
School Mid-Day Meal Program in India: Past, Present, and Future

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Abstract: In 1995 the National Primary Education Nutrition Support Program was launched with two main objectives: Universalization of elementary education and enhancement of primary school student's nutritional status. The dominant government offered 100 g of wheat / rice per day to children in classes I to V throughout the province, local authorities and the Government helped the elementary schools. Hot cooked meals were provided by Kerala, Orissa, Tamil Nadu, Chhattisgarh and MP Cereals providing but other states and UTs provided 3 kg of cereals / month to 80 percent attendance for children. By 2001 there were more than 100 systems had served millions of students in 7, 92,000 colleges. In 2001, India's Supreme Court governed that midday meal (MDM) is a legitimate claim for school children, and also that the administration would have to deliver all primary school children with a hot cooked midday meal for 200 days. Universal primary schooling and MDM have also been accomplished in the last decade. MDM provides roughly 100 million children with hot cooked meals each day. MDM's cereal content is sufficient but MDM's pulse but vegetable quality is insufficient. Under-nourished school health facilities in coordination with MDM can be identified; Usage of the Body Mass Index (BMI) for aged for healthy and over-nourished children, as well as provide adequate therapy and treatment. If this method is implemented and regularly practiced, and the nutritional child is diagnosed can be considerably improved.

Keywords: Dietary consumption, Hot cooked meal, Mid-day meal, Nutritional status, School children.

INTRODUCTION

India is counted as second maximum populous nation in the world region; the country's establishment laws believed that social capital should be the main motors for general growth. Nation therefore participated with a focus on children in provided that schooling and enlightening their citizens health besides nutritional status [1]. Fig. 1 has been showing official logo of Mid-day Meal.



Fig.1: Official Logo of Mid-Day Meal

Between 1950 and 1990, primary school enrollment and retention improved steadily but slowly. The District Primary Education Program (DPEP) was created in 1994 propelled with the goal of energizing that basic school system then achieving universalization of elementary education. In a small period, DPEP exposed 272 cities in 18 states; enrolment rates in better-performing districts and states were slightly improved but progress was made; still slow in high-poverty states and districts and poor alphabetization speeds. Many sociological studies,

have families have reported being unable to bring kids to school even though children were forced to exertion at residence or outside the home foster household. In a bid to speed up progress Governing India on Basic Education for All in 1995 the National Diet System was launched nutrition provision for Primary Education Assistance (NP-NSPE) [2].

Over period of twenty-five years, significant progress has made in equally the fields of elementary education. The main aim of the primary education is to support the children for nutrition also by feeding them in school time. Both services have undergone significant changes over the years to enhance coverage, quality and quality of service provided. Primary schooling has now developed as a reality throughout the last ten years; their midday meal project is the nation's biggest school - based feeding program which includes more than 100 million children.

This manuscript takes a look at the changes in NP-NSPE has been exploring for decades and whether mid-day meal (MDM) as well as the School Health Program can contribute to optimum level school kid's way of living and nutrient intake and facilitate the country to accomplish the 2030 Sustainable Development Goals [3].

The MDM is launched by the government of India after several brain storm session and it is designed in such a way that will attract the good number of the children in the school and also aim to feed the students with a nutrition based food in order to curb the problem of the unavailability of the nutritional based food. This is the most innovative step taken by the government in order to promote the educations schemes in India [4].

The program's origins can be drawing back to pre-independence time, when the British administration launched a midday food program at Madras in 1925. In 1930 the French Administration introduced a MDM program in the Union Territory of Puducherry. State government programs for children started in the 1962–63 school year with their introduction of a mid-day meal program in main schools. Some of the southern state has done good work in education field by implementing the MDM program as Tamil Nadu had implemented the MDM during the tenure of the chief minister K. Kamraj [5]. The scheme's aim is to assistance the efficiency of primary schooling by refining primary school children's nutritional status. The arrangement was initially applied in 2,307 country chunks to deliver food to schoolchildren in programs one through schools run by government, government-aided, and local body. The scheme had been implemented nation-wide by 1997–98. Although cooked food had to be provided, most states chose to provide the students with "dry rations." "Dry rations" refers to the delivery of 3 kg of uncooked wheat or rice to 80 per cent attendance children. Fig. 2 has been showing the main objective of the mid-day meal.

