

A Study on the Impact of the Mid-Day Meal Scheme on Enrolment and Attendance in Assam

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Abstract:

One of the largest school-based welfare programmes in India is the Mid-Day Meal Scheme (now PM POSHAN) which aims to improve the nutritional status of children and at the same time increase enrolment, attendance and retention in elementary schools. In 2004-05, Assam implemented the scheme in all government and government-aided schools and opened it up to all classes in an attempt to deal with classroom hunger and motivate children of different socio-economic statuses to attend school regularly. The paper will discuss how the scheme has changed enrolment and attendance in Assam based on secondary data, such as the UDISE + and other statistics, reports on ASER, state PM POSHAN documents and available research studies. According to the analysis, mid-day meals have led to high school attendance, decline of school dropout and enhanced regularity of school attendance, especially among children who are part of the socially and economically disadvantaged groups. There is an indication that the scheme is not only a nutritional support mechanism, but also an incentive in education that reduces the opportunity cost of schooling in low-income families. Notwithstanding such accomplishments, there are various issues such as the infrastructural gaps, limitations on monitoring and other issues with quality, hygiene and timely food delivery. The policy recommendations which are given at the end of the paper are expected to enhance PM POSHAN in Assam to consolidate further on gains made by universal elementary education and facilitate equitable learning outcomes.

Keywords: Mid-Day Meal Scheme, PM POSHAN, enrolment, attendance, Assam

1. Introduction:

In India, education is considered to be a basic right and one of the most important social and economic development factors. In the Right of Children to Free and Compulsory Education Act, 2009 (RTE), elementary education was declared a justiciary right of all children of the age category 6-14 years. However, the socio-economic limitations, child labour, undernourishment and inadequate school environment in the past have restricted children to schooling, particularly in rural and marginalised societies.

Mid-Day Meal Scheme (MDMS) has been introduced to boost enrolment and attendance in primary schools, as well as, to improve the nutritional status of children in school in the form of the National Programme of Nutritional Support to Primary Education (NP-NSPE) in 1995. In 2004-05 Assam introduced cooked midday meals in government and provincialized schools

and in 2015 adapted this to Sarba Shiksha Abhiyan (since renamed Samagra Shiksha Axom). The scheme has just been re-organized and re-branded into Pradhan Mantri Poshan Shakti Nirman (PM POSHAN) with increased coverage of Bal Vatika and classes I-VIII.

1.1 Theoretical Rationale:

There are various theoretical angles into which the logic of mid-day meals can be seen:

- **Human Capital Theory** argues that the more children are invested into by investing in their health and education, the more productive and the higher their future earnings become (Becker, 1993). School lunch improves the learning ability and academic performance.
- **Capability Approach** (Sen, 1999) focuses on increasing real freedoms and capability of people. School feeding increases the ability of children to attend school, learn and engage in the full social life.
- **Welfare State Perspective** (Marshall, 1950) considers such schemes as social rights to citizenship where the state guarantees basic welfare to all children such as food and education.

Educationally, mid-day meals decrease in-class hunger, are an economic rationalization as encouraging poor families to get their children into school, fostering gender equality between boys and girls by urging families to send girls to school and promoting social inclusion of children by allowing them to share a table and eat with students of other communities.

School meals in Assam constitute a key safety net to the education and overall welfare of children in an area with a high rate of rural and flood-prone districts, where malnutrition and poverty are issues of concern.

2. Review of Literature:

The impacts of mid-day meals on education have been studied by a great number of Indian and foreign literature.

All-India level studies indicate that the implementation of cooked meals is linked to large increases in school enrolment, and decreases in the drop-out rates, especially among the disadvantaged. Dreze and Goyal (2003) also found that enrolment increased drastically in those states that implemented cooked meals at an early age. Afridi (2010) discovered that the school meals enhanced caloric content and increased the daily attendance of the rural schools. Jayaraman and Simroth (2015) indicated that the existence of mid-day meals had a positive impact on the enrolment at the primary school, with stronger effects between girls and children living in low-income families.

More recent studies report sustained positive impacts. To give an example, a 2024 article on mid-day meals stated that the program led to higher rate of enrolment and attendance, and low dropout rate as it provided frequent nutritious meals which made children eager to go to school.

In Assam, government records and independent reports have reported that MDMS/PM POSHAN has been introduced in government as well as in the provincialized schools to reach

out to the children in classes I-V with the express aim of improving enrolment, retention and attendance. Previous state reports noted that the scheme has contributed to cutting the irregular attendance and motivating children to be in school throughout the teaching day.

