

Impact Assessment Report : The Akshaya Patra Foundation Mid-Day Meal Programme

December 2022 - March 2023

**Submitted To :
Axis Bank Limited**

**Submitted By :
CPA Services Pvt. Ltd.**



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Executive Summary

“No child should go to school hungry, for it hinders both learning and growth.” – Anonymous

This fundamental belief drives the Mid-Day Meal (MDM) program, ensuring children receive the nutrition they need to thrive. Recognizing the importance of evaluating its impact, the Axis Bank CSR Initiative conducted an **Impact Assessment and Satisfaction Survey** of The Akshaya Patra Foundation's (TAPF's) Mid-Day Meal program that was implemented in Uttar Pradesh, Gujarat, Karnataka, and Odisha with Axis Bank's support from **December 2022 and March 2023**.

The study examined stakeholder satisfaction and evaluated the program's impact on **nutrition, education, and overall perceptions**. It also provides **recommendations for improvement**, ensuring the initiative continues to enhance student well-being and learning outcomes in the next cycle.

Study Objectives and Approach

The evaluation was designed to assess the effectiveness and impact of the MDM program on students, teachers, parents, and other key stakeholders. It measured improvement in child nutrition, school participation, learning outcomes, and general satisfaction with the quality of meals. The research applied a **retrospective post-then-pre impact assessment design with a mixed-methods approach** to provide a comprehensive assessment. Quantitative data were applied to measure the outcomes objectively, while qualitative insights were used to gain a deeper understanding of experiences and challenges.

Key Findings

Student Satisfaction and Nutrition Impact

- **Demographic Profile:** The survey covered **150 students from 15 schools in Odisha and Karnataka**. Among these, **60.6% were females**, and **87.9% of total students** belonged to **Below Poverty Line (BPL) families**, which makes it evident that the programme caters to economically vulnerable children.
- **Meal Quality and Satisfaction:** **62%** of the students **rated taste as "very good"**. This percentage was the highest in Karnataka at 71%.
- **Hunger Satisfaction:** **96%** of children **satisfied with meal quantity**, and it reflects an overwhelming acceptance of portion sizes.
- **Health and Attendance:** The project led to **more energetic children, fewer sick days, and more attendance**, hence, showing positive nutrition impacts.

Teacher and School Feedback

- **Quality of Meal:** **85%** of teachers felt that the **meals were satisfactory**; in Karnataka 88% felt the same while in Odisha 82% teachers were of the same view.
- **Attendance Affected:** **87.5%** of the teachers opined that **stopping MDM would negatively impact student attendance**.
- **Learning Outcomes:** **100%** of the teachers opined that the program **improved students' concentration and engagement in learning**.

Kitchen Operations and Stakeholder Insights

- **Kitchen Visits:** TAPF's kitchens were characterized by **high hygiene standards** and **efficient operations**. The staff highlighted **timely meal delivery** and **effective supply chain management**.
- **Improvement Areas:** Some staff members opined that the **quantity of vegetables** should be **increased** to enhance meal nutrition.
- **Stakeholder Perceptions:** Government officials, School Relationship Officers (SROs), and School Management Committees (SMCs) emphasized the **need for expanded meal coverage and stronger communication mechanisms**.

Recommendations for Program Strengthening



Enhancing Meal Quality and Distribution

- Expand menu variety to include regionally preferred foods, seasonal fruits, and protein-rich additions.
- Improve meal distribution oversight through trained volunteers to ensure fair and equitable meal distribution.
- Introduce locally sourced ingredients, for example millets, to enrich nutrition while enhancing the livelihood of local farmers.



Strengthening Hygiene and Infrastructure

Upgrade hygiene infrastructure in schools, including increasing handwashing stations and waste disposal systems.

Train kitchen and school staff on a regular basis about food safety.

Improve storage and cooking facilities in centralized kitchens and school premises.



Monitoring and Community Engagement

Have structured feedback mechanisms for students, teachers, and parents to grade meal quality and satisfaction.

Strengthen monitoring and third-party evaluations to ensure meal consistency and fair distribution.

Engage parents and teachers in menu planning for better acceptance and satisfaction.



Capacity Building and Operational Efficiency

Regular training for kitchen staff and teachers on food safety, hygiene, and program efficiency.

State-specific training modules to address unique regional challenges in implementation.

Improve logistics and supply chain management to avoid ingredient shortages or delays.



Expanding Program Reach and Sustainability

Extend MDM coverage to Grades 9 and 10 in order to help retain students and ensure nutritional security.

Expand reach into low-access areas with poor educational enrollment.

Strengthen financial and programmatic partnerships for long-term program sustainability.

Conclusion

The Mid-Day Meal has been an effective intervention in alleviating classroom hunger and promoting child development. It has been **very effectively implemented by the Akshaya Patra Foundation**, having a positive effect on nutrition, attendance, and learning outcomes. There is still scope for further strengthening through **infrastructure development, expanded engagement, and continuous quality improvements**. In incorporating these recommendations, TAPF can **sustain and amplify the positive impact** of the program to ensure that no child goes hungry, and every child learns and thrives.

Chapter 1: Background & Context

1.1 Introduction to Mid-day Meal Scheme (MDM)

"When you feed a child, you feed their mind." – Sarah Wild

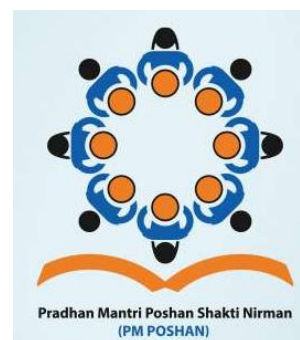
This phrase best describes the essence of the Mid-Day Meal (MDM) Scheme in India, which is a program that addresses two fundamental rights of children—**education and nutrition**.

The MDM Scheme has a deep-rooted history in India, dating back to 1925 when the Madras Municipal Corporation initiated it for the benefit of disadvantaged children. By the 1980s, the states of Gujarat, Kerala, Tamil Nadu, and the Union Territory of Pondicherry had universalized cooked meal programs for primary school children. By 1990-91, 12 states had adopted similar programs, reflecting growing recognition of the importance of school meals.¹

On 15th August 1995, the Government of India initiated the National Programme of Nutritional Support to Primary Education (NP-NSPE) as a centrally sponsored scheme. The scheme was implemented in 2,408 blocks initially and aimed at improving enrollment, retention, and attendance while addressing malnutrition among children. It was extended nationwide by 1997-98. In 2002, the scope of its operation was enhanced to include children in classes I-V of government, government-aided and local body schools, as well as those in EGS and AIE centers.

Significant amendments in 2004 mandated cooked meals with 300 calories and 8-12 grams of protein. In 2006, the scheme was extended to upper primary students (classes VI-VIII). It provided meals with 700 calories and 20 grams of protein. By 2008-09, it had covered all children in government, local body, and government-aided primary and upper primary schools, including Madrasas and Maktabas supported under Sarva Shiksha Abhiyan (SSA).

The scheme was rebranded in 2021 as PM POSHAN (Pradhan Mantri Poshan Shakti Nirman) for the period 2021-22 to 2025-26. The program encompasses about 11.80 crore children spread across 11.20 lakh schools and also includes pre-primary students in government and government-aided schools. The program, therefore, ranks as one of the biggest school feeding programs globally. It aims to improve nutritional quality, encourages community participation, and promotes sustainability through an outlay of Rs. 1,30,794.90 crore. Key highlights include promotion of Tithi bhijan (special meal on festivals), School Nutrition Gardens, Social Audits, and supplementary nutrition in high-need districts.



1.2 Nutrition Support for Schools - Current Scenario in India

Ensuring optimal nutrition for school-aged children remains a key national priority, as adequate nourishment is essential for **physical growth, cognitive development, and overall well-being**.² While India has made significant progress in improving child nutrition, challenges persist, particularly in addressing **growth deficiencies** such as stunting, low weight-for-age, and inadequate weight-for-height. (Table 1.1)

¹Ministry of Education, Government of India. (n.d.). *PM Poshan: About us*. Retrieved January 23, 2025, from <https://pmposhan.education.gov.in/aboutus.html>

² Precious, F. K., Owbor, G. A., Opeyemi, M. O. A., Igwe, S. C., Beauty, O. C., Sy, F. A. R., ... & Lucero-Prisno III, D. E. (2023). Why nutrition programs for children remain important. In *Advances in Food Security and Sustainability* (Vol. 8, pp. 187-215). Elsevier.

Table 1.1 – Child Malnutrition Indicators as per NFHS - 5

SN.	Indicator	India (%)	Odisha (%)	Karnataka (%)
1.	Stunting (low height for age)	35.5	31.0	35.4
2.	Wasting (low weight for height)	19.3	18.1	19.5
3.	Underweight (low weight for age)	32.1	29.2	32.9

The **ongoing demand is for better nutrition interventions** to promote the children's health and learning potential. School feeding programmes, such as the **Mid-Day Meal (MDM) Scheme**, thus play a critical role in filling such gaps by boosting dietary intake and reducing classroom hunger, and enhancing school participation.

However, various assessments, including those by Nambiar (2013), have identified areas for improvement, such as delays in supply chains, gaps in monitoring, and limited community participation. Additionally, challenges related to infrastructure and working conditions for staff can affect the program's efficiency.

Recognizing these challenges, the government has taken **several proactive steps** to make the scheme more effective. Recent initiatives include **the introduction of fortified foods, digitization of supply chains, and improved monitoring mechanisms**. Strengthening **interdepartmental coordination** and fostering greater **engagement with teachers, parents, and local governing bodies** will be key to further optimizing the impact of the **MDM program** in supporting child nutrition and education.

1.3 Status of Nutrition Support for Schools in Odisha and Karnataka

The implementation of the MDM Scheme varies across states, reflecting regional priorities and challenges. In Odisha and Karnataka, the program has achieved impressive coverage, supported by partnerships with organizations like The Akshaya Patra Foundation.

- **Odisha:** Odisha has shown progress in improving the implementation of MDM, with focus on infrastructure development and sourcing local ingredients. There is still room for improvement regarding timely delivery of meals and addressing the nutritional needs of all children, especially in remote areas.³
- **Karnataka:** Karnataka's MDM program boasts of strong partnerships with NGOs, which ensure the centralized kitchens prepare and deliver healthy food.⁴ Despite such successes, it still faces challenges related to inadequate infrastructure in some schools and the need for greater community engagement.⁵

Both states demonstrate the importance of leveraging partnerships and community involvement to overcome systemic barriers in the implementation of the MDM Scheme.

1.4 Structure of the Report

This report is divided into ten chapters. The first chapter provides an introduction to the genesis of the scheme, its objectives, and the prescribed implementation mechanism. Chapter II outlines the objectives of the study, the coverage, the target respondents, the sampling plan, the research instruments, and the data handling and analysis methodology. Chapter III describes the socio-economic profile of the beneficiary schools, students, teachers, and

³ International Journal of Flexible Management and Research (IJFMR). (2024). *Analysis of Mid-Day Meal Scheme in Odisha: Challenges and strategies*. Retrieved January 23, 2025, from <https://www.ijfmr.com/papers/2024/1/14209.pdf>

⁴ The Akshaya Patra Foundation. (n.d.). *India's Mid-Day Meal Scheme: Karnataka*. Retrieved January 23, 2025, from <https://karnataka.akshayapatra.org/indias-mid-day-meal-scheme>

⁵ Seetharamu, A. S. (2021). *Evaluation of impact of Mid-Day Meal Schemes in Karnataka State (2016–17)*. Hyderabad Karnataka Centre for Advanced Learning, Kalburgi; Department of Primary and Secondary Education, Karnataka Evaluation Authority; Department of Planning, Programme Monitoring and Statistics, Government of Karnataka.

parents covered under the study. Chapter IV focuses on students' satisfaction with the Mid-Day Meal program, while Chapter V delves into teachers' satisfaction with the scheme.

Chapter VI analyses the impact of the Mid-Day Meal Scheme on classroom hunger, enrolment, dropout, MDM participation and training and sensitization of teachers with regards to Mid-Day Meal. Chapter VII assesses the kitchen infrastructure, the mechanism of implementation, and the material supply chain under the scheme. Chapter VIII captures the perspectives of government nodal officers, School Relationship Officers (SROs), and School Management Committees (SMCs) and Parents of the Children participating in Mid-Day Meals.

Chapter IX provides ways of enhancing the sustainability of the program and concludes the report with key insights.

Chapter 2: Objectives and Methodology

“No child in India shall be deprived of education because of hunger.” – The Akshaya Patra Foundation

The Mid-Day Meal (MDM) Scheme has long served as a cornerstone in India's efforts to tackle malnutrition and promote universal education. By addressing the intertwined challenges of hunger and learning, the program has transformed countless lives, with contributions from diverse stakeholders playing a pivotal role in its success. Among these contributors, **The Akshaya Patra Foundation (TAPF)** has stood out, not just for its scale but for its innovative public-private partnership model and unwavering commitment to the cause of **"Unlimited Food for Education."**



TAPF's journey, that began in 2000 with serving meals to 1,500 children in Bengaluru, has grown into a nationwide initiative. Its centralized and decentralized kitchen models which use advanced technology and rigorous hygiene protocols, have made it possible to prepare and deliver freshly cooked, nutritious meals to millions of children every day. This effort aligns with India's pursuit of the **UN Sustainable Development Goals**, particularly **Zero Hunger** and **Quality Education**, and highlights the importance of partnerships in increasing the reach and impact of the MDM Scheme.



In line with this mission, TAPF undertook a specific initiative from **December 2022 to March 2023**, supported by **Axis Bank CSR Initiative**, to provide mid-day meals to select schools in **Uttar Pradesh, Gujarat, Karnataka, and Odisha**. Recognizing the importance of evaluating the impact of this initiative, this study was commissioned to assess its outcomes on key indicators such as nutrition, education, and stakeholder perceptions. By employing a structured approach, this assessment aims to offer actionable insights that can inform future interventions and enhance the program's effectiveness.