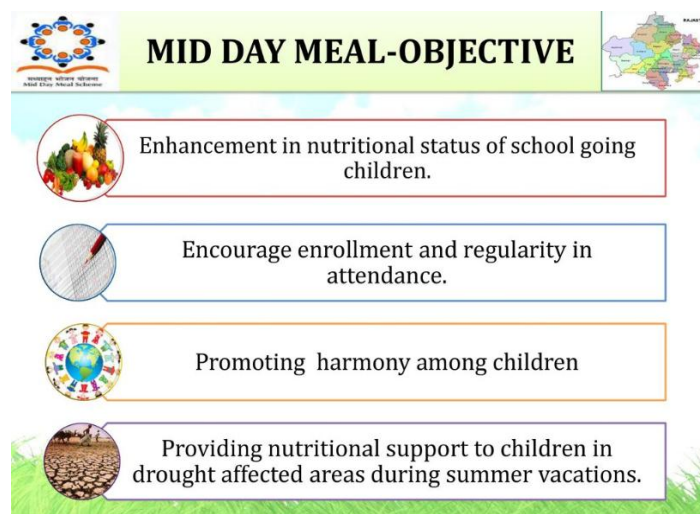


Fig. 2: Main Objective of the Mid-Day Meal

two food processing models, first hierarchical and second hierarchical, are being practiced. This phenomenon is most prevalent in decentralized models. In the dispersed system, meals are prepared on location by local cooks as well as self-help organizations. The advantage of this initiative is that it is capable of serving local food, providing regional jobs, and reducing waste. Better monitoring is also required. It can contribute to incidents throughout the absence of sufficient facilities and it can be hard to maintain cleanliness. In 2005, when sparks from a burning fire ignited a teacher's classroom stroke roof, 88 children died. In the year 2011

In the centralized model, an outside agency, mostly through support for same - sex, cooks and provides meals to schools in the traditional structure. In urban areas where high school density occurs, centralized kitchens are more seen, so food distribution is a monetarily viable alternative. The benefits of national kitchens involve confirming better sanitation, as large-scale cookery is achieved by largely computerized processes. A 2007 study of national kitchens in Delhi create that even with decentralized kitchenettes, food quality had to be improved [6].

There are many potential benefits for the MDM Scheme: enticing children from underprivileged segments (particularly teenagers, dalits as well as Adivasi's) to education hub, enlightening regularity, nutritional assistances, socialization privileges and benefits for females are some of the highlights. Economist reports indicate that some of those advantages have actually been comprehended. The positive effect on disadvantaged children's registration, attendance, learning effort, improvement of nutritional inputs, and nutritional outcomes improvement. Discrimination based on caste continues to occur in food service, although the administration seems disinclined to recognize this. Fig. 3 has been showing the protein and calorie requirement of a kid [7].

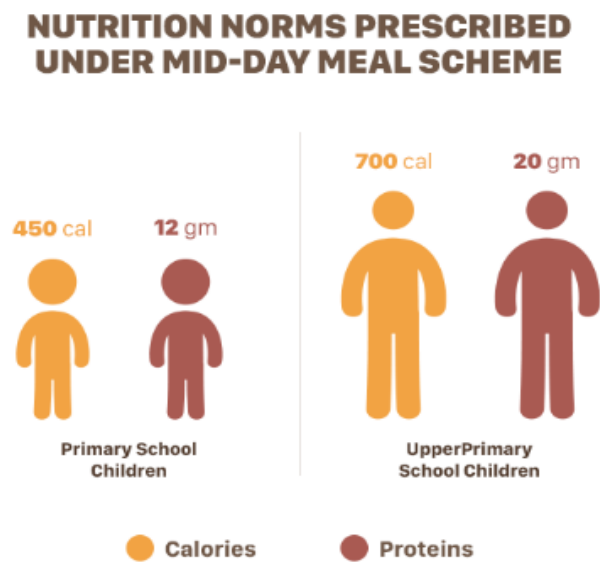


Fig. 3: Protein and Calorie Requirement of a Kid

MDM 1920s to 1990s

Midday meal plan for the first school was launched approximately a century ago, then Madras Corporation to intensify school enrollment and battle hunger in school kids from inferior parts of the population. Humanitarians and volunteer groups combined to introduce free school dinner center in towns and villages around State. State. The school-lunch system was introduced in July 1956 the then Madras Administration as a people's undertaking to fight malnutrition in school children in classrooms. Reinvigorated by people's reaction to the initiative, in 1957, Tamil Nadu become India's first State to begin community lunches in all government schools in the Condition.

By 1978, in 32,000 schools 1. 86 million children were enclosed and the number augmented to 2. 03 million in through 1980–81. 33,306 colleges. Several Member States counting Kerala, Tamilnadu, Karnataka, Maharashtra, Gujarat, Andhra Pradesh and Uttar Pradesh had followed Tamil Nadu's example and introduced a midday lunch plan in elementary schools. But crowded conditions with high levels of food uncertainty, low school employment / preservation as well as high class room malnutrition remained not protected underneath the MDM program[4].