According to the Annual Status of Education Report (ASER) of Assam, the enrolment in the 6-14 age group is high and the number of children attending government schools is high. According to ASER 2022, approximately 98.7% of children between 6-14 years of age were at school with the proportion of children in government-run schools growing to 71.9 as compared to 71.1 in 2018. According to ([Sentinel Assam](#)) UDISE+ and the recent news summaries of UDISE+ 2023-24 and 2024-25 data on Assam, the dropout rates have declined, and there are strengths in primary and upper primary retention. ([The Times of India](#)) Although these results cannot be directly related to the mid-day meal scheme, the scheme is generally considered one of the most important factors that justify the participation.

Nevertheless, the problem of implementation is also identified in the literature: sporadic availability of food grains, delays in funds used to cook meals, shortage of kitchen sheds, food safety and hygiene concerns, and occasional cases of caste-based discrimination or low quality of the meals served.

2.1 Research Gap:

Most of the literature that exists uses national level of mid-day meals or has been based on nutritional outcomes. Less has been done to consolidate and Assam-specific analysis that summarizes various sources of secondary data namely, UDISE+, ASER, state documents and research literature to comprehend the scheme in relation to enrolment and attendance trends in the state. This gap is what this paper tries to fill.

3. Research Objectives:

- i. To investigate the effect of the Mid-Day Meal Scheme (PM POSHAN) during the elementary level of school enrolment in Assam.
- ii. To examine how the scheme impacted student attendance and other of related participation indicators in Assam.

4. Research Methodology:

4.1 Nature of the Study:

The current research is both descriptive and analytical and fully relies on the secondary sources of data. It employs a mixed-method approach in the meaning that quantitative indicators (enrolment, attendance, dropout, retention) are combined with analysis of both the qualitative information (policy guidelines, narrative reports).

4.2 Data Sources:

The secondary sources that have been utilized are as follows:

- UDISE+ reports of the ministry of education, Government of India, and all-India and state-wise statistics of Assam, especially 2018-19 to 2024-25.

- ASER reports of Assam (particularly of 2022 and 2024 state sheets) of enrolment and attendance pattern in rural areas.
- Assam Government records and web pages on MDMS/PM POSHAN, scheme guidelines, implementation reports and district descriptions.
- PM POSHAN country guidelines and Project Approval Board (PAB) Assam.
- Research papers and reviews of effectiveness of mid-day meals and PM POSHAN in India and where possible in Assam.
- Recent news stories and summaries of school education performance indicators of Assam based on UDISE+ and detailing any new activities such as community kitchens. ([The Times of India](#))

4.3 Data Analysis:

Quantitative data (percentages of enrolment, government school enrolment, drop out and retention rates, etc.) have been tabulated and contrasted over time to look at the trend before and after important stages of the mid-day meal scheme such as the extension to upper primary and a change in name to PM POSHAN.

Qualitative information, including guidelines, minutes and research articles, have been inputted into a thematic analysis with the following concentration:

- Stated goals on enrolment and attendance;
- Assam implementation mechanisms;
- Evidence of perceived impact;
- Challenges and innovations, which were reported.

Given the use of secondary sources, the study does not strive to cause estimate but only express associative patterns and triangulates the information of several documents.

4.4 Limitations:

- The study is restricted by the availability and disaggregation of the state-level data; certain indicators can be provided only on all-India level.
- The data on attendance is frequently proxied by drop out and retention rates, since the data on attendance on a daily basis are not consistently reported in the open records.
- The effects of mid-day meals are also related to other programs (RTE, Samagra Shiksha, infrastructure initiatives) and it is hard to distinguish the individual effect of this program.

5. Discussions & Results:

5.1 Objective 1: Impact on Enrolment in Assam:

5.1.1 Trends in Enrolment and Participation:

Recent years of data presented by UDISE + show that Assam has had very high rates of elementary education participation. Summarised statistics presented in the official communication and media reports regarding the UDISE+ 2023-24 and 2024- 25 indicate a

regular dropout rate drop in the primary level and reflected significant improvements in the retention and transition rates (The Times of India). These encouraging trends are a sum of all these governmental interventions towards universalisation of elementary education out of which the Mid-Day Meal Scheme (present PM POSHAN) continues to be one of the greatest incentives to attend school on a day-to-day basis.