The subsequent sections of this chapter detail the study's objectives, coverage, methodology, target respondents, research tools, and data analysis framework, laying the foundation for a comprehensive evaluation of the initiative's impact.

2.1 Research Objectives

The overarching aim of this evaluation study was to assess the impact and effectiveness of The Akshaya Patra Foundation's (TAPF) Mid-Day Meal (MDM) program, implemented with the support of Axis Bank, across schools in **Uttar Pradesh, Gujarat, Karnataka, and Odisha** from **December 2022 to March 2023**. As part of this study, evaluations were conducted in **Odisha and Karnataka**.

Specific Objectives :



1.To evaluate program implementation and effectiveness:

This involves assessing the operational efficiency, quality of meals, and adherence to established guidelines. The goal is to determine whether the program logistics, infrastructure, and execution align with its intended objectives and ensure seamless delivery.



1.To assess the program's impact on students' health and education:

The study seeks to analyze improvements in children's nutritional status, school attendance, and academic performance. It explores correlations between the program's provision of nutritious meals and its impact on these critical educational and health indicators.



1.To gauge stakeholder satisfaction and gather insights on overall well-being:

The evaluation captures the perceptions and satisfaction levels of key stakeholders—students, teachers, and parents—regarding the program's effectiveness. Additionally, it aims to understand its broader influence on children's physical and mental well-being, focusing on how the program shapes their daily lives and educational experiences.



To identify challenges and opportunities for improvement:

By examining the program's implementation at various levels, the study aims to highlight operational constraints and recommend actionable strategies for enhancing its efficiency and impact.

Expected Outcomes

This comprehensive evaluation aims to:



- Determine the extent to which the MDM program has succeeded in achieving its objectives.



- Provide actionable insights into improving and Strengthening the overall implementation mechanism by identifying gaps and areas of enhancement.

2.2 Methodology

2.2.1. Study Design

The study adopted a **retrospective post-then-pre impact assessment design** using a **mixed-methods approach** to capture both quantitative and qualitative data. This design was selected to evaluate changes in key indicators—educational outcomes, impact on hunger, and stakeholder satisfaction—from participants' perspectives after experiencing the intervention, specifically during the study period (December 2022 – March 2023). The retrospective

approach allowed for an efficient and reflective assessment of program effects. The mixed-methods approach ensured robust analysis: **quantitative data** provided measurable evidence of outcomes, while **qualitative insights** offered a deeper understanding of the program's impact and implementation challenges.

2.2.2. Study Coverage

To comprehensively assess the process and outcome indicators aligned with the objectives of the study, a mix of **primary and secondary data** was collected. This approach enabled a holistic evaluation by capturing both qualitative and quantitative dimensions. The data collection tools were meticulously structured to cater to the unique perspectives of various target groups across the **demand and supply sides** of the Mid-Day Meal (MDM) program.



• Demand-Side Target Groups

- **Students:**
 - The primary beneficiaries, specifically those from Grades 6 to 10, were surveyed to understand their perspectives on meal quality, satisfaction, and its perceived impact on health, attendance, and academic performance.
- **Teachers and Headmasters:**
 - Their insights provided an understanding of the program's influence on classroom behavior, attendance trends, and teaching-learning processes.
- **Parents:**
 - As indirect stakeholders, parents offered valuable perspectives on the program's role in influencing their children's nutritional well-being & motivation to attend school.



• Supply-Side Target Groups

- **Government Officials:**
 - Their views shed light on policy-level implementation challenges, interdepartmental coordination, and monitoring mechanisms.
- **School Relationship Officers (SROs):**
 - As key intermediaries between TAPF and schools, SROs provided operational insights into the delivery and management of the program.
- **The Akshaya Patra Foundation (TAPF) Kitchens:**
 - Evaluating TAPF's kitchen operations in terms of meal preparation, hygiene standards, quality assurance, and logistical efficiency formed a critical component of the study.

2.2.3. Sampling

A. Sample Size Estimation

To ensure a robust evaluation of the intervention's impact, the sample size was set at **150 participants**, covering both states. This number was determined based on a power analysis to detect a **medium effect size (Cohen's $d = 0.5$)** using a **paired t-test**. The selected sample size ensures a **99% statistical power** (well above the standard threshold of 80%) at a **95% confidence level**, providing a 99% chance of detecting true changes if they exist. This approach guarantees statistically reliable results, enabling the study to draw meaningful conclusions about the intervention's effectiveness.

To achieve the sample size of 150, **15 schools were visited**, with **10 students selected from each school** across the two states of **Odisha & Karnataka**. This method ensured comprehensive coverage and representation of the target population.

In addition to student data collection, information was gathered from **15 School In-charges** and **15 Nodal Teachers (Mid-Day Meal)** through structured interviews. Observations and data abstraction were also conducted for each school to assess program implementation. **Qualitative interviews** were carried out to incorporate perspectives from supply-side stakeholders, providing deeper insights into the operational aspects and challenges of the program.

B. Sample Selection

A **four-stage stratified sampling approach** was adopted for selection of study sites, schools, and respondents to ensure a robust and representative selection.

1.Stage 1 - Selection of States

□ **Rationale:** Four states namely Uttar Pradesh, Gujarat, Odisha and Karnataka were initially identified as part of the study scope. To ensure adequate representation **(50%)**, **two states** were selected through purposive sampling. This ensured regional and contextual diversity while keeping the study manageable within the given timeframe.

□ **States Selected:** **Odisha and Karnataka**

Stage 2 - Selection of Location

□ **Rationale:** **Three locations** were selected based on factors such as program coverage, operational models, and logistical variations, ensuring that the findings reflect both challenges and successes across different settings.

□ **Criteria for Selection:**

- Locations where TAPF delivered meals under Axis Bank CSR Initiative support (as provided by TAPF).
- Locations where winter vacations would not disrupt data collection during the study period.

□ **Locations Selected:** **Rourkela in Odisha, Ballari and Hubli in Karnataka.**

Stage 3 - Selection of Schools

□ **Rationale:** Schools were selected from a list shared by TAPF, ensuring alignment with the program's operational scope and target group (students of Grades 6-10). **Total 15 schools, 5 schools selected per location.**

□ **Criteria for Selection:**

- Schools catering to Grades 6-10.
- Schools with more than 100 students enrolled, ensuring sufficient sample size per school.
- Preference was given to schools with larger student populations to facilitate adequate representation for the retrospective design.

□ **Sampling Methodology:** From the eligible schools, a **random sampling** technique was applied to ensure fairness while maintaining the predefined criteria.

Stage 4 - Selection of Students

□ **Rationale:** The focus was on capturing responses from students who had directly experienced the program during the study timeframe. **Total 150 Students, 10 students selected per school.**

□ **Criteria for Selection:**

- Students who were enrolled in the selected schools between December 2022 and March 2023.
- Students present in school on the day of data collection.
- This ensured that the sampled students had adequate exposure to the program and could provide valid responses.

C. Study Tools

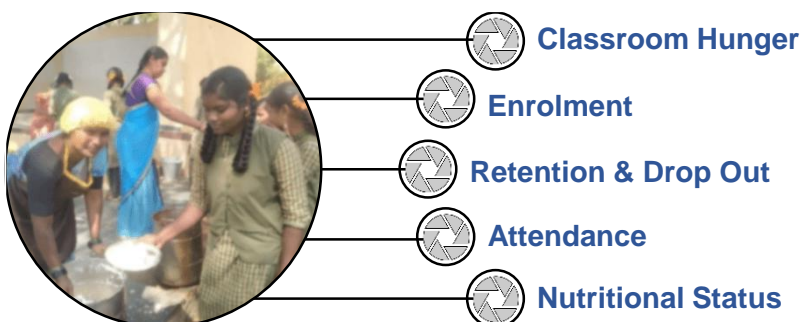
In addition to conducting student interviews to assess their satisfaction with the Mid-Day Meal (MDM) program, we recognized the potential for recall bias in their responses. To complement these insights, we sought the perspectives of **teachers and headmasters**, who play a critical role as stakeholders in the program. Their input helped us understand not only student satisfaction but also the **logistics, challenges, and success stories** associated with MDM implementation.

Key Areas of Inquiry: Satisfaction Survey



Since our study involved school visits, we conducted a **transect walk** to triangulate findings from student and teacher interviews. This allowed us to compare the **reported experiences of December 2022 – March 2023** with the **current situation**, helping us assess any changes over time. If current conditions indicate challenges such as resource constraints, this provides valuable context for understanding past conditions as well. Additionally, we reviewed **school records and registers** related to **enrollment, attendance, and other key indicators** to objectively assess the program's impact.

Key Areas of Inquiry: Impact of Mid-day Meal Program



To capture community perspectives, we conducted **focus group discussions (FGDs)** with **parents**, exploring their views on the impact of the MDM scheme on **child health and nutrition** and whether they perceive it as beneficial.

Finally, to gain a **comprehensive understanding of the supply-side dynamics**, we visited **centralized kitchens** and engaged with **Kitchen Staff, School Relationship Officers, Block Nodal Officers for MDM, and School Management Committee members**. These interactions provided deeper insights into the **operational challenges, best practices, and overall effectiveness** of the Mid-Day Meal program.

D. Sample Distribution by Study Tools

The sample distribution for MDM Impact Assessment by Study Tools and target respondents/groups is shown in Table 2.1.

Table 2.1 – Sample Distribution by Study Tools and Target Respondents			
Data Type	Tools for Data Collection	Respondents	IA - MDM Scheme
Quantitative	Face to Face - Satisfaction Survey/Questionnaire	School Students (@10 per school)	165
		Teacher (@1 per school)	16
	Semi Structured Interview	School In-charge/Head Master (@1 per School)	15
	Infrastructure Assessment - Observation Checklist	School Observation (@1 Assessment per School)	14 ⁶
		Centralized Kitchen Observation (@ 1 Assessment per location)	3
	Data Abstraction	School Records Review (@1 Abstraction per School)	14
	Total Quantitative Questionnaires for all 15 Schools (@5Tools per School)		227
Qualitative	Key Informant Interviews	School Relationship Officers (@ 1 per location)	1
	In Depth Interviews	Block Nodal Officer for MDM (@ 1 per location)	1
		Kitchen Staff/Helpers (@ 1-2 per location)	4
	Dyad/Triad	School Management Committee or Village Education Committee (@ 1 per location, wherever possible)	3
	Focused Group Discussion (FGD)	Parents of Student beneficiaries of MDM during study time frame (Mini FGDs @ 1 per location, wherever possible)	3
	Total Qualitative Questionnaires		12

E. Scope and Limitations

Some key limitations of this assessment must be kept in mind before interpreting the findings. Given its **retrospective design**, the study did not include direct measurements of students' **nutritional status**. Instead, it relied on **available school records, qualitative interviews, and field observations**, ensuring a well-rounded assessment of the program's effectiveness. While the reliance on participant recall introduces the possibility of **recall bias**, the study mitigated this through **triangulation**—cross-verifying information from multiple sources, including school staff, parents, and official records.

Additionally, the study was conducted within a **restricted timeframe** to accommodate school schedules and avoid disruptions due to upcoming vacations. Despite this, the use of **structured tools and standardized data collection protocols** ensured that key **trends, challenges, and best practices** were captured effectively.

While these limitations are acknowledged, they do not diminish the **significance** of the study. The findings offer **critical evidence** on the program's implementation and impact, providing

⁶ In one school permission for transect walk and record review were not granted; however, this did not affect the overall findings, as sufficient data was gathered from other sources to ensure a comprehensive assessment.

actionable insights for policymakers, stakeholders, and implementing agencies to enhance the **reach and effectiveness** of the Mid-Day Meal scheme.

2.3 Data Handling & Analysis

The **quantitative data**, collected through **Google Forms**, was **cleaned, coded, and processed** in accordance with the **Results Analysis Plan**. Analytical tables were generated to align with the **evaluation study's objectives**, ensuring a structured and systematic examination of key findings.

The **qualitative data** complemented the quantitative analysis by providing **deeper insights into emerging trends** identified through structured questionnaires. The qualitative responses captured detailed perspectives on the implementation mechanisms at various levels, including their efficacy, nutritional impact, economic considerations, and time requirements for meal preparation. Additionally, they shed light on manpower availability, infrastructure adequacy, and the monitoring and supervision processes at different administrative levels, offering a **holistic understanding of the Mid-Day Meal program's operational dynamics**.

Throughout the report, State-level percentages are reported as observed, and overall percentages are computed as weighted averages.

The next chapter provides details of the various groups of respondents covered under the study's purview.

Chapter 3: Description of Survey Sample

“The quality of education is determined not only by what happens in the classroom, but also by the environment in which learning takes place.” - Tony Wagner

This chapter provides an in-depth overview of the schools, students, teachers, and parents involved in the study, highlighting key characteristics and infrastructure across the surveyed regions of Karnataka and Odisha. Understanding these factors is essential to interpreting the results and assessing the broader impact of the mid-day meal program.

3.1 Profile of Schools

The study includes **15 schools** across **Karnataka** and **Odisha**. The schools represent a diverse mix of **government high schools** and **upper primary schools**. The total number of students ranges from **109 to 597**, with an **average of 246 students per school**. The schools vary in size and location, with some situated in urban areas and others in more rural settings.

Overall Overview:

- **Total Number of Schools: 15 schools**
- **Average Number of Students:** The average number of students per school is **246**.
- **Facilities:** Most schools have adequate infrastructure such as **toilets, drinking water, and drainage systems**, though some face challenges in areas like **playgrounds, separate toilets for boys and girls, and waste management**.
- **Playgrounds:** **9 out of 14 schools** lack playgrounds, potentially limiting students' access to physical activity.
- **Water:** All schools have drinking water facilities, with some schools reporting issues related to the **quality or availability** of water.