National Program for Nutrition Support for Primary Education (NP-NSPE)

An analysis of the Ninth elementary schooling market the Five Year Plan supported the slow systematic development prime School. One of the explanations most cited by low family's income category for not distribution their families in school was the kids needing to effort to raise money besides help family; Females have to effort at home then take care of little children. In an attempt to accelerate the move towards access to elementary instruction the NP-NSPE was launched in 1995 goals to universalize primary education improving school attendance by rising enrollment and maintenance, and enhancement of primary nutrition status school youth.

There are many dietary goals for layers of midday meals, ranging from the reduction of malnutrition in the classroom to the balanced development of school children. The mid-day meal system is (possibly at least) the dream of a nutritionist in several respects: kids come each day by themselves and eat whatever they are given. This makes it possible to increase not only their consumption of calories as well as proteins, but also to consume prescription medications such as iron as well as iodine in small amounts over an amount of time. MDM also deliver a great chance for implementing a nutrition program that requires mass interference, as deworming. Knowledge shows such as interventions are extremely actual: for example, a combination of mass deworming

with vitamin A besides iron supplementation can meaningfully augment the nutrition of children by as little as Rs 15 per annum child.

In the more disadvantaged parts where kids are not able to not get two time meals in a day, and the midday meal is a general hunger security program. For example, mid-day meals this year have helped to prevent child intensification under nutrition in many areas affected by drought. Likewise, poor households like those headed by widows or landless laborers esteem their child's promise of a lunch each day. Half-day meals besides helping to defeat caste prejudices gender equality also contributes. Mid-day meals, for one thing, raising the gender disparity in education, as they improve female school presence more than male participation. As declared above, this is consistent with empirical research indicating that women's schooling is especially sensitive to opportunities from institute [8].

Progress in the Period 1995 to 2002

Track record of cooked midday meals continuous having hot heated meals to the kids the program NP-NSPE. In Delhi the food was distributed ready-to-eat. All additional states supplied 3 kg food grains primary school kids who attended more than 81 per cent; but the reporting did differ. The number of children enclosed by the program increased from 32.4 million in around 32 000 schools in 1995–96, to 105. 1 million in 7, 92,000 students in 2000–01 the schools spread through 576 districts. The Countries/ small school enrolment and retention rates districts too under NP-NSPE had a low coverage [5]. Half-day meals besides helping to defeat caste prejudices gender equality also contributes. Mid-day meals, for one thing, raising the gender disparity in education, as they improve female school presence. As stated above, this is reliable with empirical research indicating that women's education is especially sensitive to opportunities from school. Another way mid-day meals underwrite to sex equity is about creating job chances for poor women.

Evaluation of NP-NSPE

Concurrent assessments were an essential part of NP NSPE. The assessment concentrated primarily on evaluating if:

- The Center released the funds and the food grains to countries, and the States unconfined the food particles to districts in turn,
- the districts guaranteed that schools conventional the necessary grain of food,
- Food grain delivery was carried out according to attendee (3 kg of food to be given to children had more than 85% attendance),
- The program's progress in terms of employment, retention, and presence.

In those jurisdictions where registration, participation and holding levels are strong, the program availability was also strong; in those states, except during school holidays, the system was introduced. Despite decent coverage, there was little enhancement in enrollment, participation, and retention levels, as these are high before the NP-NSPE program was initiated. In those states where enrollment, attendance as well as retention tariff rates were low, coverage less than NS-NSPE, it was fairly small. There have been certain developments in school enrollment and retention rates were not observed but universal enrollment. As most states administered raw foodstuffs grains, elements of food health have not been tested [9].

Hot Cooked Mid-day Meal for School Children

Concerns NP-NSPE failed to resolve the issue of hunger among children has led to increased encouragement to provide school children with hot cooked MDM. In 2002, the Indian Supreme Court decided that MDM is a fundamental right for school going children, and this has to be decided that every student is entitled for the 300 Kcal and 12 g of the protein in the food provided in the school. The local bodies have been engaged in the task of the supplying or cooking the food at the designated schools. The schools in the rural area are in need of the more fund in order to enhance the infrastructure work in the premises of the school. Monitoring and assessment at the State and Central levels was an essential share of the MDM program. The main objective in 2004–5 was to ensure that all was schools turn from dry provisions to hot heated meal in that program. States which have implemented earlier there were no problems with the cooked meal, but there were initial problems with the obtainability of space, substructure and staff to chef besides serve the meal; on food safety heated in an insanitary setting [7].

