys	56%	80%	24%
Attendance rate – girls	56%	80%	24%

Source: School Committees

#### 4.4.2 Impact on health

From discussion with parents and teachers, it was found that the probability of disease has reduced after the school meal initiative started. Students are eating healthy meals regularly in a disciplined way.



#### 4.4.3 Impact on awareness

It was observed that the children are receiving nutritional messages along with their daily academic learning. Discussion with the children revealed that they are conscious about eating nutritious food. Mothers' groups are also aware about the nutritional requirement of their children.

#### 4.4.4 Impact on women's empowerment

Women of the community are being empowered through this initiative. They are gaining awareness on nutrition and the health of their children. Selling vegetables to the school committees gives them some financial benefits.

### 5. Conclusion

School Feeding Programmes have a dual purpose: to encourage children to enrol and stay in school, and to reduce hunger in the classroom so that the students can concentrate and learn better.

Pre-primary and primary schoolchildren receive a regular vitamin- and mineral-fortified meal, prepared and distributed by committees representing key members of the community under the School Meals Initiative. Selected food commodities for the meals are sourced from local women (women growers) engaged in small-scale fruit and vegetable production. In this manner, the School Meals Initiative benefits children, as well as provides a much-needed source of income for ultra-poor women in the community. The strategy of the programme is to develop an effective mechanism to improve educational and nutritional outcomes by engaging the local communities, especially women groups, to improve their economic status. The programme is a success in terms of maintaining food quality, on-time delivery, good response from the community and students, and increasing their retention and attention span in classrooms.

In terms of the conceptual framework discussed in Henson and Humphrey (2015) and Maestre et al. (2017), the value chain meets the desired outcomes of being nutrient-dense and served in adequate quantity; the third outcome of food safety is also sought to be ensured by emphasis on hygiene and maintaining the monitoring mechanisms in place. On examining the five consumer requirements of signalling, availability, affordability, awareness, and acceptability discussed in Maestre et al. (2017), one finds that the first three requirements cannot be strictly applied here as it is a food distribution value chain with prescribed menu made available to the consumers. The target consumers — the children — and their mothers are oriented and made aware of the importance of consuming nutritious food, addressing the requirement of awareness. The food is also acceptable, based on the feedback from the children. Maestre et al. (ibid.) also outline five supply-side requirements, viz., 'capturing value', 'distribution of incentives along the value chain', coordination and governance', 'managing costs, risk and uncertainty', and 'appropriate institutional environment'. Capturing value will not apply under a food distribution value chain. The other requirements are addressed under the initiative by way of incentives for mothers to grow and supply vegetables, and empowering the purchase committee to procure, manage costs and uncertainty by making the staples available under the project, and providing the appropriate enabling governance and institutional environment for successful implementation.



It was found that most of the children in the School Feeding Programme come from very poor families who cannot afford adequate food; and because both malnutrition and short-term hunger in classrooms are likely to adversely affect learning, programme planners expected the school feeding initiative to make a large difference in children's diets, and therefore their health and cognitive capacity. By disseminating this initiative all over the country, it is possible to reduce the malnutrition percentage of the country. If the initiative continues, it can help reduce the probability of school drop-outs. The initiative also creates local demand for vegetables where women are involved as vegetable growers/suppliers. It is necessary to empower the producer groups with appropriate production technology. The project is doing this, but it needs to continue with proper policy support.

For visible impact, the school feeding activities have to be continued in the long term rather than as a pilot project. In sum, the study supports the case for a local-purchased based model involving key community members in the planning and implementation of the activities. Measures are required to develop proper value chains from producers/suppliers to consumers.



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### Annexure I

#### Research questions used in the FGDs with different groups

- I. Who is the target of the initiatives?
- 2. Is it nutritionally-vulnerable sections (children and/or adolescent girls)?
- 3. How is this target achieved?
- 4. Is the consumption regular and sustainable? If not, how to make it sustainable?
- 5. To what extent is the consumption adequate (quantity and frequency) to overcome nutrient deficiency? Is it sustained, and if not, how could it be made sustainable?
- 6. Is there any consumer preference for the 'fortified' foods?
- 7. What are the marketing strategies adopted to reach the poor (distribution channels, availability, affordability and pricing, advertisements and promotions)?
- 8. Is there any nutrition awareness strategy to increase the consumption (community involvement, nutrition literacy and others)? What initiatives are used to achieve this?
- 9. What is the level of community involvement with food fortification initiatives? (nutrition literacy and other)?
- 10. What is the advantages/disadvantages of the School Nutrition Programme over marketbased approaches?
- 11. What mechanisms are used to target those most in need, notably infants, children, adolescent girls?
- 12. Are there any rules/ regulations that are affecting the initiative positively / negatively? What new rules are required?
- 13. What are the existing regulations on selling the product in the market? If there are no regulations, are any required?
- 14. Is government willingness and/or capacity critical to such initiatives?
- 15. Is there community participation for the initiative? Are women engaged and how?
- 16. What is the scope of improvement in the value chain (hygiene and food safety, cost effectiveness, increased outreach, and nutrient-deficiency targeted distribution system)?



### Annexure 2

#### Value chain of the school meal initiative

