

MID DAY MEAL PROGRAMME AN EFFECTIVE TOOL TO HUNGER FREE EDUCATION FOR SCHOOL GOING CHILDREN: A STUDY IN LOCAL AND CENTRALIZED KITCHEN MODEL IN GANJAM DISTRICT

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ABSTRACT

The National Programme of Nutritional support to Primary Education (NP NSPE), popularly known as the 'Mid Day Meal Scheme' was launched in 1995 under the Universalization of Elementary Education (UEE) to increase enrolment, attendance and simultaneously to improve the nutritional status of children in primary classes. This programme covers over 10.46 crore children in 12 lakh primary schools across the country, and the programme is considered as a flagship programme of the Govt. of India. The present study was conducted in two different models i.e local model managed by Self Help Groups or School Management Committee and other was centralized kitchen served by Mahila Sanchayika Sangha (BMASS) a SHG federation in Bellaguntha Block of Ganjam District. From the study it was observed that all the children from the two models had MDM served only during lunch break and consumed food in the school premises itself. It was encouraging to know that all the dishes served in mid-day meal were mostly preferred by children. The children were given varied dishes like rice and dalma, Soya Curry and Potato Mix curry. Boiled eggs and curry were served twice a week, as per the norms. Children acknowledging to have received adequate food from MDM. It was known that 34 % children from schools had no drinking water facility and the children were forced to get drinking water from their houses. The acceptability of food items served were computed from the individual responses on six aspects of MDM, namely, quantity, quality, taste, texture, flavour, appearance and overall acceptability which were rated 'good' by 92% children in CKC model, 58 % in Local Model. In local Model one teacher engaged for MDM related activity and most of the other staff also spare 1 to 2 hour in every day But in case of Centralized model the teachers are free in this activity and they have able to concentrate to reading to children. There also seen that the uninformative and quality was maintained by Centralized kitchen where as in local model that differ from school to school and the quality and hygienic preparation was not up to mark.

Keywords: CKC Model, MDM, NP NSPE, UEE, Centralized Model, Gender Equity.

Introduction

Mid-Day Meal is a flagship programme carrying the noble objectives of Nutrition for Education, Food & Nutritional Security in School Campus, Gender Equity, Social Parity and Inclusive Dining. However, was only in 1995 that the National Programme Nutritional Support to Primary Education (NP-NSPE) was launched at the national level [GOI, 1995]. The then union territory of Delhi followed suit immediately. The objective of this programme was to give boost to universalisation primary education and to impact the nutritional intake of students in primary classes. Since then, the programme was revised in 2004 and is popularly known as the Mid Day Meal (MDM) scheme. The incumbent government at the centre has emphasized its implementation in its Common Minimum Programme. It envisages provision of cooked, nutritious mid day meal to primary and secondary school children. Importantly, it mentions setting-up of an appropriate mechanism for quality checks.

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The idea behind implementation of the MDMP was to enroll more students with regular attendance. (a) It's a fact that a hungry child is less likely to attend school regularly as hunger drains him/her will & ability to learn. Chronic hunger can lead to malnutrition which will result a child more susceptible to diseases like measles or dysentery. (b) MDMP can reduce the gender gap in education, since it enhances female school attendance.

It consisted (a) free supply of food grains @ 100 gms/child/school/day and (b) subsidy for transportation of food grains up to a maximum of Rs. 50/quintal. In addition to food grains, MDM involved two other major inputs, i.e. cost of cooking (cost of ingredients, fuel, wages/remuneration to personnel or to an agency responsible for cooking) and provision of essential infrastructure (kitchen-cum-store, adequate water supply for cooking/drinking, washing, cooking devices, utensils etc).

In September 2004, the NP-NSPE was revised to provide cooked mid day meal with 300 calories and 8-12 grams of protein to all children studying in class I-V in government and aided schools and EGS/AIE centers. The revised scheme provided central assistance for (a) cooking cost @ Rs1/- per child/school/day (b) transport subsidy raised to Rs 100 per quintal for special category states and Rs 75 per quintal for other states (c) management/monitoring/evaluation costs @2% of the cost of food grains, transport subsidy and cooking assistance (d) provision of mid day meal during summer vacation in drought affected areas.

Still there is some difficulties like Rs 1/- towards cooking cost was found to be inadequate for meeting the cost of nutritious meal, absence of kitchen sheds in schools leads to classrooms to be used for storage and cooking purposes, and existing nutritional norm was felt to be inadequate to meet the growing needs of young children, the NP-NSPE was revised during June 2006.