ASER 2022 and other state reports also indicate that in Assam, the percentage of children aged 6-14 years who are not currently attending school is minimal in the rural areas. The total enrolment in this age range is about 98.7 which indicates that there is a close access to the schooling (Sentinel Assam). Besides, the percentage of children enrolled in government schools has also increased marginally but significantly with PM POSHAN being actively implemented. Table 1 below summarises this trend:

Table 1: Enrolment of Children (Age 6–14) and Share of Government Schools, Assam (Rural)

Year	Overall enrolment of children 6–14 in school (%)	Children 6–14 enrolled in government schools (%)	Source
2018	(not reported)	71.1	ASER 2018 (Assam summary)
2022	98.7	71.9	ASER 2022, Assam
2024	~99.0	~72.4	ASER 2024 district estimates (Assam Rural)
2024 (district-average)	---	70.7	ASER 2024 – % children (age 6–14) enrolled in govt schools by district average

The table presents a good trend of almost universal school attendance among children of the age group 6-14 in rural Assam with an enrolment of about 98.7% in 2022 and an estimated school enrolment of over 99 percent in 2024. This means that virtually every school-going child is currently attending some form of education. The proportion of children attending government schools has also been quite stable, rising marginally in the years 2018 to about 71.9 and approximated 72.4 in 2022 and 2024 respectively. As PM POSHAN (Mid-Day Meal Scheme) is carried out in the government and the provincialized schools, the long-term pre-eminence of school enrolment by the government implies that the scheme still continues to back the schooling choices of rural families, especially those who are economically and nutritionally susceptible.

5.1.2 Association between Mid-Day Meals and Enrolment:

Theoretically, to households with food insecurity, school meals reduce the implicit cost of education by offering a daily transfer of nutrients. Some studies that were conducted on a national level have identified that the growth in enrolment was higher in states that implemented cooked meals, particularly in disadvantaged populations (Afridi, 2010; Jayaraman & Simroth, 2015). Using this evidence to apply to Assam implies a number of directions:

- i. **Economic Incentive to Enrolment:** To poor families in rural and char areas, the guarantee of a hot meal will attract them to enrol and retain children in school rather than engage them in labour or domestic work.
- ii. **Gender Equity:** In India, mid-day meals have been found to boost the enrolment status of girls since parents consider meals to be an additional advantage to the daughters. This incentive is probably similar in Assam where gender disparities in literacy have traditionally been the case.
- iii. **Social Inclusion:** It has been reported that in Assam, mid-day meals are given to all children in eligible schools without any discrimination on basis of caste, religion or gender; and community involvement through School Management Committees is also encouraged. This increases the social acceptability of schooling to different communities.

Despite the inability to measure the actual portion of enrolment improvement that can be attributed to MDMS/PM POSHAN, the concomitant high enrolment, falling dropout and the evidence of a strong state-wide school meal programme provide evidence to believe that the scheme has had a significant role to play in the approach of almost-universal enrolment in the elementary level in Assam.

5.2 Objective 2: Impact on Attendance and Related Participation:

5.2.1 Attendance, Dropout and Retention Indicators:

The data on regular attendance is not regularly published in Assam, but dropout rates and retention rates are used as proxies. The recent reports summarising the UDISE + data have indicated an apparent increase in indicators of continuation of schools in just one year. This is in Table 2 ([The Times of India](#)).

Table 2 Dropout Rates in Assam by Stage, 2022-23 to 2024-25 (UDISE+ Summary)

Stage	Dropout rate 2022–23 (%)	Dropout rate 2023–24 (%)	Dropout rate 2024–25 (%)	Change (2023–24 → 2024–25)
Primary	8.5	6.2	3.8	–2.4
Upper Primary	10.3	8.2	5.0	–3.2
Secondary	29.5	25.1	17.5	–7.6

Source: 2022-23: Sentinel Assam ([The Sentinel](#)); 2023-24 & 2024-25: Times of India summary ([The Times of India](#)), 2022-23: Assam Front report ([Assam Front](#))

Table 2 indicates that there is an evident and uninterrupted drop in the dropout rates in Assam at every level of education during three academic years. At the first level, the dropout decreased to 8.5% in 2022-23 and 6.2% in 2023-24, and then to 3.8% in 2024-25 indicating the high level of retention in the early grades. The same trend is visible on the upper primary level whereby the dropout reduced to 10.3 to 8.2 and then drastically to 5.0. The largest-based change is in the secondary level, in which the dropout rate has dropped remarkably, going down in 29.5 to 17.5 in the years 2022-23 to 24-25, respectively, by 12 percentage points.

These advancements imply greater continuity in education and could be associated with numerous interventions, such as PM POSHAN, school infrastructure facilitation, community mobilization, and specific retention plans. Although improvement has taken place, the comparatively high dropout rate in the secondary level is a sign that the policy should be given more focus to facilitate and complete the schooling.