Evaluation of the MDM 2003–2010

As NP-NSPE, food grain flow is the regularity of the fund suitable for urban and rural schools up to school level and food safety was monitored. Assessment of local authorities and state government implemented various aspects of MDM. During this time there was frequent small-scale assessments of States, and / or the college of house science. The MDM program was shaped by two major assessments in urban and rural areas nation areas: One was the Nutrition Foundation of India (NFI) MDM assessment in schools at Delhi and the second was a national assessment of MDM conducted by Evaluation Program the Planning Commission's department [6].

MDM Evaluation in Municipal Corporation of Delhi (MCD) Schools

Nutrition Foundation of India conducted an assessment of the MDM at the behest of MCD. A total of 72 First year Food Service Providers (FSP) and 51 FSP units were visited and assessed in the second year; 59 per cent of FSP has been categorized as 'good' and 11 per cent as bad. One of the highlights the major challenges were the lack of corporeal infrastructure, water or waste disposal conveniences in the overfilled areas urban villages. Many schools operated deprived of proper buildings and had insufficient potable water besides toilet facilities. The amount of meal that was attended per child per day was originate to have 100 g of cereals but inadequate pulses.

The Government of Delhi has acknowledged those suggestions. The MCD moved to 15 broad scale FSPs very next year with semi-automated kitchens which meet critical standards for large-scale MDM cooking. Upon application by NFI, college of Home Science took up cook instruction in these big FSPs to develop their know-how and safety skills hygiene and the cooking habits. With enabling oversight the next year saw substantial improvements. The fire incident at a Tamil Nadu school that led to the death of school kids gave another impetus to cooking shifts for MDM, away from the public colleges[6].

Evaluation of MDM Carried Out by Program Evaluation Organization

Minister of Human Resource Development in July 2006 Govt. (MHRD) The requested program of India (GOI) Assessment Organization (PEO) to conduct a strategic analysis identify issues with MDM and make suggestions improve MDM efficiency. The PEO conducted an evaluation of the quantitative in addition to qualitative dimensions of the MDM system and effect of the program on children's health development and social equity. PEO's recommendations were as follows:

- Provide guidelines for the MDM products to be used,
- Increase the costs of cooking to take care of inflation-Inflation
- Provide money to build and purchase cooking sheds kitchen utensils,
- provide sufficient cooking fuel, and
- Send every school cook-cum-helpers.

Evolving the Norms for the MDM Program:

Information shared by national nutrition monitoring surveys Bureau (NNMB) revealed a void between the energy demands of children rising in school age in addition to their real food intake. The heated precooked meal is intended to eradicate hunger for the class space, bridge the gap between the obligation and definite intake finished home food. Unless this was achieved, MDM may also contribute to approximately discount in nutrition level in school kids [10].

For academic year 2007–08, the government has approved the states with additional funds to cover fruits, veggies, condiments or oil prices. By Govt. From India, MDM has been expanded to high school children and MDM guidelines have also been approved. The National Food Security Act, 2014 requires that healthy midday meals be given to children in accordance with the specified guidelines (Table 1). The Finance ministry delivers annual increases in the culinary charges to the influence of food amount inflation on neutralism [8].

Table 1: Suggestive norms for MDM

	Primary	Upper Primary
Raw food stuff		
Wheat/rice	100 g	150 g
Pulses	20 g	30 g
Vegetables	50 g	75 g
Oil	5g	7.5 g
Macro nutrients		
calorie	450 Kcal	700 Kcal
Protein	12 g	20 g

Adequacy of Ingredients Used and Nutrient Content of Hot Cooked Food:

Monitoring the adequacy of foodstuffs used is critical for MDM standards. In School the best approach for determining wherever MDM is heated on site whether the MDM standards are complied with is weighing the total quantity of precooked raw ingredients. Academy

Members or parents of the Management Committee (SMC) will carry out this function and take corrective steps if it does occur laptops. SMC or parents may track the size of the serving to make sure the children receive their proper share. Food service suppliers cook elsewhere in urban centers send the prescribed amount of nourishment

to school. The center or state-run amenities can take help from local under these circumstances technology universities to test for menu of the MDM served. These schools may:

- Menus Control,
- Take the raw ingredients according to MDM standard;
- Using normal conditions to prepare the recipe,
- Assess the recipe cooked weight.

Providers of food services may be asked to submit the school described MDM cooked weight for menu based on the number of students that day attending school. Schools can verify the appropriateness of the food sent to the school [11].