During this time the cost is raised and it envisages that as far as Possible the responsibility of cooking or supply of cooked Mid-Day Meal assigned to local Women's / Mother's Self Help Groups, the personnel directly engaged by the VEC/SMDC/PTA/ Gram Panchayat /Municipality, and local club affiliated by Nehru Yuvak Kendras or Voluntary Organizations.

In Odisha ,Mid-Day Meal is run both on centralized mode and decentralized mode. In the decentralized mode MDM is being cooked at school points. In case of centralized mode some NGOs are involved for preparation and delivery of hot cooked meal at school with more hygienic. In view of this Government of Odisha have been pleased to formulate the Standard Operating Procedure for management of Centralized Kitchen under Mid-Day Meal in a transparent manner and entrusted to reputed Centralized Kitchen Agency under PPP model.

In Ganjam District in the year 1995, the MDM programme was introduced in the district to provide a cooked noon meal to primary school children of all Government and Government-aided schools from class I to V for 210 working days in a year. The aim of this scheme is to increase the enrollment and reduce the number of school dropouts as well as to improve the nutritional status of children.

Earlier the students of class I to V were benefited with this scheme; in Oct 2007 the Government of India announced to enhance the programme up to Class VIII in Educationally Backward Blocks but Government of Odisha decided to provideMDM to all students up to class VIII. The Block like Jagannath Prasad, Bellaguntha and Bhanjanagr are remote in nature and MDM programme is run in decentralized mode . Provision of nutrient food with hygienic condition and less involvement of teachers are the major challenges in these areas.

Many children are under weight in Jagannath Prasad ,Bellaguntha & Bhanjanagar Block. Given its impact on health, education and productivity, persistent under-nourishment is a major obstacle to human development and economic growth in the country, especially among the poor and the vulnerable, where the prevalence of malnutrition (a key cause for stunted growth, muscle wastage and anaemia) is highest. The economic and mortality consequences of malnutrition in developing countries are staggering. According to Pelletier et al, 54% of child deaths in developing countries are attributable to malnutrition, the single greatest cause of child mortality. According to the National Nutrition Monitoring Board Survey (2000), 70% of the children dropping out of school in India are undernourished. Poor enrolment and high dropout rates are attributed to the poor nutritional status of the children compounded by poor socio-economic conditions. Various studies conducted on the issue show that children's nutritional standards have a direct bearing on their learning abilities.

In this context, Honourable Supreme Court of India issued a directive on November 28, 2001 to all the State Governments to introduce a 'cooked midday meal in schools' in response to which all states have adopted various strategies of implementing the midday meal.

In the month of June 2015, Government of Odisha, School & Mass education Department have interested for manage the MDM programme through centralized kitchen with good and experienced agency in PPP mode.

Mahila Sanchayika Sangha, (B'MASS) a women SHG federation promoted by District Administration of Ganjam .The Federation works with women Self Help Groups with client owned, governed and professionally managed . 1230 SHGs promoted by the federation in Jagannath Prasad Block and look the socio-economic empowerment of women and increase their income and economic security through savings, credit, insurance and other allied activity. MASS along with these services takes responsible for provide Mid Day Meal to school children and signed MoU with District Collector cum Magistrate on 17 March 2017. Initially the federation provided MDM to Urban Schools of Bellaguntha and Bhanjanagar Block now it serve all the rural schools of Bellaguntha Block and Urban Area of Bhanjanagar , OAVs of Bhanjanagar, Bellaguntha and Jagannath Prasad Block.

B'mass Jagannath Prasadhas pioneered one of the most effective ways to be operationalise the Midday Meal (MDM) programme by setting up **centralized kitchen** in an rural area . The centralized kitchen offers the benefits of cooking the meal in 'food-grade' quality vessels under strict supervision in a safe environment ensuring hygienic standards and provision of nutritious and uniform quality of food to a large number of children. The centralized kitchen is a factory-like setting, which optimizes automation in the entire process and is able achieve economies of scale. Further, the transport of food is closely monitored and delivered to the schools at the stipulated time.