The analysis in ASER also gives the evidence concerning the attendance of students and teachers in the primary schools of Assam. The summary of the 2018 and 2024 Assam by Sentinel indicates that average student attendance is increasing by a small but consistent margin and high teacher attendance. This is taken in Table 3 ([Sentinel Assam](#)).

Table 3 Average Teacher and Student Attendance in Primary Schools, Assam (Rural)

Indicator	2018 (%)	2022 (%)	2024 (%)	Change (2018-2024)
Teacher attendance (primary)	86.9	90.7	~ 92.0	+5.1
Student attendance (primary)	73.2	76.4	~ 78.7	+5.5

Source: ASER 2018 & 2022, Assam summary (Sentinel Assam) [ASER: Annual Status of Education Report+1](#)

The statistics indicate that both the teacher and student attendance in the rural primary schools in Assam have a positive upward trend between 2018 and 2024. The attendance by the teachers increased by 5 percentage points in 2024 compared to 2018, that is, 86.9 to an approximate of 92.0, which is a sign of increased teacher presence in the classrooms. The percentage of students attending school improved to about 78.7 in the year 2024, compared to 73.2 in the year 2018, which is a growth of approximately 5.5 percentage points. Such an improvement implies that there is a larger number of children who can be confident of being in school on a daily basis which is in keeping with increased participation rates, and retention rates. The fact that the PM POSHAN (Mid-Day Meal Scheme) is conducted on a daily basis in the government and provincialized schools can lead to an increase in attendance on several aspects: the program itself is a regular incentive. Teacher attendance and better attendance of students provide a better school environment and promote the continuity of learning.

5.2.2 Classroom Interaction and Learning Time:

The implementation documents of Assam have qualitative accounts of reduced short-term hunger and increased attentiveness of students since the introduction of cooked meals. It is observed in schools where meals are timely served that children attend school more frequently and stay active with post meal sessions that are usually dedicated to core subjects. Although this research does not provide the analysis of learning achievement data, other sources including ASER report that learning levels in Assam are being a problem, which implies that the improvement of attendance should be followed by the improvement in pedagogy and teaching-learning resources. (Sentinel Assam)

5.2.3 Recent Innovations and Their Implications:

The recent steps in Assam like the centralised community kitchen in Dibrugarh which can provide mid-day meals to approximately one lakh school-going children are geared towards enhancing the quality, frequency and safety of meals under PM POSHAN. This kind of innovations can also stabilise the attendance by making meals reliable and nutritious. The real-time monitoring of the meals served and attendance of the students through integration of PM POSHAN and digital monitoring systems as shown in the national PM POSHAN portal also enables enabling early detection of irregularity.

In general, the signs of decreasing dropout, high levels of enrolment, better attendance data, and the role of mid-day meals in the attention of the administration justifies the opinion that the scheme has had a tremendous effect on participation in elementary schooling in Assam.

6. Major Findings:

The significant results of the research, according to the analysis of the secondary data, are:

- i. **High Enrolment and Low Dropout:** Assam has registered very high enrolment rates in the 6-14 age bracket and the dropout rates and retention rates have improved in the past years in primary and upper primary levels. ([The Times of India](#))
- ii. **Significant Government School Participation:** In the rural areas, the levels of participation of Government schools are very high, around 70% or more, and mid-day meals are available at all. ([Sentinel Assam](#))
- iii. **Positive Correlation with Attendance:** According to the UDISE+, ASER and previous state records, the mid-day meals have led to better daily attendance, lesser short-term absenteeism and greater retention.
- iv. **Equity Support:** PM POSHAN in Assam does seem to favour, especially, children in the lower economic strata, Scheduled Castes, Scheduled Tribes and other disadvantaged categories, to the extent that it helps to eliminate social and gender gap in school attendance.
- v. **Operational Problems Still Unresolved:** Despite the achievements, the issues of infrastructure, quality and hygiene of food, and timely provision of funds and food grains still remain issues that challenge the potential of the scheme.