- **Total Number of Schools:** 10 schools
- **Average Number of Students:** 248.
- **Water & Sanitation:**
 - **All schools** report having functional drinking water facilities.
 - **Drainage:** **8 schools** maintain functional drainage systems, but 1 school reports issues with drainage.
- **Toilets & Waste Management:**
 - **8 schools** have clean and functional toilets, while 1 school faces cleanliness issues.
 - **Waste management practices** - mostly adequate, some concerns in **2 schools** regarding uncollected organic waste.
- **Playgrounds:** **4 schools** have playgrounds, while **5 schools** lack this facility.
- **Separate Toilet for Boys and Girls:** **All schools**

Karnataka Schools Profile



- **Total Number of Schools:** 5 schools
- **Average Number of Students:** 217.
- **Water & Sanitation:**
 - **4 schools** report safe drinking water.
 - **Drainage:** **All schools** have functional drainage systems, but some report minor issues with drainage capacity.
- **Toilets & Waste Management:**
 - **All schools** have functional toilets.
 - **Waste disposal** is generally proper, but some schools report irregular collection.
- **Playgrounds:** **2 schools** have playgrounds, while **3 schools** lack them.
- **Separate Toilet for Boys and Girls:** **All schools**

Odisha Schools Profile



3.2 Profile of Students

This section provides a comprehensive overview of the student profile across the surveyed schools in Karnataka and Odisha, covering socio-demographic and economic indicators.

3.2.1. Age and Grade Distribution

The **majority of surveyed students (71.5%)** are **between the ages of 11 and 15 years**, while 27.9% fall within the 15-20 age bracket. Only a single student was recorded as below 10 years.

In terms of grade distribution, the highest proportion of students are from **Grade 9 (33.3%)** and **Grade 10 (31.5%)**. The remaining students are distributed across Grades 6 to 8. Odisha has a higher representation of younger students in Grades 7 and 8 compared to Karnataka, where a greater proportion is in Grades 9 and 10. (Table 3.1)

3.2.2. Gender and Residence

Female students form a majority, comprising **60.6%** of the sample, while male students make up 39.4%. This trend is consistent across both states, with Odisha having a slightly higher proportion of female students (58.5%) compared to Karnataka (61.6%).

In terms of residence, **78.2% of students belong to rural areas**, while 21.8% come from urban settings. The urban representation is higher in Karnataka (32.1%) compared to Odisha, where all surveyed students belong to rural areas. (Table 3.1)

3.2.3. Religious Background

The student population is predominantly Hindu, comprising 92.7% of the total sample. Muslim students account for 7.3%. This distribution is similar across both states, with a slightly higher representation of Muslim students in Karnataka (6.3%) compared to Odisha (9.4%). (Table 3.1)

3.2.4. Caste and Socioeconomic Background

The surveyed students belong to diverse caste groups. Overall, **40%** of the students belong to the **General category**, followed by 30.3% from Other Backward Classes (OBC), 12.1% from Scheduled Castes (SC), and 11.5% from Scheduled Tribes (ST). A very small proportion (0.6%) belong to minority communities. In Odisha, the majority of students (52.8%) are from the General category, whereas in Karnataka, a higher proportion belongs to OBC (39.3%) and SC (10.7%) categories.

Regarding socioeconomic status, a significant majority (**87.9%**) of the students hold a **Below Poverty Line (BPL) card**,⁷ indicating economic vulnerability. This trend is consistent across both Karnataka and Odisha, with a slightly higher percentage of BPL cardholders in Odisha (90.5%). (Table 3.1)

Table 3.1 – Profile of Students				
SN.	Indicator	Overall (%)	Odisha (%)	Karnataka (%)
	Gender			
1.	Female Students	60.6	58.5	61.6
2.	Male Students	39.4	41.5	38.4

⁷ For the purpose of this study, a **BPL (Below Poverty Line) Card** is defined as possession of any of the following: **One Nation One Ration Card (ONORC)**, **Antyodaya Anna Yojana (AAY) Card**, or **Priority Household (PHH) Ration Card**.

	Place of Residence			
3.	Rural	78.2	100	67.9
4.	Urban	21.8	0	32.1
	Religion			
5.	Hindu	92.7	90.6	93.8
6.	Muslim	7.3	9.4	6.3
	Caste			
7.	General Category	40.0	52.8	33.9
8.	Other Backward Castes (OBC)	30.3	11.3	39.3
9.	Scheduled Caste (SC)	12.1	15.1	10.7
10.	Scheduled Tribe (ST)	11.5	20.8	7.1
11.	BPL Card Holders	87.9	90.6	86.6

3.3 Profile of Teachers covered under the study

This section provides insights into the demographics, qualifications, experience, and roles of the teachers surveyed across the selected schools in Karnataka and Odisha.

3.3.1. Teaching Experience

The gender distribution among teachers shows a slight male predominance, with **56.25%** of teachers being male and **43.75%** female. The predominant designation is **Subject Teacher (75%)**, followed by Assistant Teacher (6.25%), and other roles such as Physical Education Teacher, MDM Incharge, and Drawing Teacher.

The teaching experience of surveyed teachers varies significantly. About **31.3%** have between **2-5 years of overall experience**, while 25% have 21-25 years of experience. Other teachers are distributed across different experience brackets, with a small number having over 26 years of experience.

When considering their tenure at their current school, **56.3%** have been teaching at the same school for **2-5 years**, while 18.8% have served for 6-10 years. Fewer teachers have longer tenure at their current school, with only 6.3% having 11-15 years of service.

3.3.2. Teachers' Role in the Mid-Day Meal (MDM) Program

Teachers also play a role in the implementation of the Mid-Day Meal (MDM) program. Their involvement varies, with responsibilities including meal distribution supervision, taste testing, logistics handling, hygiene monitoring, and coordination with kitchen staff.

- **Meal Distribution Supervision:** 18.75% of teachers are responsible for ensuring meals are properly distributed among students.
- **Taste Testing:** 18.75% of teachers conduct quality checks and taste tests of the food before it is served.
- **Logistics Handling:** 25% of teachers assist with serving and managing food logistics.
- **Hygiene Monitoring:** 6.25% of teachers ensure cleanliness and hygiene are maintained during meal distribution.
- **Kitchen Coordination:** 12.5% of teachers work closely with kitchen staff to ensure smooth operations.
- **Multiple Roles⁸:** 18.75% of teachers are involved in all aspects of the MDM program, particularly the MDM in-charge teachers.

⁸ They are different teachers involved in different roles as we had separate option in this question for teachers who were serving in multiple capacities/roles.

Overall, the teacher profile highlights a well-qualified and experienced workforce, with significant involvement in both academic and non-academic responsibilities, including the Mid-Day Meal program, contributing to the overall well-being of students.

Table 3.2 – Profile of Teachers				
SN.	Indicator	Overall (%)	Odisha (%)	Karnataka (%)
Place of Residence				
1.	Rural	75	100	62.5
2.	Urban	25	0	37.5
Religion				
3.	Hindu	87.5	100	75
4.	Muslim	12.5	0	25
Caste				
5.	General Category	50	50	50
6.	Scheduled Caste (SC)	26.56	50	12.5
7.	Other Backward Castes (OBC) ⁹	31.25	0	50
Educational Qualification				
8.	Bachelor's Degree	31.25	83.3	0
9.	Master's Degree	56.25	16.7	80
10.	Diploma in Elementary Education	6.25	0	12.5
11.	A.M.G.D Course	6.25	0	12.5

3.4 Profile of Parents covered under the study

This section provides insights into the socio-demographics and economic indicators of the parents surveyed across the selected locations in Karnataka and Odisha.

3.4.1 Parents Profile Summary

The place of residence of the families shows a notable trend, with **78.18%** of families residing in **rural areas**, while the remaining **21.82%** are in **urban areas**. In terms of **religion**, the vast majority of families identify as **Hindu** (92.73%), while **Muslim** families make up the remaining 7.27%.

The education level of mothers shows a diverse range, with the majority having completed education up to **9-12th standard** (36.97%), followed by those with **1-5th standard** education (22.42%). However, a significant portion of mothers are **illiterate** (15.76%) and a small percentage are **literate but with no formal education** (4.85%). A small proportion of mothers have pursued education beyond high school, with **Postgraduate** and **Undergraduate** qualifications making up 0.61% and 1.81%, respectively.

Fathers' education levels are similarly distributed, with **9-12th standard** being the most common (42.42%), followed by **1-5th standard** education (20.00%). A smaller percentage of fathers are either **illiterate** (11.52%) or **literate but without formal education** (3.64%).

For **mother's occupation**, a substantial proportion of mothers are **housewives** (50.30%). Other occupations include **daily wage laborers** (12.73%), **self-employed** individuals (12.12%), and **those involved in farming or agriculture** (12.12%).

⁹ The OBC category includes 3A (Vokkaliga and others) and 3B (Lingayat and others). The overall percentages are calculated using a weighted average based on the number of teachers in Odisha and Karnataka. Due to rounding and the weighted calculation method, the total may not always sum to exactly 100%.

Fathers' occupations are primarily in **self-employment** (32.73%), followed by **farming/agriculture** (31.51%), and **salaried jobs (private or government)** (19.39%). There are also some **daily wage laborers** (15.16%).

Regarding **BPL Card** status, the majority of families possess a **BPL card** (87.88%), with a small portion not knowing about their BPL status (1.82%) or not having a BPL card (10.30%).

Table 3.3 – Profile of Parents					
SN.	Indicator	Overall (%)	SN.	Indicator	Overall (%)
	Place of Residence			Mother's Occupation	
1.	Rural	78.18	18.	Daily Wage Labour	12.73
2.	Urban	21.82	19.	Farming/Agriculture	12.12
	Religion		20.	Housewife	50.3
3.	Hindu	92.73	21.	Salaried (government)	4.24
4.	Muslim	7.27	22.	Salaried (private)	7.88
	Mother's Education		23.	Self Employed	12.12
5.	1-5th standard	22.42	24.	Unemployed	0.61
6.	6-8th standard	17.58		Father's Occupation	
7.	9-12th standard	36.97	25.	Daily Wage Labour	15.16
8.	Illiterate	15.76	26.	Farming/Agriculture	31.51
9.	Literate but no formal education	4.85	27.	Salaried (government)	5.45
10.	Postgraduate	0.61	28.	Salaried (private)	13.94
11.	Undergraduate	1.81	29.	Self Employed	32.73
	Father's Education		30.	Unemployed	1.21
12.	1-5th standard	20		BPL Card Holder	
13.	6-8th standard	16.97	31.	Yes	87.88
14.	9-12th standard	42.42	32.	No	10.3
15.	Illiterate	11.52	33.	Don't Know	1.82
16.	Literate but no formal education	3.64			
17.	Undergraduate	5.45			

The next chapter provides the students satisfaction with the Mid-day Meal provided in the school.

Chapter 4: Students Satisfaction with Mid-day Meal

“Even if people are still very young, they shouldn’t be prevented from saying what they think.” - Anne Frank

The Mid-Day Meal (MDM) program plays a crucial role in addressing students' nutritional needs while supporting their overall well-being and academic engagement. Assessing student satisfaction provides valuable insights into the program's effectiveness and identifies opportunities for improvement.

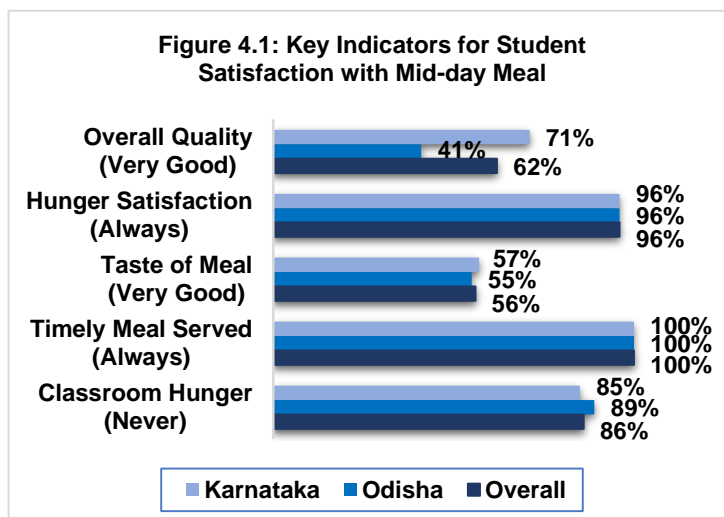
4.1. Key Findings

1. Universal Participation

All students in both Karnataka and Odisha (100%) reported receiving and consuming meals at school during the recall period (December 2022 to March 2023), demonstrating full program participation.

2. Food Quality and Satisfaction

- **Taste:** A majority of students rated the food quality positively. In Karnataka, 71% found it “very good,” while 62% of the total sample shared this sentiment.
- **Hunger Satisfaction:** 96% of students reported that the meal quantity was sufficient to satisfy their hunger, indicating high satisfaction with portion sizes.



3. Favourite Meals

- **Karnataka:** Rice Sambar (30%) and Pulao (29%) were the most preferred dishes.
- **Odisha:** Paneer Curry was favoured by 68% of students.

4. Meal Delivery and Hygiene

- **Timeliness:** 100% of students confirmed that meals were served on time.
- **Handwashing Practices:** 98% of students washed their hands before eating, reflecting strong hygiene awareness.

5. Equity in Meal Distribution

- **Fairness:** 87% of students felt that meals were distributed equitably. However, 16.07% in Karnataka reported disparities.
- **Staff Friendliness:** 87% of students described kitchen staff as kind and approachable, while 13% indicated room for improvement.

Table 4.1 – Hygiene and Social Equity Indicators				
SN.	Indicator	Overall (%)	Odisha (%)	Karnataka (%)
	Handwashing before Eating (with water)			
1.	Always	98.18	98.11	98.21
	Meals served equally to all			
2.	Yes	87.27	96.23	83.04
	Friendliness of Kitchen Staff			
3.	Yes	87.27	96.23	83.04

6. Impact on Hunger, Concentration and Participation

- 86% of students reported feeling full after meals, with 5% sometimes still experienced hunger.
- 79% believed that without the MDM, they would struggle with hunger and reduced concentration in school/classroom
- 86% felt their attendance and participation would decline in the absence of the program, while 84.85% indicated it would negatively impact their learning.