Microbiological Assessment of MDM

Food health is an important feature of cooking on such a great gauge and diet plan. Hygienic environment, ready access passable waste removal amenities and adequate water indispensable in large-scale seats where the food is heated. Cook's wellbeing, hygiene when cooking, transportation, and food distribution should be checked through SMC [12].

In turn, each of these aims has different aspects, some have more productive than the rest. One basic contribution, to illustrate from midday meals to educational advancement, school needs to be boosted registration. Going beyond that, you should predict midday meals enhancing daily (and not just annual) attendance of pupil's registration). Even, school meals will boost academic achievement- minds, insofar as 'hunger in the classroom' undermines the potential of concentrating students, and maybe even influencing their knowledge fitness. Finally, a disciplined school meal may have something inherent in addition to that which donates to the monotonous, educational value [13].

Current Status of MDM

NP-NSPE was launched with two main goals: to increase enrollment, improvement of school attendance and retention, and fighting hunger in school rooms. India failed to be worldwide main education as measured by reduction of registration rates and retaining rates in addition of gender disparities in prime education. Attention under MDM has been given almost in every state. MDM has grown into the world's largest school meal program. The MDM system supplies about 100 million hot cooked meals every day kids studying in more than 12.4 lakh schools. Copyright in many countries / UTs, MDM was above 92 percent; States Most school children received MDM. Notwithstanding efforts to neutralize food adverse effects MDM includes low inflation, pulse, besides plant content; iodized iron salt is not commonly used. Experts are ongoing to speech these quality lacunae by MDM. In the past two decades, economic growth and decline have changed considerably in Hunger and Poverty[14].

DISCUSSION

Monitoring and evaluation remains an important portion of the MDM plan and issues have always been different assigned for monitoring as well as evaluation. Monitoring mechanisms were established and operationalized by states and centers. Monitoring takes place at the level of panchayat, district and state. The information technology has been used significantly over the last few years. Reporting system is necessary for such a vast system, therefor IVR (Interactive voice response) is implemented to know the responses of the daily feeding system of the students. Apart from this, a MIS system is also developed and this is monitored from the block level to national level and center is used this MIS report for further assessment. There is also a provision of the meeting, that held at every fortnight, in order to discuss the issues and remedies of the raised issues.

The present research offers the policy makers and scheme administrative implications/ Plan implementers to consider pupils' happiness with the MDM system at school definitely better. A comparative examination of central vs dispersed cuisines provides significant insights on the expansion and improvement of centralized cooking services its neglected attributes enhance the overall satisfaction of school pupils. Improved management in providing school mealtimes with better customer's service is important for the positive execution of the package. Two in this regard striking conclusions. Decentralized cuisine must generally be favored by the enforcement interventions. In the event that central cooking is needed, it must be ensured adequate infrastructure for the organization serving school meals; good logistics, skilled manpower and passable catering besides hospitality experience.

Finally, knowledge on the satisfaction of pupils with the various shortcomings of the lunch program will allow us to make a better decision on institutional arrangements by involving effective and accurate implementation agencies in offering MDM to university students. Obviously, in addition to improving participation levels and supplying food, the primary and common spin-off advantage of social bonding is an additional benefit of continuing the MDM program, regardless of whether meals is served from centralized or distributed kitchens. Nevertheless, if central kitchens are chosen, the emphasis should be not individual on the excellence of the meal they provide, but also on social attachment problems, health elevation and hygiene performs among school

children besides formation of support services in the country for the successful implementation of the MDM system.

CONCLUSION

The MDM system is a flagship program of the administration of India with the dual purpose of enhancing tutoring and improving child health by providing school children with nutritious food. Empirical evidence shows that the initiative has resulted in raising the regular contribution rates of children in lower upper main grades, as well as major changes in malnutrition in pupil management. Several evaluation studies are carried out by different organizations to determine the effect of the MDM program on the status of children's enrollment, retention and nutritional value and institutional structures for delivery with cooked food to universities on time. It is contended that although an amount of stakeholders is complicated in the country's school meal program planning, implementation, and monitoring, they lack proper coordination.

In addition, many organizations, such as charitable associations, private corporations, non-governmental organizations, parents, educators and central government bodies rarely specializing in school catering, are interested in the provision of cooked school meals. In recent times, the university meal package in India has witnessed rising public interest because people are interested in knowing about the standard of meals delivered to school children. Consequently, as a viable choice, it is increasingly preferred to provide for the establishment of centralized kitchens. Health, nutrition and health investments are important for unlocking children's capacity for growth. In the final absolute 10 years access to primary education, MDM and medical services to the schools were accomplished. Coordinated with MDM, school health services will carry out health check-ups and nutritional status assessment of school children.

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