- **Local Food Models of Mid Day Meal Programme**

Mid Day Meal food supply Local Food Model involved employing a cook and a helper by the school. The teacher or the Self Help Group purchased the food items (except the rice which supply by Govt. Department of Civil Supplies based on the enrolment of Children in the school. This model is often referred as on the spot cooking .Mostly this model is being implemented in major rural areas. The cooks mostly follow the menu suggested by the Deptt. of School and Mass Education with local availability of vegetable and egg. Cooking of MDM was done at school campus mostly on separated constructed kitchen shed or in open space. Some schools have provision of cooking water with the tube well and some get from distance places. Majority of local Self Help Group Women members are involved for cook and serve to children. The programme monitored by the School in charge teacher.

- **Centralized Kitchen Model of Mid Day Meal Programme**

B'MASS is the pioneer as one of the effective SHG federation in Odisha to operationalization the MDM programme by setting up centralized Kitchen to serve the children in urban area and subsequently in rural areas. The centralized kitchen Model the food are offers the benefits prepared in one place and served to each school point with special vehicles. The food grade quality vessels under strictly supervision in a safe environmental is ensuring hygienic standard and provision of nutritious and uniform quality of food to a large number of children. This centralized Kitchen is a factory like setting which optimize automation in the entire process and is able to achieve economics of sale. Further the transport of hot cooked food in closely monitored and deliberation to the school at stipulated time. MASS built its Centralized Kitchen at Rajanapalli village in Jagannath Prasad Block over 2 Acre of land and building of 7000 Sqft. The Centralized Kitchen is logistically strategic location in a large area which is divided into Cooking Area, Material Cleaning and Processing Area, Material Go-down, Steam Generation Area, Washing Area, Dockyard, Transport Bay and Security. The kitchen shed equipped with modern cooking devices with 1 ton Boiler for steam generation. There were separate vessels for the transportation of cooked meals from the kitchen to the schools attached and transport vehicles are being utilized the transportation of meals in a very secure manner. The cook those were engaged in the kitchen are trained and experienced. Fire fighting equipments are fitting for meet the emergency situation.

The cooked food supplies 131 schools in Bhanjanagar, Bellaguntha and Jagannath Prasad Block feeding up to 12000 children per working day.

- **Implementation of the Programme at Centralized Kitchen**

The primary activity of a centralised Mid Day Meal kitchen is the preparation and delivery of rice (100/150 grams before cooking) and *soya/dal/egg curry* to every child enrolled in Government and Government-Aided Schools in the allotted area. The nutritive value of the meal as prescribed by the Govt. of Odisha is 478.5 Kcalories, 13.5 gms of protein for class I to V and 780.33 Kcalories, 20.4 gms of protein for class VI to VIII adequate quantities of micro nutrient - iron folic acid and vitamin A. There also provision of both veg/non-veg/both type of meal. The food is delivered to the government schools

between 10:30 am and 01:30 pm on all working day. On Saturday it will reach before 9.30 am. While the government supplies the required quantity of rice free of cost, other food items like salt, dal, oil and vegetables are procured from open market at market costs. The hot cooked foods are delivered through transporting vessels by MASS. The Head Master of the School/ SMC/delegated officials of Govt. were receive the hot cooked meals at school point.

- **Logistics Management at Centralized Kitchen**

Fleets of vehicles are engaged to transport food along pre-determined routes. There is also a transportation expert who lays down plans for efficient and cost-effective distribution of the meals to schools across the rural area.

The cooked meal is packed into stainless steel containers and loaded into the pickup, tata ac and omini, delivered to the schools at the stipulated time. At the school, when the cans are delivered at a particular school, the driver gets the 'truck sheet's signed by the teacher-in-charge, certifying the quantity and quality of the food. After lunch over the same vehicle n picks up the empty cans on its way back to the centralized kitchen.

- **Supply of Mid Day Meal by Centralized Kitchen**

S.No	Year	Nos. Of Schools	No. of Children		No. of Meals Supply by CKC		
			PS	UPS	PS	UPS	Total
1	2017-2018	27	976	1012	165162	163817	329079
2	2018-2019	28	914	1365	147072	188431	335503
3	2019-2020	131	6602	5607	520559	482358	1002917

* From 2nd Dec.2019 all the rural schools of Bellaguntha Block served by Centralized Kitchen

- **Financial Support Provided by Govt. per Meal**

Primary Students	Amount	Upper Primary Students	Amount
Per student per meal	Rs.4.93	Per student per meal	Rs. 7.36

*Rice is provided by Govt. on free of cost

- **General Observation form the Study**

Since the visit to the schools in which the food was being prepared in the school itself was done while the cook was preparing the school meal, the possibilities of altering its quantity or quality were limited. Under the centralised kitchen scheme, the food is cooked at a centralized kitchen and distributed to several schools. In Local model the mid-day meal distribution was being overseen by the teachers. One teacher in all of the schools under the SMCS was entrusted with the responsibility of buying of vegetable and grocery in addition to teach, In one of the school's Head Master commented that providing ready-made food by centralized kitchen such as that of the B'MASS would accomplish the objectives of the Mid-Day Meal Scheme without the hassle of storing food grains, keeping records, hiring cooks and preparing hot meals within the campus. In all of the schools children were asked to clean their hands before and after having food. There were either taps or hand pumps in the school. In Centralised kitchen served school, the agency given posters showing the appropriate method of cleaning the hands displayed on the school washing point.