7. Health Benefits

- 98% of students reported that the MDM improved their health, making them feel more energetic and less prone to illness.

8. Support for Program Continuation

- 99% of students expressed willingness to continue receiving meals through the program, demonstrating strong trust and approval.

9. Areas for Improvement

While a majority of students were satisfied, some suggested enhancements in food quality, menu variety, and portion sizes. However, 55% felt no changes were necessary, indicating broad overall satisfaction.

4.2. Inferences:

The Mid-Day Meal Program has successfully ensured high participation, satisfaction, and positive outcomes for students in both Karnataka and Odisha. The findings indicate that the program effectively meets students' nutritional needs while fostering equitable distribution, good hygiene practices, and timely meal delivery. Moreover, the friendliness of kitchen staff further enhances the experience. Regional variations in meal preferences highlight the need for menu adjustments to better align with local tastes. While the majority of students felt full and satisfied after meals, a small percentage reported persistent hunger, warranting further attention. Addressing minor concerns related to meal distribution fairness, food quality, and portion sizes will further strengthen the program's impact.

Figure 4.2: School Meals in Action: Voices and Visuals



4.3. Recommendations for Enhancement

1. Menu Diversification	<ul style="list-style-type: none"> • Incorporate more region-specific dishes and seasonal variations to better align with student preferences. • Implement periodic feedback mechanisms to refine meal offerings based on student preferences.
2. Addressing Hunger Post-Meals	<ul style="list-style-type: none"> • Evaluate portion adequacy for students who still feel hungry after meals. • Explore options for increasing portions for higher grades with higher caloric needs.
3. Ensuring Equity in Meal Distribution	<ul style="list-style-type: none"> • Conduct regular monitoring to address reports of unequal distribution, particularly in Karnataka. • Strengthen and train kitchen staff and meal distributors on equitable practices.
4. Reinforcing Hygiene Practices	<ul style="list-style-type: none"> • While handwashing (with water) rates are high, continued reinforcement of hygiene practices—especially among younger students—can further enhance food safety. • Integrate hygiene education into school curriculums or implement refresher sessions.
5. Sustaining Timely Meal Service	<p>Given the program's success in ensuring on-time delivery, maintaining these standards will reinforce student trust and program reliability.</p>

4.4. Conclusion

The Mid-Day Meal Program in Karnataka and Odisha has significantly contributed to student well-being, nutrition, and academic engagement. With overwhelmingly positive feedback and a strong willingness to continue participation, the program has demonstrated its effectiveness. By addressing minor gaps in menu variety, portion adequacy, meal distribution equity, and hygiene reinforcement, the program can further enhance its impact.

Continued efforts to maintain high-quality food, equitable service, and timely delivery will ensure that the Mid-Day Meal Program remains a cornerstone of student support, fostering both health and learning outcomes for years to come. We commend all stakeholders involved in its successful implementation and look forward to its sustained progress.

Chapter 5: Teachers Satisfaction with Mid-day Meal

“There can be no keener revelation of a society’s soul than the way in which it treats its children.” — Nelson Mandela

This powerful statement underscores the profound societal responsibility to prioritize children’s well-being and education. In the context of the Mid-Day Meal (MDM) Programme, this quote highlights how a society’s treatment of its children, through initiatives like MDM, directly reflects its commitment to their health, education, and future. Teacher satisfaction with the program serves as a key indicator of this commitment, as they observe firsthand how the meals impact not only children’s nutrition and school attendance but also their social engagement and academic performance. This chapter delves into the vital role that teachers play in assessing the effectiveness of the MDM programme in Odisha and Karnataka, emphasizing how these meals contribute to a more nurturing, supportive learning environment for children.

5.1. Key Findings

1. Teachers' Role in Implementing the Mid-Day Meal Programme

All teachers in both states ensured hygiene, sanitation, and discipline during mealtimes, demonstrating a high level of commitment to the programme. While all teachers in Odisha regularly provided nutrition, health, and hygiene education to students, only 40% of teachers in Karnataka did so consistently.

Regarding additional responsibilities, **75% of teachers overall** were involved in arranging provisions for the meals, with full participation from teachers in Odisha (100%) and **60% in Karnataka**. The role of teachers in meal preparation varied significantly between the two states; while none of the teachers in Odisha were engaged in cooking, **40% of teachers in Karnataka** contributed to meal preparation, bringing the overall figure to **25%**. Teachers also assisted in serving meals, though this responsibility was primarily observed in Karnataka, where **70% of teachers** were involved, compared to none in Odisha. This resulted in an overall participation rate of **44%** in serving meals.

SN.	Indicator	Overall (%)	Odisha (%)	Karnataka (%)
1.	Arrangement of Provisions	75	100	60
2.	Cooking MDM	25	0	40
3.	Serving MDM	43.75	0	70

1a. Perceptions of Additional Burden

Teachers’ perceptions regarding whether the MDM programme affected their teaching quality were mixed. In Karnataka, 60% strongly disagreed that it posed an additional burden, whereas in Odisha, all teachers strongly agreed that it negatively impacted their teaching responsibilities.

2. Teachers’ Perception of Meal Quality and Quantity and Social Equity

2a. Quality of Meals

Teachers’ feedback on the quality of meals provided under the MDM scheme was largely positive. Overall, **85%** of teachers were satisfied with meal quality, with **82%** in Odisha and

¹⁰ Sections 3.3.2 and the subsequent question addressed distinct aspects of teachers’ roles. The former focused on their designated responsibilities, explicitly including MDM service as an option. However, actual job roles often extend beyond formal designations, leading to engagement in multiple activities. While the first question captured official roles, the latter aimed to understand their real-world involvement in various tasks.

88% in Karnataka expressing approval. Most teachers found the taste, freshness, and nutritional adequacy satisfactory. However, some concerns were noted regarding variety and consistency in food preparation, particularly in remote schools where decentralized kitchen model is being used, as they have limited access to fresh ingredients. (Table 5.2)

2b. Quantity of Meals

The adequacy of meal portions was another key aspect assessed. **Overall, 80% of teachers** found the portion sizes sufficient, with **83% in Karnataka** and **78% in Odisha** agreeing that the meals adequately met students' hunger needs during school hours. However, **15% of teachers overall** found meal portions sometimes insufficient, with slightly higher concern in Odisha (**17%**) compared to Karnataka (**12%**). A small fraction (**5% overall**) reported that the meal portions were consistently insufficient, with both Odisha and Karnataka registering the same dissatisfaction rate (**5%**). The feedback suggests a need for revisiting portion sizes, particularly for older students with higher dietary requirements. (Table 5.2)

2c. Social Equity

Teachers widely acknowledged equitable treatment of students during meal distribution. **93.75% of teachers overall** reported that students were treated equally, with **100% of teachers in Odisha** and **90% in Karnataka** affirming that all students received the same plates, portions, and access to meal-related resources. Additionally, **93.75% of teachers overall** perceived kitchen staff as friendly and kind towards students, again with **100% approval in Odisha** and **90% in Karnataka**. (Table 5.2)

Table 5.2 – Teachers Perception regarding Quality, Quantity of meals & Social Equity				
SN.	Indicator	Overall (%)	Odisha (%)	Karnataka (%)
Satisfaction with Meal Quality				
1.	Satisfied	85	82	88
2.	Neutral	10	12	8
3.	Dissatisfied	5	6	4
Satisfaction with Meal Quantity				
4.	Sufficient	80	78	83
5.	Sometimes insufficient	15	17	12
6.	Insufficient	5	5	5
Social Equity				
7.	Students were treated equally ¹¹ (Yes)	93.75	100	90
8.	Kitchen Staff friendly and kind to students (Yes)	93.75	100	90

¹¹ Equally here means same plates, same quantity, same place – If one student could take or touch something, all students should have been allowed to take and touch those things)

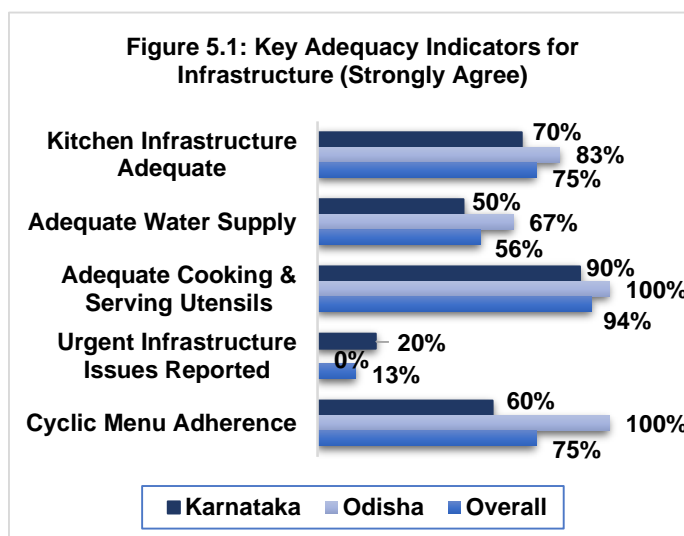
3. Teachers' Perception of Infrastructure and Hygiene

3.1 Infrastructure Facilities

Teachers generally rated the hygiene and cleanliness of cooking/serving facilities as satisfactory in both states. **Overall, 75% of teachers** found kitchen infrastructure to be adequate, with **83.33% in Odisha** and **70% in Karnataka** affirming the sufficiency of kitchen facilities. Similarly, **93.75% of teachers overall** reported that cooking and serving utensils were adequate, with **100% in Odisha** and **90% in Karnataka** agreeing.

However, the availability of clean water for cooking varied between states. **Overall, 56.25% of teachers** found the water supply adequate, with **66.67% in Odisha** perceiving it as sufficient compared to only **50% in Karnataka**. Additionally, **12.5% of teachers overall** highlighted urgent infrastructure issues, though concerns were only raised in Karnataka (**20%**), while none were reported in Odisha. Concerns were raised regarding storage conditions, lack of clean water for cooking, and insufficient waste disposal mechanisms.

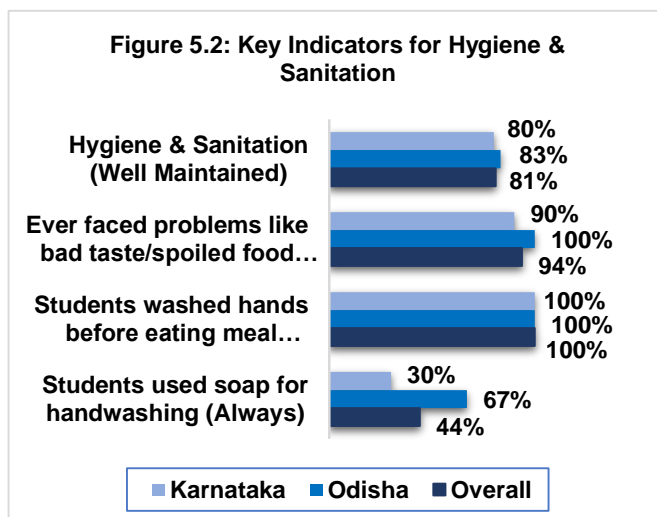
Regarding adherence to a cyclic menu, **75% of teachers overall** observed compliance, with full adherence reported in Odisha (**100%**) compared to **60% in Karnataka**.



3.2 Student Hygiene & Sanitation

A majority of teachers were satisfied with serving practices, including the use of clean utensils and adherence to hygiene protocols during food distribution. **Overall, 81.25% of teachers** reported that hygiene and sanitation were well maintained, with **83.33% in Odisha** and **80% in Karnataka** affirming good hygiene standards.

Regarding meal quality, **93.75% of teachers overall** stated that they had never encountered problems like bad taste or spoiled food, with **100% in Odisha** and **90% in Karnataka** reporting no such issues. Notably, when issues did arise, they were resolved promptly **80% of the time**.



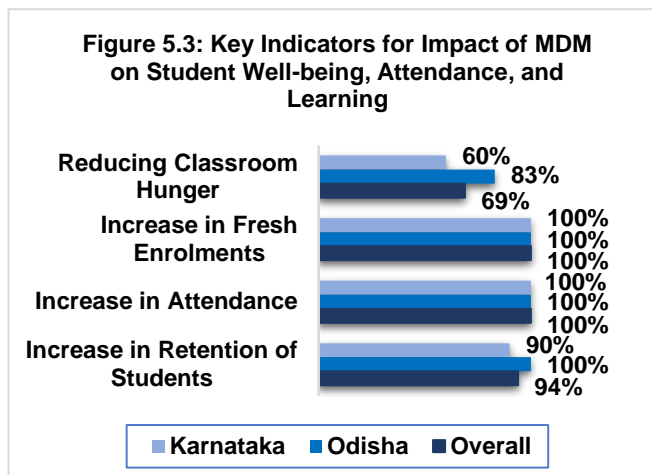
Handwashing practices were observed consistently across schools. **All teachers (100%)** confirmed that students always washed their hands before meals. However, the use of soap for handwashing was inconsistent, with **only 43.75% of teachers overall** reporting that soap was always used—**66.67% in Odisha** compared to **30% in Karnataka**.

4. Impact of MDM on Student Well-being, Attendance, and Learning

4.1 Classroom Hunger and Attention Levels

Overall, **68.75% of teachers** reported that the programme effectively reduced classroom hunger, with **83.33% in Odisha** and **60% in Karnataka** confirming this benefit.

Regarding classroom attentiveness, **80% of teachers in Odisha** and **70% in Karnataka** noted that students were more focused and engaged after consuming meals. The assurance of a meal appeared to reduce instances of lethargy, contributing to better concentration in afternoon sessions.



4.2 Attendance, Retention and Fresh Enrolment Outcomes

Teachers overwhelmingly reported a positive impact of the MDM programme on student attendance. Overall, 100% of teachers agreed that the assurance of a nutritious meal encouraged regular school attendance.

The programme played a role in student retention, as **all teachers in Odisha** observed improved retention rates, and **90% in Karnataka** reported this outcome. The programme also played a role in increasing fresh enrolments, with **100% of teachers across both states** recognizing its role in attracting new students.