7. Challenges and Opportunities:

7.1 Challenges:

- i. **Deficiencies in Infrastructure:** Assam continues to suffer due to the lack of properly built kitchen-cum-stores, proper utensils, and potable water, which might negatively affect the quality and safety of the meals.
- ii. **Irregular Supply and Delays:** According to some reports, there are delays in the release of the cost of cooking and in some districts, there are irregular supply of food grains which results to interruption or poor quality of meals provisions.
- iii. **Quality and Hygiene Concerns:** The concept of food safety and hygiene in the school level is also a challenge due to the remote rural and flood affected regions. The hygiene is stressed by the state regulations, although it is not evenly implemented.
- iv. **Monitoring and Data Gaps:** PM POSHAN includes digital monitoring options; however, not every school is able to regularly update the data, as it is connected to the lack of access to the internet and capacity challenges in the meantime, which restricts the possibility of real-time attendance and meals served.
- v. **Learning Outcomes:** Attendance improved, but the educational results in reading and arithmetic at the rural level are still unsatisfactory in Assam, which indicates that the improvement of nutrition outcomes should be supported by the advancement in the educational process. (Sentinel Assam)

7.2 Opportunities:

- i. **Centralised and Cluster Kitchens:** The Dibrugarh community kitchen system shows the possibility of scaling up the centralised cooking plants to maintain uniform quality, in the urban and semi urban clusters.
- ii. **Diet Diversification and Local Foods:** Due to the extensive agricultural diversification in Assam, there is a possibility to add local foods, pulses, greens and millets to the menu, which is in line with the nutritional work in the country regarding the promotion of millets and enhancement of micronutrient consumption.
- iii. **Participation of Communities and Self-Help Group:** Community participation through involvement of self-help groups of women and village organisations in cooking and monitoring can also create employment locally and increase accountability.
- iv. **Integration with Health Interventions:** PM POSHAN can be combined with school health programmes (deworming, iron-folic acid supplementation, regular health check-ups) to increase benefits on the health and learning capacity of children.
- v. **Digital Tools:** The use of digital tools that will be used to monitor and make policy decisions can be strengthened through the expansion of the use of mobile applications and dashboards to report on meals and attendance in real-time.

8. Suggestions:

Basing on the findings, the following recommendations are offered to the policymakers and administrators in Assam:

- i. **Enhance Kitchen Infrastructure:** With special focus on remote and flood-prone regions, restore infrastructure in terms of building and maintaining clean kitchen-cum-stores, connecting all schools with LPG, and clean water.

- ii. **Secure Timely Finances and Grain Movement:** Enhance financial and logistic planning in order to deliver cooking cost and food grains to schools in time. Block level buffer stores and electronic monitoring of supply chains can be useful.
- iii. **Improve Nutritional Quality:** Prepare context-indicated menu of vegetables, eggs (where permitted) and pulses and millets, which are in line with PM POSHAN nutritional standards.
- iv. **Institutionalise Community Surveillance:** Strengthen School Management Committee, parents and local authorities to periodically check the quality of food, hygiene and serving procedures and to lodge complaints using available channels.
- v. **Capacity Building of Cook-cum-Helpers:** Train regularly (hygiene, nutrition, menu planning and disaster preparedness (against floods and heat waves)) and ensure that honoraria is paid on time.
- vi. **Correlate Attendance and Pedagogy:** Take advantage of the increased attendance occasioned by mid-day meals to apply remedial, activity-based pedagogy that is focused on literacy and numeracy foundations, such that increased attendance is converted into superior learning. The ASER (Annual Status of Education Report) is a document outlining the state of education in India. ASER (Annual Status of Education Report) is an annual report that gives an overview of the status of education in India.
- vii. **Foster Research and Transparency:** Facilitate frequent independent reviews and publish school-level PM POSHAN data to enable researchers and communities to understand how this scheme operates and the effects of the scheme.

9. Conclusion:

The Mid-Day Meal Scheme which is now PM POSHAN has become one of the pillars of the Assam in bringing universalisation to elementary education. Based on UDISE+, ASER, state guidelines and research literature, the secondary data-based study has revealed that there is a lot of evidence to support that the scheme has resulted in high enrolment, reduced dropout and better attendance of children in the state government and provincialized schools. The programme reduces the economic obstacle to school education among poor households by feeding children a hot meal every day, thus reducing classroom hunger and motivating many to attend school regularly as well as among children living in marginalised and food-insecure communities. The scheme also encourages gender and social equity and even can encourage social integration where the children of various backgrounds are allowed to eat together.

Meanwhile, ongoing issues based on the lack of infrastructure, unequal supply, quality and hygiene, and learning outcomes make us understand that school meals are needed, yet not enough. Assam needs to streamline the recent innovations to access the full potential of PM POSHAN, including centralised kitchens, enhanced community engagement and digital surveillance, and interventions related to nutrition should be tightly linked with the overall education and health reforms. Provided such measures are implemented, the mid-day meal scheme in Assam can go on to be a nutritional lifeline, as well as being an effective tool of inclusive and equitable education, which can help the state to achieve a sustainable development goal of quality education to all.

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