The food was being served in the steel plates. In almost all the children were made to sit in front of the corridor of the class rooms. However in one of the local model schools the children were eating on ground under the trees. The teachers said that as these children were from rural area, they enjoyed eating food in the open rather than eating in verandah and corridors. The children who had eaten the food were required to clean their plates and give them back. In all the schools the children were being given a second serving also in case of centralized kitchen served schools.

All children consume food in the school premises itself and taken food to their house. Both the model the children were given dishes as per the Govt. guide line i.e rice in every school working day, Dalma in Mon day & Thrush Day, Soya curry in Tuesday and Saturday , boil egg with mix curry every Wednesday and Friday. In Centralized kitchen special items serve in special occasion and school annual function day. The frequency of egg serving in both model twice in a week and children are getting one egg per child.

The programme is managed with an ultra modern centralised kitchen that is run through a public/private partnership. They have a very scientific and hygienic kitchen. The B'MASS has 25 employees. The kitchen, a contribution of SHG Federation of Ganjam District has budgets worth Rs.120 lakhs and can prepare for 40000 childrens per day. In the boilers 24000 litres of Dal is cooked at a time.

A Quintal of rice is cooked in 15 minutes. Every day 2 tons of rice and 20,000 litres of dal is cooked. The entire kitchen facility is designed and engineered from the scratch by the B'MASS management, to optimize quality and minimize cost. Mechanization has also minimized human handling of food to ensure good standards of hygiene and cleanliness.

The utensils for storing the food grains are well- labelled. Every utensil / bag in which the food grains are stored carries the information on a chart kept on the top of the container regarding the date of the receipt of the food-grain in the store. The older food grains are utilised first. This ensures that the quality of food grains is not deteriorated. The amount of grain or cooking ingredient stored, initially utilised (date-wise) and remaining in the container is also mentioned. The SHG members at B'MASS manually check the food grains and cooking ingredients. In addition to this the food-grain are also cleaned by manually. There is an In-house Quality Department that checks the quality of food. The water is checked. The ingredients are all checked for adulteration. The temperature of the food items is also checked. The kitchen is well-equipped with Reverse Osmosis (RO) Plant. The RO purified water is used for cooking the food. There is minimum fluoride content in the water. Water softeners are also used. Boilers are used for generating steam. The utensils are also rinsed and cleaned by the members under hot water.

The cooks and all the other employees at the B'MASS have to remove their footwear and enter the kitchen only after wearing the sterilised footwear and caps on their head. In addition to this those who are wearing any bracelet on hand or ring in the finger have to remove it or cover it with a sterile cover so that the cooking medium does not come in contact with any germs. They also wear cotton apron. The cooks and other workers have to undergo rigorous health check-ups. By this it is ensured that the food is cooked by healthy people who do not become a source of infection for those who eat the food cooked by them. A significant feature of the B' MASS programme is the use of technology in the social sector to maximize efficiency and minimize cost time and labour and then distributed. The staff is also provided regular training. The organisation has a secular reach. The organisation feels that it is basic right for everybody to get food. It provides food to children who cannot even dream of food. At schools too children wait for the food. They do not get such type of food at home. Children also want to come to the schools because of the food. The meals provided have resulted in improved enrolment, nutritional status and attendance of the children.

- **Major Advantage of B MASS Centralized Kitchen**

- Food is cooked under the supervision of B'MASS quality control team.
- No involvement of teachers as more attention goes to teach rather than MDM
- No responsibility of school authority (Head Master / Teacher) in maintaining the accounts of cash, food grains etc.
- Involvement and empowerment of local rural SHG women.
- Meal cooking agency and verifying agency are different. Therefore beneficiaries' figures are more reliable and authentic.
- As this society is governed by Society Act, their regular Audit is compulsory by an external and internal auditor.