4.3 Potential Consequences of MDM absence

Teachers overwhelmingly agreed on the critical role of the Mid-Day Meal (MDM) programme in supporting student well-being, attendance, and learning. Without the MDM, **87.5% of teachers** believed students would feel hungry or struggle to concentrate (**90% in Karnataka, 83.3% in Odisha**). Regarding alternative food sources, **62.5% of teachers** felt students would bring food from home, though **50% in Odisha** reported that many would not eat at all. The absence of MDM was also seen as a major threat to school participation, with **87.5% overall (100% in Odisha, 80% in Karnataka)** stating it would negatively impact attendance. Furthermore, all teachers (**100%**) agreed that not receiving the MDM would hinder learning, and they unanimously credited the programme with improving children's health by providing more energy and reduced instances of illness.

5. Program Implementation and Feedback

5.1 Timeliness of Meal Preparation and Serving

One of the logistical concerns highlighted was the timeliness of meal preparation and serving. While **87% of schools in Odisha** adhered to the designated lunch timings, **82% of schools in Karnataka** met this target. In both states, the delays were often attributed to supply chain disruptions or inadequate cooking facilities, leading to a shortened lunch break and reduced teaching time.

5.2 Programmatic Feedback

When asked about the shortage of trained or skilled staff for meal preparation and distribution, **81.25%** of teachers across both states did not view it as a major challenge, with only **18.75%** indicating it as a concern. Similarly, **87.5%** of teachers did not perceive a shortage of contingency funds as a significant challenge. Notably, **100%** of respondents from Odisha reported no issues with school authority coordination, and **87.5%** of teachers across both states felt community or parental involvement was sufficient.

Several teachers shared valuable feedback on potential improvements. Suggestions included diversifying vegetable offerings, improving the quality of rice, and ensuring the continuation of the program.

6. Overall Satisfaction and Recommendations

6.1 General Satisfaction Levels

Overall, teacher satisfaction with the MDM programme was high in both states, particularly in terms of its contribution to student health, attendance, and classroom engagement. **In Karnataka, 50%** of teachers reported being "Very Satisfied" with the program, and **20%** were "Satisfied." **In Odisha, 50%** of teachers reported being "Satisfied," while **33%** expressed being "Very Satisfied." Areas that could benefit from enhancement include meal variety, hygiene infrastructure, and logistical efficiency.

5.2. Inferences

1. Meal Quality and Quantity

Overall, teachers in both Odisha and Karnataka expressed satisfaction with the taste and nutritional quality of the meals. However, there were concerns regarding the variety and portion sizes, especially for older students. While most teachers found portions adequate, adjusting them based on age and introducing greater variety could improve the program's impact. These insights suggest a need to consider diverse meal options and better portioning to meet the nutritional requirements of all students.

2. Infrastructure and Hygiene

While infrastructure standards are satisfactory, there is room for improvement in water supply and storage conditions, particularly in Karnataka. Additionally, although hygiene practices are maintained well, access to soap for handwashing remains a concern in certain schools. Addressing these issues by improving water access and handwashing facilities would further enhance overall hygiene standards and contribute to the health and safety of students.

3. Impact of MDM

Teachers in both Odisha and Karnataka observed improvements in attendance, and meals were found to help reduce afternoon fatigue, thus improving student attention. These findings highlight the significant role of the program in supporting both academic performance and overall student well-being, making it vital to continue prioritizing its implementation.

4. Absence of MDM

These insights underscore the vital role of the MDM programme in enhancing students' health, attendance, and learning outcomes. MDM plays an indispensable role in ensuring students' nutritional security and academic engagement, especially for those from economically disadvantaged backgrounds.

5. Overall Teacher Satisfaction and Feedback:

Teacher satisfaction with the program was generally high across both states, reflecting its positive impact. However, there are opportunities for further enhancement, particularly in areas such as meal variety, hygiene infrastructure, and the timeliness of meal delivery. By investing in infrastructure, providing additional staff training, and strengthening supply chain management, the program can further improve meal delivery efficiency and maintain high-quality standards consistently.

5.3. Recommendation for Enhancement

1. Expand meal variety	Introduce more diverse menus with seasonal and culturally relevant foods.
2. Enhance hygiene infrastructure	Increase the availability of handwashing stations & strengthen waste disposal systems. Provide training on handwashing to students
3. Refine portion sizes	Tailor meal servings to better align with students' age and nutritional needs.
4. Strengthen supply chains	Streamline ingredient procurement processes to ensure timely meal preparation.
5. Support staff development	Provide ongoing training for cooks and ensure sufficient staffing across all schools.

Figure 5.4: School Teachers in Action: Voices and Visuals



5.4. Conclusion

The findings demonstrate the key role teachers play in the successful implementation of the MDM programme, particularly in ensuring hygiene, providing nutrition education, and overseeing meal distribution. Teachers widely acknowledged the programme's positive impact on reducing hunger, increasing enrolment, and promoting social equity.

While infrastructure and hygiene standards were generally satisfactory, some areas such as food handling, storage, and pest control could benefit from attention. These insights highlight the need for continued monitoring and improvements to enhance the programme's effectiveness.

Overall, teachers' feedback reflects the programme's positive influence on student attendance, concentration, and health. Addressing the identified gaps and implementing the suggested improvements will help further strengthen the programme's impact.

Chapter 6: Impact of Mid-Day Meal Scheme

“One cannot think well, love well, sleep well, if one has not dined well.” - Virginia Woolf

A child who is well-fed is not just healthier but also more engaged in learning, social interactions, and overall development. The **Mid-Day Meal (MDM) Scheme** plays a crucial role in ensuring that hunger does not become a barrier to education, helping children stay in school, focus better, and perform academically. This chapter takes a closer look at how the scheme influences **enrollment, retention, dropout rates, attendance, and meal participation patterns**. It also explores the **importance of teacher training and sensitization** in making the program more effective and ensuring that its benefits reach every student. By drawing on both **existing research and real-world data**, this chapter sheds light on the successes, ongoing challenges, and opportunities to strengthen the program for lasting impact.

6.1 Literature Review

6.1.1 Evidence of Impact

A substantial body of research underscores the **positive impact of the Mid-Day Meal (MDM) scheme** on school attendance, learning outcomes, and child nutrition.

Jayaraman and Simroth (2015) examined school enrollment patterns in regions with and without school meal programs, comparing public and private institutions. Their findings highlight that the MDM scheme significantly **increased school enrollment** in the first grade¹², particularly among children who either start school late or enroll early to benefit from the meals.

Similarly, Chakraborty and Jayaraman (2019) assessed the impact of the scheme on **learning achievements** and found a notable improvement in students' test scores¹³ in areas where the MDM program was implemented.

Studies by Afridi (2011) and Garg & Mandal (2013)¹⁴ revealed that the introduction of MDM **boosted attendance rates for girls**¹⁵ but not for boys. One contributing factor was that girls were often responsible for bringing younger siblings to school, ensuring that they too could receive mid-day meals. This obligation inadvertently increased the school attendance of girls.

6.1.2 Nutritional Impact

Afridi (2010) conducted a study in Madhya Pradesh comparing dietary intake on school and non-school days. The research found that the MDM scheme helped reduce children's daily calorie deficit by 30%, eliminated the protein deficit by 100%, and decreased the iron deficit by nearly 10%¹⁶.

Further, Singh et al. (2014) analysed the **long-term nutritional benefits of the MDM scheme** and discovered that it mitigated the adverse effects of early childhood malnutrition caused by

¹² Jayaraman, R., & Simroth, D. (2015). The impact of school lunches on primary school enrollment: Evidence from India's Mid-Day Meal Scheme. *The Scandinavian Journal of Economics*, 117(4), 1176-1203.

¹³ Chakraborty, T., & Jayaraman, R. (2019). School feeding and learning achievement: Evidence from India's midday meal program. *Economic Development and Cultural Change*, 67(3), 687-728.

¹⁴ Garg, S., & Mandal, R. (2013). Mid-day meal scheme and school attendance: Evidence from India. *International Journal of Educational Development*, 33(1), 22-31.

¹⁵ Afridi, F. (2011). The impact of school meals on school participation: Evidence from rural India. *Journal of Development Studies*, 47(11), 1636-1656.

¹⁶ Afridi, F. (2010). Child welfare programs and child nutrition: Evidence from a mandated school meal program in India. *Journal of Development Economics*, 92(2), 152-165.

droughts¹⁷. The program significantly improved **weight-for-age and height-for-age indicators**, demonstrating its effectiveness in counteracting food insecurity.

A study by Seshadri et al. (2020) in Karnataka explored different modes of food preparation and their influence on nutritional outcomes. The findings suggest that students receiving meals from a large NGO-operated centralized kitchen exhibited better nutritional gains, including increased weight and height, compared to those consuming meals prepared at local school kitchens or small NGOs.¹⁸ Additionally, students expressed a **preference for the higher-quality food and diverse menu** offered by centralized kitchens, particularly items such as flavored milk.

6.1.3 Assessing Impact - Data Abstraction & Interpretation

To assess the immediate and sustained impact of the Mid-Day Meal program in context of this study, data was collected from school records and registers for different time points: **Pre (November 2022), Immediate Post (December 2022), January 2023, and Sustained Post (March 2023)**. This allowed us to understand the immediate difference, the short-term impact, and sustained engagement with the program.

However, given that these months were in the middle of the academic year (June 2022 - June 2023), several external factors may have influenced participation figures. Notably, **winter vacations in January and examinations concluding in February** affected enrolment, retention, drop out and attendance patterns, which in turn influenced meal consumption. Other contributing factors that could impact MDM participation include **seasonal illnesses, socio-economic conditions of families, school infrastructure and environment** etc.

Given these factors, it's important to take the results as **indicative** rather than definitive. While the data shows an impact—whether positive or negative—it's crucial to remember that other influences beyond the Mid-Day Meal program likely played a role. So, while the findings provide valuable insights, they should be interpreted with some caution, considering the wider context and other factors at play.

6.2 Enrolment

Empirical evidence suggests that the MDM scheme has played a crucial role in encouraging school enrollment, particularly at the primary level. The provision of school meals serves as an incentive for families, particularly those from economically disadvantaged backgrounds, to enroll their children in school. This effect is especially pronounced among households where food security is a concern.

6.2.1 Overview of Enrolment Trends

The **total number of students enrolled** across the selected schools in **Karnataka and Odisha** for the academic year 2022-2023 was **6,894**. In Karnataka, **Ballari** recorded the highest total enrolment, with **2,863** students across five schools. **Hubli** followed with a total of **1,000** students from four schools. In **Odisha, Rourkela district** recorded **3,031** students across five schools.

SN.	State	Location	Total Enrolled Students
1.	Karnataka	Ballari	2,863
2.		Hubli	1,000
3.	Odisha	Rourkela	3,031
4.	Total	-	6,894

¹⁷ Singh, A., Park, A., & Dercon, S. (2014). School meals as a safety net: An evaluation of the midday meal scheme in India. *Economic Development and Cultural Change*, 62(2), 275-306.

¹⁸ Seshadri, D., Kumar, A., & Rao, S. (2020). Centralized vs. decentralized food provision: Nutritional outcomes of school feeding in Karnataka. *Food Policy*, 91, 101834.

The overall data highlights a **substantial enrolment presence** in both states, with Karnataka contributing a total of 3,863 students and Odisha contributing 3,031 students. Ballari's dominance in Karnataka is reflected in its higher enrolment count compared to Hubli, showcasing regional variations in student enrolment within the state.

6.2.2 Grade-Wise Enrolment Trends

Enrolment data for different grades reveals a **mixed distribution**, with some grades showing **higher student numbers** than others. In **Karnataka**, the distribution across grades varies widely, with **Grade 9** having the **highest enrolment figures** in most schools. For example, Government Girls High School in Ballari recorded **241 students** in Grade 9, while Government Modal School in Ballari had **no enrolments** in Grade 9. In **Hubli**, Grade 9 enrolment was **consistent** across the schools.

In **Odisha**, enrolment was **more evenly distributed** across all grades, with **Grade 6** showing the **highest enrolment** across schools in **Rourkela**. Govt UP School in Gargen, for instance, had **51 students** in Grade 6, while Govt High School, Kalunga reported **55 students** in Grade 6. **Grade 9 enrolment** was noticeably **higher in comparison** to other grades in **Rourkela**, with Govt. High School in Sector 6 recording **160 students** in Grade 9.

Table 6.2 – Grade-Wise Enrolment Data Summary						
SN.	State	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
1.	Karnataka	160	149	556	1,311	1,233
2.	Odisha	416	421	394	474	469
3.	Total	576	570	950	1,785	1,702

6.2.3 Changes in Enrolment Over Time

Changes in student enrolment over time, especially in terms of grade-wise shifts, are also crucial to evaluate. For the schools surveyed in Karnataka and Odisha, enrolment remained **stable** across the study period.

The steady enrolment across all schools suggests that external factors such as meal provision may not have had a significant impact on student retention or enrolment rates during this period. However, these findings highlight the importance of maintaining consistent engagement and enrollment in schools for the Mid-Day Meal program's success.

6.3 Drop Out

The MDM program has been instrumental in reducing drop-out rates. By ensuring that children receive at least one nutritious meal a day, the scheme alleviates financial burdens on families and encourages continued attendance. Studies suggest that children who might otherwise be required to work or assist in household chores are more likely to remain in school when assured of a mid-day meal.¹⁹

6.3.1 Overview of Drop-out Trends

The overall dropout data indicates a significant contrast between Karnataka and Odisha. **Karnataka reported no dropouts across all surveyed schools**, with a consistent zero

¹⁹ Wineman, Ayala & Foundation, Global. (2021). GCNF 2021 - State Survey of School Meal Programs - India 2020.

dropout rate across Ballari and Hubli locations. However, **Odisha reported a total of 91 dropouts** across its surveyed schools in Rourkela. The largest dropout rates were observed at Govt. High School, Sector 6 (64 students), followed by Govt. High School, Kalunga (21 students).