- **Impact of the Mid Day Meal Programme**

The teachers of the schools interviewed claimed that the school meals had an effect on the school attendance. Some younger siblings of the children were being "sent to the school for having meals." The teacher in five schools said that the mid-day meals scheme not only boosted daily attendance among his students, but also helped to keep them in class for the duration of the school day. The teachers said that student attendance had increased noticeably following the introduction of the mid-day meals because "the meals we provided here were so much better than what the children were getting at home." One teacher told us that some of the students were also attending the school just for having mid-day meals and returned home after having them. Teachers also reported a surge in daily attendance, which all of them attributed mainly to the school meal program. Teachers in all schools said that the children's academic performance had improved because they no longer got hungry during the school day. This time there was delay in delivery of new supplies even then the schools had enough food grains in storage to provide meals for three-four days. The students were never asked to help the cook with food preparation, and the meal programme was not burdensome for the instructors or disruptive to teaching and learning activities.

- **Some Best Practices of the Scheme**

On the basis of the study it was found that there are certain advantages of the scheme, which are as follows:

- **Provision of Quality Meals**

The Government and Federation have made schools in Ganjam a place of attraction for children who were not able to afford decent meal in their homes. The variety in food items served everyday is guaranteed with complete satisfaction of the parents and children. The varied menu also sustains the interest of children. In mid-day meal programme the special attention is being paid to cleanliness and hygiene of cooked food. This also guarantees that the food that the children do not fall ill on consuming it.

- **Development of Good Food Habits and Social Equity among Children**

The scheme has been successful in developing good food habits among children. Teachers also instruct the students regarding good food habits. Children learn good habits such as: washing hands before and after meals, chew their food properly, do not waste food, do not scatter food while eating, clean the sitting place, eat in rows and discipline, provide help in cooking, cleaning utensils and keeping them on proper place. The scheme provides an opportunity where children of all groups and communities to sit together and have their meals. The children also learn to wait for their turn. The children also learnt serving food to others.

- **Employment Generation**

A sustainable means of livelihood has been provided to more than 1000 persons in a Block to effectively implement the scheme vide appointment of cooks, helpers and also employess in centralized kitchen, SHGs, Farmer producer organizations etc. The scheme also provides an opportunity of employment to the backward women and destitute /widow women to earn their livelihood respectfully.

- **Transparency in Programme**

Weekly menu information is permanently displayed on notice boards or even painted on the walls of the school to make everybody aware about the Programme. Every person is allowed to check the expenditure and other statements. Involvement of SDMC (School Development and Management Committee) and PTA (Parent Teacher Association) in the Programme also makes it transparent. Important points for inspection are also circulated.

Maintenance of proper record is very important for successful running of any programme. All of the school having MDM keep the record and maintain registers for food grains and buying of vegetables, dals and condiments. The register includes detail about the funds received for conversion cost and cooking cost, daily attendance of the cook, daily attendance of children, item bought and served. All schools have a display board on which the information regarding the donor and amount/nature of donation given and the item on which the expenditure is incurred is mentioned. This provides transparency with regard to fund flow and utilization of funds. Software has been developed for effective MIS reporting. External evaluation agency is also earmarked.

- **Development of Social Equity**

Children were not discriminated in the schools on the ground of caste, gender, religion, creed or disability, while serving cooked food to children in schools. All children are treated equally irrespective of their differences.

All the cooks were women and majority of them were from scheduled caste or scheduled tribe background. Some of the women were destitute or widows .Thus there is no discrimination in the mid-day meal programme in terms of the social background of the cooks employed or the children consuming the mid-day meals.

- **Community's Participation in MDM**

One of the good practices of MDM is the participation of community members in MDM of the school. It is noted that sometimes the parents and community members oversee MDM while at the time of serving. Sometimes they do taste the cooked food before serving the food to the children. In a few cases it was noticed that Sarpanch was frequently visiting the school and at times having mid-day meals with the children.

- **High Attendance Rate**

High attendance rate is a good practice in the state with regard to MDM. With the serving of cooked food, MDM appears to have raised the attendance of children in schools.

Conclusion

The study findings so far have clearly shown that Teachers, students and parents felt that Mid-day Meal has a positive impact on school attendance and helps to bring children from marginalised community to school every day. B'MASS served mid-day meal programme was able to meet the classroom hunger as most of the students reported getting stomach full of meal every day. Both teachers and parents reported that clean healthy and hygienic food has been served through Hand washing before taking meal was practiced; however it was mostly done only with water.

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