Table 6.3 – Student Drop-out Data Summary			
SN.	State	Location	Total Drop-out Students
1.	Karnataka	Ballari	0
2.		Hubli	0
3.	Odisha	Rourkela	91
4.	Total	-	91

6.3.2 Grade-wise Dropout Trends

From the data, it is clear that Odisha shows a notable dropout pattern, particularly in Grade 9 and Grade 10, with **Grade 10** showing the highest dropout numbers (45 students). In contrast, Karnataka schools consistently reported zero dropouts across all grades.

Table 6.4 – Grade-Wise Drop-out Data Summary						
SN.	State	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
1.	Karnataka	0	0	0	0	0
2.	Odisha	7	5	5	29	45
3.	Total	7	5	5	29	45

6.3.3 Changes in Dropout Rates Over Time

The data suggests significant changes in dropout rates, particularly in Odisha. The largest decline in dropout rates occurred at Govt. High School, Sector 6, which saw a reduction of **98.63%** in dropouts from **November 2022 to March 2023**. Similar trends were observed across other schools in Odisha, with a total **dropout reduction of 93.67%** by **March 2023**. In contrast, Karnataka's dropout rates remained unchanged, with no recorded dropouts over the observation period.

The substantial decline in dropouts over time in Odisha indicates potential improvements in student retention strategies and educational support systems. However, the **zero dropout rate in Karnataka** reflects a highly stable enrolment environment in the surveyed schools.

Efforts should continue to focus on strengthening retention strategies, particularly in **Odisha**, where targeted interventions are needed to maintain the positive trends observed in the later months.

6.4 Mid-Day Meal Participation

Participation in the Mid-Day Meal (MDM) program plays a crucial role in ensuring children receive adequate nutrition, thereby impacting their overall health, school attendance, and academic performance. This section analyzes participation trends across schools in Karnataka and Odisha based on the data collected for the study period from **December 2022 to March 2023**.

6.4.1 Overview of Participation Trends²⁰

The total recorded participation in the MDM program across both states was **977,222 meal counts** over the observed months. The participation was notably higher in Karnataka, with **755,642 meals served**, compared to **221,580 meals in Odisha**.

SN.	State	Location	Total Meals Served
1.	Karnataka	Ballari	515,340
2.		Hubli	240,302
3.	Odisha	Rourkela	221,580
4.	Total	-	977,222

While Karnataka had a higher absolute number of meals served, participation patterns varied across locations. Ballari district in Karnataka recorded the highest participation, accounting for **755,642 meals**, whereas in Odisha, Rourkela district saw a total of **221,580 meals served** across the surveyed schools.

6.4.2 Grade-Wise Participation Trends

Participation across different grade levels highlights disparities in meal consumption. In Karnataka, grade-wise participation data shows **grades 8 and 9 had the highest meal consumption**, while grades 6 and 7 reported lower numbers. In Odisha, participation was **more evenly distributed across grades 6, 7, and 8**.

SN.	State	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
1.	Karnataka	36,800	34,270	54,421	37,208	20,180
2.	Odisha	47,382	48,506	43,082	0	0
3.	Total	84,182	82,776	97,503	37,208	20,180

6.4.3 Changes in Participation Over Time

The sustained participation in the program was also assessed to understand the program's stability and acceptance. The data suggests that while overall participation remained high, some fluctuations were observed.

- In Karnataka, participation in Government Girls High School **decreased by 46%** from November 2022 to March 2023.
- Odisha showed an increase in some schools, such as Govt. High School, Sector 16, where participation **rose by 37%** over the same period.
- Participation trends indicate a need for strategies to maintain and improve engagement in the program.

The findings reinforce the importance of **regular sensitization efforts** and **improving meal quality** to ensure consistent participation and maximize the benefits of the Mid-Day Meal program for schoolchildren. The next section explores the role of teacher training and sensitization in further improving the program's reach and impact.

²⁰ Total meals served have been estimated based on the total number of students enrolled in the academic year, assuming an academic year of **240 working days**. Considering that approximately **75% of students participate** in the mid-day meal program, the calculation is as follows: **Total Meals Served = Total Students Enrolled × 240 × 0.75**.

6.5 Training & Sensitization of Teachers – Maximizing MDM Impact

Training and sensitization of teachers and staff play a crucial role in ensuring the smooth and effective implementation of the **Mid-Day Meal (MDM) program**. Well-trained staff can contribute to maintaining hygiene, ensuring nutritional adequacy, and addressing logistical challenges. The study assessed the extent to which training sessions were conducted, their frequency, mode of delivery, participation levels, and the perceived need for further training.

6.5.1 Current Status of Training on Mid-Day Meal Program

Findings from Karnataka and Odisha indicate that training sessions for MDM implementation are **not uniformly conducted across all schools**. While some schools received structured, periodic training, others reported an absence of formal training sessions. In Karnataka, training was primarily conducted physically, with sessions lasting one to two days, covering topics such as hygiene, time management, nutrition, cleanliness, and the significance of MDM. In contrast, in Odisha, some training sessions were conducted virtually, with a few schools receiving extended training programs lasting up to 15 days.

The responsibility for conducting training varied across locations. In Karnataka, MDM program resource persons and taluka officers facilitated training, while in Odisha, sessions were conducted by Cluster Resource Centre Coordinators (CRCC) and institutions such as NCERT. The number of participants ranged from 1 to 27, depending on the school and mode of training.

Notably, the provision of certificates for participation was inconsistent across states, and refresher training sessions were not widely reported. However, there was a consensus among respondents on the need for more frequent training and sensitization, particularly on topics related to **hygiene, nutritional requirements, food safety, and effective supervision of MDM implementation**.

Table 6.7 – Training and Sensitization on MDM: Key Findings

SN.	Indicator	Overall	Odisha	Karnataka
1.	Are MDM training sessions conducted?	Conducted in some schools	Conducted in some schools	Conducted in some schools
2.	Frequency of training	Varies (some annually, some more frequent)	Up to 3 times a year	Once or twice a year
3.	Mode of last training	Primarily physical, some virtual	Mostly physical, some virtual	Physical
4.	Duration of training	1 day to 15 days	1 day to 15 days	1–2 days
5.	Who conducted the training?	MDM resource persons, CRCC, NCERT, NGO representatives	CRCC, NCERT	MDM program resource persons, taluka officers, NGOs
6.	Number of participants	1–27 participants per session	2–27 participants per session	1–2 participants per session
7.	Topics covered	Hygiene, time management, nutrition, food safety, MDM importance	Food safety, hygiene, nutritional requirements, documentation	Hygiene, time management, nutrition, cleanliness, MDM importance
8.	Were certificates provided?	Not consistently	Some cases, not widespread	Not reported

9.	Were refresher trainings conducted?	Limited occurrences	Some cases, not widespread	Not reported
10.	Do teachers believe MDM training is necessary?	Yes, widely acknowledged	Yes, for smooth implementation, hygiene, reporting	Yes, for better understanding of importance and outcomes

6.6.2 Need for Continued Training

Most teachers and staff expressed that **regular training is essential** to ensure effective implementation of the MDM program. In Odisha, respondents highlighted the need for training on **nutritional requirements, hygiene practices, and accurate documentation** of MDM-related reports. In Karnataka, teachers emphasized the importance of training for **understanding the significance of MDM and improving overall implementation efficiency**.

Given these insights, a structured and standardized training framework across states, incorporating regular refresher sessions and certification, would further enhance the effectiveness of the MDM program.

6.6 Conclusion

The Mid-Day Meal scheme has been an effective intervention in enhancing school enrollment, retention, and attendance while simultaneously improving children's nutritional and academic outcomes. The program's impact is particularly pronounced among vulnerable populations, reinforcing its importance as a policy instrument for promoting educational equity and child welfare. Continued investment in quality food preparation, menu diversity, and teacher sensitization will be key to maximizing the long-term benefits of the scheme.



Figure 6.1:
Data Abstraction In Process

Chapter 7: Kitchen Infrastructure

"Poverty is a very complicated issue, but feeding a child isn't" - Jeff Bridges

The Mid-Day Meal (MDM) Scheme has played a very important role in improving child nutrition and education in India. This chapter delves into various facets of the scheme, such as implementation mechanisms across states, the demand, supply, and utilization of materials, infrastructure and manpower requirements, and quality and safety aspects. It also analyzes how The Akshaya Patra Foundation (TAPF) aligns with these parameters.

7.1 Implementation mechanism across states

The implementation of MDM Scheme varies across the states of India, reflecting regional administrative structures and resources. A report by the Development Monitoring and Evaluation Office (DMEO)²¹ mentioned that although the central government issues guidelines, states have the flexibility to adapt the program according to their needs. This flexibility helps tailor approaches but also leads to a variation in quality of implementation. For instance, some states employ centralized kitchens to prepare meals, ensuring standardized quality and hygiene, whereas others rely on decentralized models where meals are cooked on-site in schools.²² The choice between these models often depends on factors such as geography, infrastructure availability, and logistical considerations.

The Akshaya Patra Foundation exemplifies the centralized kitchen model. They run large-scale kitchens that serve multiple schools within a region²³. This approach ensures consistency in meal quality and adherence to safety standards.

7.2 Demand, Supply and Utilisation of Material Supplied for Mid-day meal scheme

Efficient supply chain management is crucial for the success of the MDM Scheme. A performance evaluation by the DMEO emphasized the importance of timely procurement and distribution of food grains and other ingredients to prevent disruptions. The study found that delays in fund disbursement and logistical challenges often led to inconsistencies in meal delivery, affecting program efficacy.

TAPF faces these issues with proper planning and strong supply chain mechanisms. SQMS for the suppliers are in place so that raw materials procurements ensure good quality. There are scheduled audits and interactions with the suppliers so that the procured material can be timely obtained to avoid the delay in preparing meals.²⁴

7.3 Infrastructure & Manpower – Current Status and Requirements

Adequate infrastructure and trained manpower are vital for the seamless operation of the MDM Scheme. The DMEO's evaluation highlighted disparities in kitchen facilities across states, with some lacking basic amenities like proper ventilation and storage. The study also pointed out the need for regular training programs for cooks and helpers to maintain hygiene and nutritional standards.

For this study, TAPF's centralized kitchen in three locations – Rourkela, Ballari and Hubli were visited. The key observations are as follows:

²¹ MEAL, C. M. D. (2010). Performance Evaluation of Cooked Mid-Day Meal (CMDM). *Programme Evaluation Organization Planning Commission, Government of India, New Delhi, India*. Mehta, B., Grover, K. and Kaur, 1-4.

²² Kaushal, S. (2009). A study of best practices in the implementation of mid-day-meal programme in Rajasthan. *NUEPA, New Delhi*.

²³ Keim, B. (2015). Akshaya Patra. *Stanford Social Innovation Review*. <https://doi.org/10.48558/NWJW-HM90>

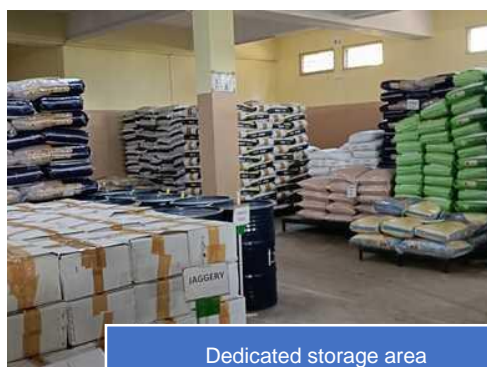
²⁴ The Akshaya Patra Foundation. (n.d.). *Our kitchens*. Retrieved January 27, 2025, from <https://www.akshayapatra.org/our-kitchens>

- The kitchen incorporates **mechanized processes** for cooking rice and dal, cutting vegetables, and making rotis, which significantly aids in bulk production with minimal manual handling. As one kitchen staff member shared: *"The kitchen is equipped with various cooking machines, and there is sufficient manpower assigned to each area of cooking."* This highlights the effective allocation of resources, ensuring efficient kitchen operations.
- The kitchen has a **dedicated storage area** for raw materials, a **well-maintained cold storage unit**, and distinct zones for pre-cooking, cooking, and post-cooking activities. Automated conveyor belts and stainless-steel vessels are used to further streamline operations and enhance cleanliness.
- In terms of **resource availability**, another staff member remarked: *"They have sufficient kitchen equipment, ingredients, and cooking and serving utensils available for food preparation."* This indicates that TAPF kitchens are well-equipped for meal preparation.
- In terms of **manpower**, the kitchen employs a well-structured team that includes **kitchen supervisors, trained cooks, assistants, and food safety officers**. The staff is assigned specific tasks, which ensures smooth and efficient operations.
- Continuous training programs are implemented to ensure staff adhere to strict hygiene and safety protocols, contributing to the overall efficiency and effectiveness of the MDM scheme.
- One respondent noted, *"They receive training on food safety, hygiene, and cooking every month in offline mode,"* which contributes to their capacity to meet safety and quality standards. However, some staff feel the need for additional training to further improve kitchen efficiency: *"However, they feel that additional training or support would help them perform their tasks more effectively and improve their overall efficiency in the kitchen."*

Figure 7.1: Precision, Passion, and Purpose: The Journey of a Mid-Day Meal



Mechanized process overseen by cooks



Dedicated storage area

- The staff have reported a **smooth process for resolving any operational issues**: *"If there are any issues, they follow an official process from bottom to top within the organization to report them to the Akshaya Patra Foundation."* This official process ensures that concerns are addressed promptly and efficiently, maintaining the smooth functioning of the kitchens.
- Regarding the **efficiency of meal distribution**, one staff member shared: *"They have not faced any shortages or delays in the supply of essential resources, and they have not encountered any difficulties in ensuring that all children receive their meals on time or in*

the correct portions." This statement confirms that the supply chain and meal distribution processes are well-managed, ensuring no disruption in service delivery.

7.4 Quality and Safety Aspects

Maintaining high standards of food quality and safety is paramount in the MDM Scheme. A study published in the Journal of Food Science and Technology assessed food safety measures²⁵ in the program, identifying areas for improvement in personal hygiene practices among food handlers and beneficiaries. The study recommended regular training and strict adherence to safety protocols to prevent foodborne illnesses.

- The kitchen adheres to stringent **food safety** and **hygiene standards** to ensure that meals consistently meet **nutritional** and **quality benchmarks**. A member of the staff mentioned: *"They ensure regular sanitization, hand washing, and use various machines to maintain hygiene standards throughout the kitchen."* This aligns with the organization's commitment to cleanliness and safety protocols, ensuring that food prepared in the kitchens is safe for consumption.
- The establishment has well-defined **Standard Operating Procedures (SOPs)** for inspecting raw materials, cooking processes, and meal transportation.
- All ingredients undergo thorough **quality checks** before being used in meal preparation, and **samples from each batch** are retained for **quality monitoring**. To this end, one respondent stated that, *"The Headmaster (HM) and teachers have visited the food preparation area to observe the cooking process and ensure the quality of the meals."* This supervisory oversight helps maintain consistent food quality across the program.
- The kitchen follows a **FIFO (First In, First Out)** system for **stock management**, which helps ensure food freshness.
- Sanitization and cleanliness are **prioritized** through **regular cleaning schedules**, **mechanized dishwashing systems**, and **pest control** measures.
- The kitchen complies with **FSSAI (Food Safety and Standards Authority of India)** guidelines, undergoing periodic inspections to ensure food safety regulations are maintained.

Figure 7.2: A Meal Well Checked, A Child Well Fed



²⁵ Sembiah, S., Burman, J., Dasgupta, A., & Paul, B. (2019). Safety of food served in Mid-Day Meal program: An in-depth study in upper primary schools of Kolkata. *Journal of family medicine and primary care*, 8(3), 938–943. https://doi.org/10.4103/jfmpc.jfmpc_59_19

7.5 Conclusion

The kitchen staff's feedback underscores their access to sufficient resources and regular training, contributing to the program's success. As one staff member stated: *"The Akshaya Patra Foundation supplies ingredients on time and on a reliable basis,"* indicating a well-managed supply chain that ensures meal delivery without disruptions.

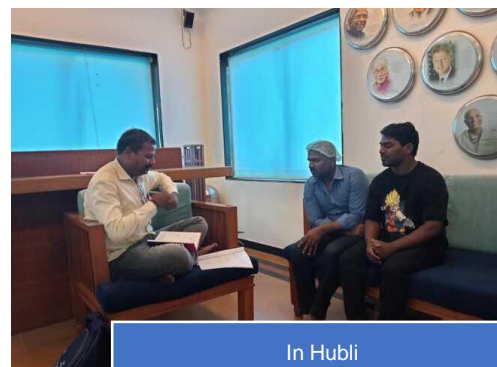
While the quality and hygiene standards in the kitchen are being maintained, some staff members suggested improvements to further enhance the program. One of them recommended: *"... to enhance the Mid-Day Meal Scheme, increasing the quantity of vegetables provided to students would significantly improve the nutritional value of the meals."* This suggestion highlights the importance of continually assessing the nutritional content of the meals and making adjustments to further benefit the children.

Therefore, it can be said that an effective MDM scheme depends on robust implementation mechanisms, efficient supply chain management, adequate infrastructure, trained manpower, and stringent quality and safety protocols. The Akshaya Patra Foundation's model aligns well with the above parameters, providing valuable insights into enhancing the impact of the program across various regions.

Figure 7.3: Ensuring Every Meal Counts: Insights from Kitchen Staff



In Ballari



In Hubli

Chapter 8: Perspectives of Supply Side Stakeholders

“If you cannot feed a hundred people, then feed just one.” –Mother Teresa

The successful implementation of the Mid-Day Meal (MDM) Programme hinges on the efficiency and coordination of various supply-side stakeholders. Government Nodal Officers, School Relationship Officers (SROs), and School Management Committees (SMCs) or Village Education Committees (VECs) play crucial roles in ensuring the effective delivery of meals, monitoring quality, and addressing challenges at different levels. This chapter presents insights from these key stakeholders, highlighting their experiences, challenges, and recommendations based on qualitative interviews.

8.1 School Relationship Officers (SROs)

8.1.1 Role and Responsibilities

School Relationship Officers (SROs) serve as the critical link between The Akshaya Patra Foundation and the beneficiary schools. Their responsibilities include ensuring timely meal delivery, monitoring food quality, gathering feedback from school authorities, and addressing any operational challenges. They also play a key role in fostering communication between schools and the Foundation to facilitate continuous program improvement.

8.1.2 Key Insights from SROs

SROs generally expressed satisfaction with the overall meal delivery process but noted logistical and infrastructural constraints that occasionally hinder smooth operations. They highlighted the importance of maintaining strong relationships with school authorities to resolve on-ground issues effectively.

•The SRO reported that meal delivery was largely on time, but occasional delays occurred due to road conditions or vehicle breakdowns. The SRO from Odisha stated, *"On most days, we ensure meals reach on time, but during heavy rains, road conditions delay delivery. Schools understand this, but we always try to minimize such disruptions."*

Timeliness and Quality of Meal Delivery



•The SRO noted that some schools lacked adequate storage facilities, leading to concerns about food safety and quality retention. *"Some schools do not have a designated storage area for meals. This sometimes affects food quality, especially in extreme weather conditions."* Some schools have proactive management that supports smooth implementation, while others require more intervention and monitoring.

Infrastructure and Storage Challenges



•The SRO emphasized the need for regular interaction with school authorities to address concerns proactively. He explained, *"Regular communication helps us understand and resolve school-level challenges quickly. If a school reports an issue, we escalate it immediately to ensure a timely resolution."*

Communication with Schools



8.1.3 Recommendations from SROs

SROs suggested several measures to enhance the program's effectiveness:

- **Improving Infrastructure:** Provision of basic storage and serving equipment in schools to maintain food quality.

- **Enhanced Communication Channels:** Strengthening feedback mechanisms to promptly address school-level issues.
- **Additional Training and Support:** Conducting periodic orientation sessions for school staff to reinforce best practices in meal handling and distribution.

The next section will delve into perspectives from Mid-Day Meal Nodal Officers, providing insights into their oversight roles and strategic contributions to the program.

8.2 Mid-Day Meal Nodal Officer

8.2.1 Role and Responsibilities

Mid-Day Meal Nodal Officers, comprising teachers nominated as MDM in-charge or headmasters, oversee the implementation of the MDM Programme at the school level. Their responsibilities include supervising meal distribution, ensuring hygiene and safety standards, coordinating with implementing agencies, and addressing any operational issues that arise. They play a pivotal role in bridging communication between schools, government authorities, and service providers to facilitate smooth program execution.

8.2.2 Key Insights from Mid-Day Meal Nodal Officers

Nodal Officers acknowledged the positive impact of the MDM Programme on student nutrition and school attendance. They highlighted its role in enhancing dietary diversity and motivating students to attend school regularly.



Impact on Student Nutrition and Attendance

- Many nodal officers emphasized that the program provides essential nutrition to children, particularly those from economically disadvantaged backgrounds. As one headmaster in Odisha stated, *"For many children, the mid-day meal is their primary source of nutrition. It has played a crucial role in improving attendance and concentration levels in classrooms."*



Challenges in Meal Distribution and Quality Control

- Ensuring uniform meal quality and timely distribution were identified as key challenges. A teacher designated as MDM in-charge in Karnataka noted, *"While the meals are generally of good quality, sometimes logistical delays or last-minute changes in menu create difficulties in maintaining consistency."* Delays in the supply of raw materials or cooked meals can disrupt daily operations. They also stated that balancing teaching responsibilities alongside MDM-related duties adds to their workload, requiring better support mechanisms.



Hygiene and Safety Concerns

- Maintaining hygiene standards in meal preparation and distribution was a common concern. One nodal officer mentioned, *"We follow strict hygiene protocols, but infrastructure limitations, such as lack of proper washing facilities, pose challenges in some schools."* Inadequate kitchen facilities, lack of proper storage, and insufficient dining spaces affect meal distribution efficiency.

8.2.3 Recommendations from Mid-Day Meal Nodal Officers

To enhance the efficiency and effectiveness of the MDM Programme, nodal officers suggested the following:

- **Upgrading Infrastructure:** Providing well-equipped kitchens, adequate storage, and designated dining areas in schools.
- **Better Coordination with Suppliers:** Ensuring timely delivery of meals and maintaining a buffer stock to handle contingencies.
- **Additional Support Staff:** Appointing dedicated personnel to manage meal distribution, reducing the burden on teachers.
- **Regular Training and Capacity Building:** Conducting periodic training for teachers and school staff on food safety, hygiene, and program management.

8.3 School Management Committees (SMCs)

8.3.1 Role and Engagement

SMCs and Village Education Committees (VECs) actively oversee the Mid-Day Meal Programme, ensuring its smooth implementation and adherence to guidelines. Members, having been involved for over two years, play a crucial role in monitoring food quality and hygiene, addressing concerns, and gathering community feedback.

8.3.2 Key Insights from SMCs

Positive Aspects

- ⑩ Strong community engagement ensures effective monitoring.
- ⑩ Parents appreciate the scheme's impact on children's health and attendance.
- ⑩ Monthly visits to the food preparation area reinforce quality checks.
- ⑩ Teachers remain focused on academics as they are not involved in meal preparation.
- ⑩ Hygiene and timely food delivery are prioritized.

Challenges and Suggestions

- ⑩ Lack of dedicated dining halls affects meal distribution, especially during the rainy season.
- ⑩ Training for committee members is needed to improve program efficiency.
- ⑩ Additional food variety (e.g., special meals on festivals, paneer, milk, eggs) can enhance student interest.
- ⑩ Schools require better kitchen facilities, food storage, and additional plates.
- ⑩ Establishing kitchen gardens can contribute to meal sustainability.

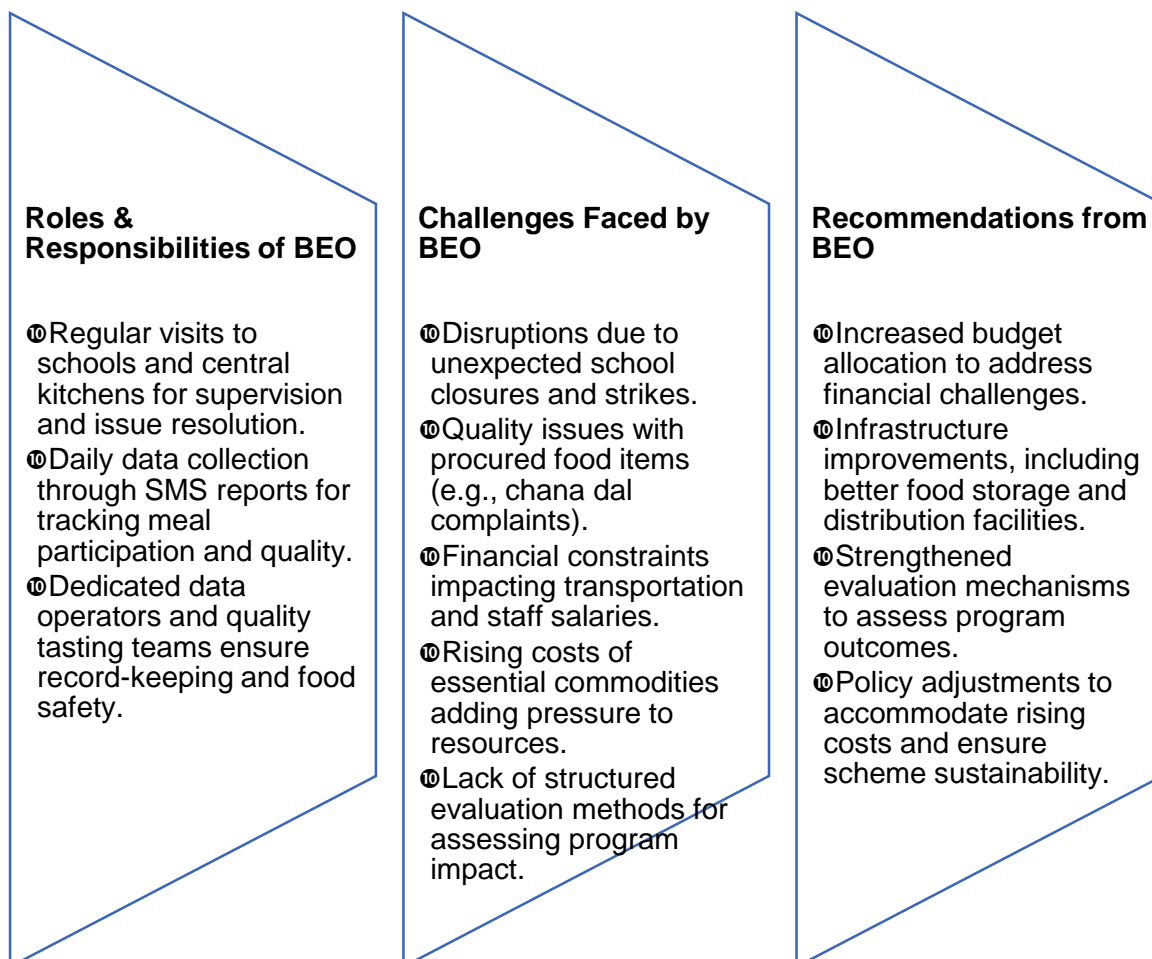
8.4 Block Nodal Officers

8.4.1 Role and Responsibilities

Block Nodal Officers oversee the coordination and implementation of the Mid-Day Meal Programme at the block level. Their key responsibilities include monitoring meal distribution, ensuring adherence to quality and safety standards, coordinating with schools and local authorities, and addressing operational challenges.

8.4.2 Key Insights from Block Education Officer

Block Education Officer (BEO) play an instrumental role in program oversight. As the BEO noted, *"We conduct regular school visits and monitor central kitchens to ensure quality and efficiency in meal distribution."* He highlighted challenges such as financial constraints and procurement inconsistencies. *"Rising costs and inadequate budgets often limit our ability to implement improvements as needed."*



8.5 Parents Perception of the MDM program

Parents across both Odisha and Karnataka expressed positive perceptions of the Mid-Day Meal (MDM) program, recognizing its contribution to children's health, school attendance, and learning outcomes. The program is highly regarded for providing nutritious meals that support children's overall well-being and academic performance.

8.5.1 Key Insights from Parents

1. Nutritional Support and Meal Quality

Parents in both regions praised the nutritional value and quality of meals provided. In Odisha, a parent mentioned, *"The children are receiving healthy and nutritious meals, and to date, we have not encountered any challenges with the program."* Similarly, a parent from Karnataka shared, *"The children mentioned that the meal quality is good, and the quantity is sufficient."* Both groups of parents highlighted improvements in their children's health, such as weight

gain and increased energy levels. A parent from Karnataka added, *"They also noticed several improvements in their children, such as weight gain and increased energy levels."*

2. Health Improvement and Safety

Parents in both states recognized the health benefits associated with the program. Parents in Odisha observed, *"The MDM program has positively impacted children's health, learning interest, and ability."* In Karnataka, parents noted the significant role of MDM in enhancing the overall development of children, saying, *"These children receive well-balanced, high-quality meals that help improve their nutritional intake, contributing to better health and overall development."*

3. Impact on Attendance and Retention

Attendance improvements were a common theme among parents in both states. Parents from Odisha noted that MDM encouraged regular school attendance, with one sharing, *"Lower absenteeism, as many children who do not have tiffin at home rely on the afternoon MDM meal, encouraging them to attend school regularly."* In Karnataka, parents echoed similar sentiments, emphasizing that the provision of meals was a key factor in encouraging students to attend school regularly, with one saying, *"The main benefit of the mid-day meal scheme is that it encourages students to attend school regularly, as the provision of meals acts as an incentive for both attendance and participation."*

4. Positive Impact on Learning Outcomes

Parents in both states noticed improvements in academic performance and student engagement following the introduction of MDM. In Odisha, one parent noted, *"Through the MDM program, the children's learning quality has improved, and their participation in sports activities has increased."* A parent in Karnataka observed that, *"After the meal, students perform better academically,"* further noting that teachers had shared feedback on improved concentration and focus in the classroom.

5. Parental Involvement and Communication

Parents in both states emphasized the importance of communication with schools regarding the MDM program. In Odisha, parents mentioned regular discussions between teachers and the school management, with one saying, *"Teachers and the Headmaster regularly discuss the MDM meals and other aspects of the program with parents and SDMC members."* Similarly, a parent from Karnataka appreciated the ongoing dialogue, noting, *"Parents visit the school most frequently around lunchtime. This provides sufficient communication between the parents and the school."*

6. Suggestions for Improvement

While the overall response was positive, parents from both states offered suggestions for further improvement. In Odisha, some parents suggested incorporating more variety in the meals, stating, *"One suggestion is to incorporate millets and organic food options into the meals."* In Karnataka, parents recommended extending the meals to higher classes, saying, *"they believe these students from Grade 9th and 10th would also benefit."* Additionally, some parents in both regions expressed a desire for more variety in the menu to make the meals more appealing, with a Karnataka parent adding, *"...offer a dedicated space, like a mandap or dining hall, for the children to have their lunch."*

7. Cultural and Emotional Value

In Odisha, parents shared a deep cultural connection to the program, with one remarking, *"The food provided by Akshaya Patra is truly a blessing, akin to the prasad of Lord Krishna."* This reflects the program's emotional significance and connection to local traditions.

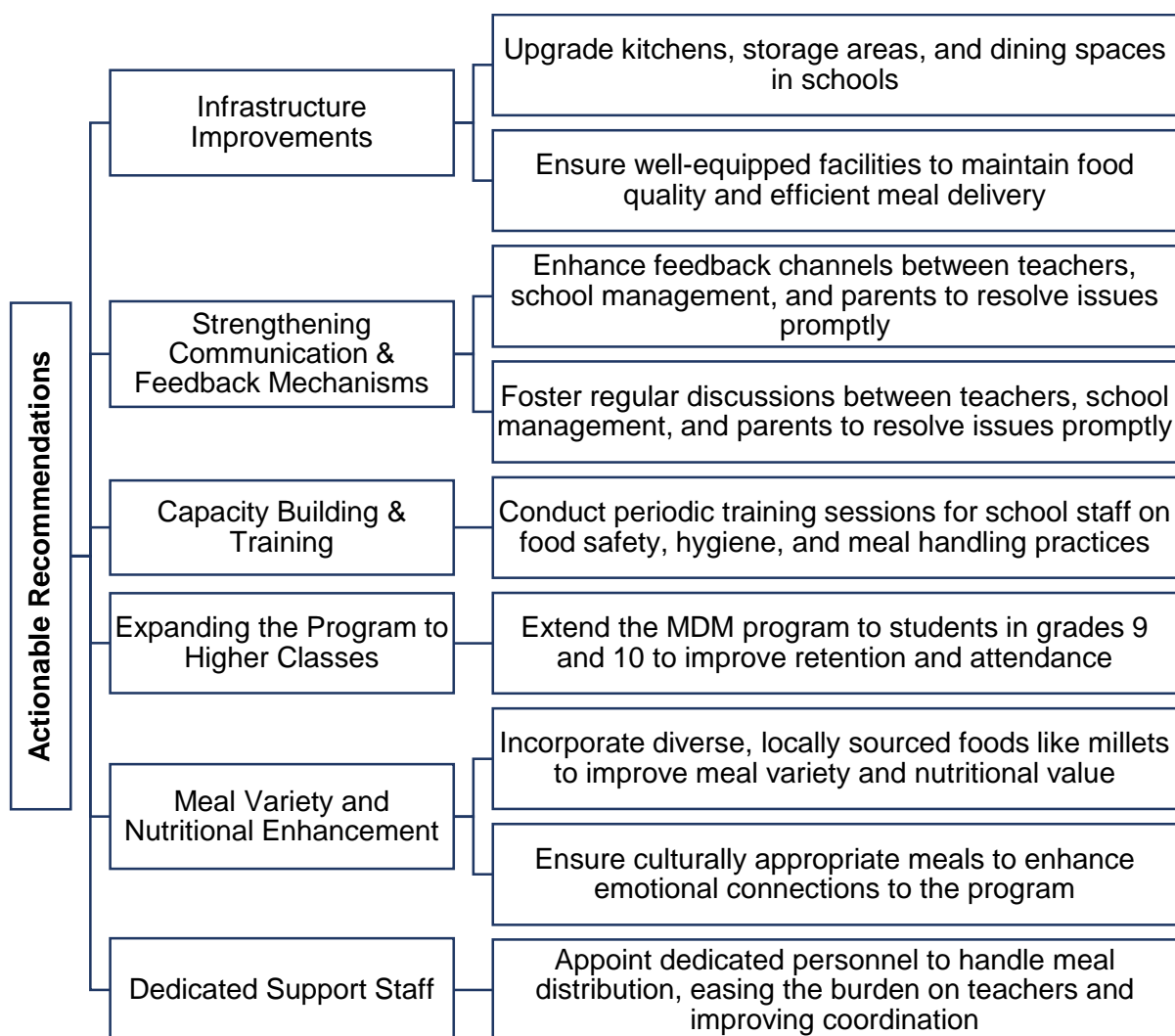
8.5.2 Overall Remarks

The overall feedback from parents in both Odisha and Karnataka highlights the positive impact of the MDM program on children's health, academic performance, and attendance. The program not only addresses immediate nutritional needs but also contributes to broader educational and social outcomes. Parental involvement and communication with schools are vital to its continued success, and while parents generally expressed satisfaction, suggestions for meal variety and program expansion demonstrate an ongoing commitment to improving the scheme for all students. The next section will present concluding perspectives and overall recommendations.

8.6 Actionable Recommendations & Conclusion

The perspectives of supply-side stakeholders, including School Relationship Officers (SROs), Mid-Day Meal Nodal Officers, School Management Committees (SMCs), Block Education Officers (BEOs), and parents, provide valuable insights into the strengths and challenges of The Akshaya Patra Foundation's Mid-Day Meal (MDM) Programme. Based on their feedback, some actionable recommendations can be made to enhance the effectiveness and sustainability of the program:

8.6.1 Actionable Recommendations



8.6.2 Conclusion

The findings from various stakeholders highlight the significant impact of the MDM program on child nutrition, attendance, and academic performance. However, there are key areas for improvement to ensure sustained success.

Focusing on infrastructure upgrades, expanding meal coverage to higher classes, diversifying meal options, and strengthening communication will optimize the program's effectiveness. Additionally, regular staff training and the appointment of dedicated support personnel will enhance operational efficiency. Ongoing collaboration among all stakeholders—parents, SROs, Nodal Officers, and SMCs—is essential for maintaining and expanding the positive outcomes of the program.

In the following section, we will outline detailed recommendations aimed at further strengthening the program and maximizing its positive impact.

Figure 8.1: Serving with a Smile



Gaining Insights



Mid-Day Meal underway



A well earned break

Chapter 9: Detailed Recommendations and Conclusion

“It is easier to build strong children than to repair broken men.” — Frederick Douglass

This chapter provides key recommendations based on insights from both demand and supply-side stakeholders of the Mid-Day Meal (MDM) program. It focuses on strengthening implementation mechanisms, enhancing capacity building, fostering community engagement, and ensuring the program's long-term sustainability. These recommendations are meant to optimize meal quality, operational efficiency, and stakeholder participation for a more effective and inclusive program.

9.1 Ongoing mechanism and support

- **Strengthen Monitoring and Quality Assurance:**
 - Conduct regular audits and third-party evaluations on efficiency, food quality, and fair meal distribution.
 - Stricter monitoring mechanisms to handle the disparity in meal distribution, particularly in Karnataka.
 - Additional oversight in the form of school volunteers or TAPF monitors, to ensure fair distribution.
- **Improve Logistics and Supply Chain Management:** Streamline procurement processes to avoid delays in ingredient availability and preparation of meals.
- **Enhance Hygiene and Food Safety Measures:**
 - Maintain and improve existing hygiene practices, especially reinforcing for younger students.
 - Upgrade hygiene infrastructure by installing more handwashing stations and waste disposal facilities
 - Ensure periodic refresher training on hygiene and food safety for school staff and kitchen staff.
- **Introduce Dedicated Meal Distribution Support:** Provide trained personnel or volunteers to oversee meal distribution. This will take the burden off teachers and help ensure smooth coordination.
- **Expand Menu Variety and Nutritional Enhancements:**
 - Introduce more variety in the menu, incorporating regional preferences to prevent monotony.
 - Pilot-test additional meal items such as curd, seasonal fruits, or protein-rich items (e.g., peanuts) for to ensure balanced nutrition.
 - Pilot the incorporation of locally available millets for improving the quality of meals and engaging local farmers.

9.2 Capacity building for teachers and cook cum helpers

- **Standardized Training Framework:** Standardize the periodic training sessions for teachers and kitchen staff in hygiene, food safety, and effective meal delivery.
- **State-Specific Training Requirements:**
 - In **Odisha**: Emphasis on nutritional guidelines, hygiene practices, and proper MDM documentation.

- In **Karnataka**: Strengthen understanding of MDM objectives and strategies to improve operational efficiency.
- **Refresher Sessions and Certification**: Engage cooks and helpers continuously by providing refresher courses and certification in maintaining high standards of safety and quality.

9.3 Community engagement

- **Structured Feedback Mechanism**:
 - Create an anonymous feedback system in school itself to capture student opinions on meal quality and portion adequacy.
 - Establish structured feedback systems for students, teachers, and parents, ensuring anonymity where necessary.
- **Parent and Teacher Involvement in Menu Planning**: Engage key stakeholders in menu design through participatory activities to align with regionally preferred menus.
- **Local Sourcing Initiatives**: Engage the local farmers and vendors to ensure fresh, locally sourced ingredients such as millets are integrated into the meal program.

9.4 Sustainability of program

- **Infrastructure Upgrades**:
 - Kitchen facilities, storage areas, and dining spaces must be upgraded to ensure food safety and efficient meal distribution.
 - Adequate cooking utensils and storage solutions must be provided to maintain meal quality.
- **Expansion of MDM Programmes to Higher Grades**: Increase TAPF reach to grades 9 and 10²⁶ for retention and nutrition security.
- **Targeted Expansion to Underserved Areas**: Identify and scale up TAPF's reach in educationally backward blocks to maximize impact.
- **Ensuring Long-Term Financial and Operational Stability**: Strengthen partnerships with government agencies and donors to ensure continued funding and effective operations.

²⁶ Under the Mid-Day Meal (MDM) scheme, students from Grades 1 to 8 are the primary beneficiaries. However, in certain states like Karnataka, the program has been extended to include students in Grades 9 and 10. This, however, is not the case in Odisha. This insight is based on interviews conducted with parents.

9.5 Conclusion

India's Mid-Day Meal program is a crucial intervention in addressing classroom hunger and promoting better educational and health outcomes for children from disadvantaged backgrounds. By providing nutritious meals, the program has not only improved school attendance and retention but also contributed to the socio-economic empowerment of women engaged in meal preparation. It has strengthened the bond between schools and communities while promoting healthy habits among children.

The Akshaya Patra Foundation's efforts have been remarkable in implementing the Mid-Day Meal program. The program has greatly improved child nutrition, school attendance, and learning outcomes. The structured approach, timely meal delivery, and hygiene and quality commitments are highly appreciable. Strengthening the existing positives with the suggested enhancements will further enhance TAPF's optimization impact.

Infrastructure development and expansion of engagement with stakeholders in the long-term sustainability will keep the initiative and its positive outcomes alive. With continued focus and collaborative efforts, the program can further its mission of unlimited food for education and shape a healthier, brighter future for the nation.