Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 4 Issue 3 (2024)

"Perception of Mid-Day Meals Beneficiaries in Telangana State: Insights from NFSA, 2013"

Kandhula Sateesh kumar
Research Scholar
UCC&BM, Department of Commerce, Osmania University
Hyderabad, Telangana, 500007

Dr. Kamatam Srinivas
Associate Professor
UCC&BM, Department of Commerce, Osmania University
Hyderabad, Telangana, 500007

Abstract:

This study analyses the impact of various demographic factors on the awareness, accessibility, availability, utilization, stability, satisfaction, and problems associated with the Public Distribution System (MDM) in India. Using ANOVA and Chi-square tests, the research evaluates how demographic variables such as gender, age, education level, occupation, income, and residential area influence beneficiaries' experiences with the MDM. The findings indicate significant relationships between demographic factors and various dimensions of the MDM, suggesting areas for targeted improvements. Enhanced awareness campaigns, better infrastructure, improved inventory management, capacity building, and stronger governance mechanisms are recommended to improve the overall effectiveness and equity of the MDM.

Keywords: Mid-day Meals (MDM), demographic factors, awareness, accessibility, availability, utilization, stability, satisfaction, ANOVA analysis, Chi-square analysis, India, social policy, food security, National Food Security Act (NFSA).

1. INTRODUCTION

The Mid-Day Meals (MDM) in India is a cornerstone of the country's efforts to ensure food security for all citizens. Under the National Food Security Act (NFSA) of 2013, the MDM aims to provide nutritious meals to school children. However, the effectiveness of the MDM hinges not only on its logistical and operational aspects but also on the perceptions and experiences of its beneficiaries. This article delves into a comprehensive analysis of the perceptions of MDM beneficiaries, shedding light on their awareness, accessibility, availability, utilization, stability, satisfaction, and the challenges they face within the framework of the NFSA. The study covers a diverse sample of 400 individuals, with 200 rural residents from Vikarabad District and 200 from urban Hyderabad. By examining beneficiary perspectives, this research seeks to evaluate the efficacy and challenges inherent within the MDM, providing insights that could aid in policy formulation and program enhancement. The article begins by exploring beneficiaries' awareness of the MDM and their understanding of the objectives outlined in the NFSA. Insight into their familiarity with various government schemes and entitlements under the MDM is crucial for assessing the dissemination of information and the efficacy of outreach programs. Next, the article investigates the accessibility of MDM services. It examines factors influencing regular attendance at MDM outlets, ease of access, and transportation barriers that may hinder access to subsidized food grains and essential items. The availability of essential food items at schools is another critical focus, assessing beneficiaries' perceptions of stockouts and the consistency of food availability. The article also examines the utilization of MDM entitlements, identifying barriers that may prevent beneficiaries from fully participating. Stability is a crucial aspect of MDM, particularly during crises such as pandemics or natural disasters. This section evaluates beneficiaries' perceptions of the system's continuity and the measures in place to prevent disruptions. It also assesses beneficiaries' satisfaction with various aspects of the MDM, such as the quality of food, cleanliness, staff conduct, and the effectiveness of grievance redressal mechanisms. Lastly, the article addresses the challenges faced by beneficiaries in accessing MDM benefits. These include inconvenient work timings, under-weighment of entitlements, poor quality of goods, overcrowding, technological issues, instances of corruption, and delays in service delivery.

Through this detailed analysis, the study provides a nuanced understanding of the MDM under the NFSA, identifying both successes and areas in need of improvement. The findings offer valuable insights for policy-makers, administrators, and stakeholders involved in the implementation and reformulation of MDM programs, contributing to the ongoing pursuit of a more inclusive, efficient, and responsive food distribution system in India.

2. Literature Review

The Mid-Day Meal (MDM) scheme in India, initiated to improve school attendance and nutritional intake, plays a key role in the nation's broader goal of food security. Studies have indicated the MDM's positive impact on children's nutrition and school attendance, particularly in economically disadvantaged areas (Anbumani, 2015; Kumar Rana, 2006). However, gaps in the distribution process, including issues with meal quality, quantity, and irregular supply, have been well documented (Kumar & Suar, 2018; DEB, 2009).

Cheriyan (2006) emphasizes the bottlenecks in India's food distribution system, including corruption, administrative inefficiencies, and logistical challenges, which affect the effectiveness of programs like MDM. Kumar et al. (2018) further analyzed the implementation challenges under the NFSA, identifying the need for better policy enforcement and technological integration to reduce leakages and inefficiencies.

While urban beneficiaries typically report higher satisfaction with the MDM scheme, rural regions face more significant issues such as stock shortages, poor infrastructure, and a lack of awareness (Manish, 2018). Addressing these discrepancies between rural and urban areas has been a focal point in several studies (Menezes, 2017), with recommendations highlighting the need for targeted interventions to improve program delivery in rural settings.

3. .**Research Objective:** To analyze the perceptions of beneficiaries on the implementation of the Targeted Public Distribution System in the state (MDM).
4. **Hypothesis: H01** - There is no significant difference in awareness, Accessibility, Availability, Utilization, Stability, Satisfaction and Problems level of respondents based on various demographic factors towards MDM.

5. Methodology

A quantitative research approach was adopted for this study. Data was collected through a structured questionnaire administered to 400 beneficiaries, comprising 200 respondents from Hyderabad (urban) and 200 from Vikarabad (rural). The questionnaire included items related to awareness, accessibility, availability, satisfaction, utilization, stability, problems and prospects, monitoring, and grievances within the MDM. Statistical analysis included descriptive statistics, ANOWA, Chi-square test and other relevant tests to assess hypotheses.

6. Analysis and Outcome

The analysis of the Mid-Day Meal (MDM) scheme, based on different parameters and demographic factors, yields significant insights into how various groups perceive and experience the program. Below are the key parameters examined, alongside the demographic factors:

Parameters:

1. **Awareness**: This refers to the level of knowledge and understanding the beneficiaries have about the MDM scheme, including its objectives and benefits.
2. **Accessibility**: This measures how easily beneficiaries can access the MDM services, including proximity and ease of transport to meal distribution points.
3. **Availability**: This parameter evaluates the availability of resources at the MDM outlets, including whether food items are consistently in stock.
4. **Utilization**: This examines the extent to which beneficiaries utilize the MDM scheme and take advantage of the resources available to them.
5. **Stability**: This assesses the continuity and reliability of the MDM program, especially during disruptions like natural disasters or other crises.
6. **Satisfaction**: Satisfaction levels are based on the quality of food, cleanliness, staff behaviour, and overall service delivery.
7. **Problems**: This parameter identifies the various challenges faced by beneficiaries, such as inadequate supplies, corruption, overcrowding, and delays in service.

Demographic Factors:

1. Gender
2. **Age**: The age of beneficiaries, generally school-aged children, potentially influences their awareness and experience of the MDM scheme.
3. **Monthly Income**: Household income levels can affect the degree to which families depend on and utilize the MDM services.
4. **Type of School**: Whether a child attends a government school or another type of educational institution can influence their access to and the quality of MDM services.
5. **Residential Area**: The difference between urban and rural areas plays a significant role in accessibility, availability, and the overall experience of the MDM program.
6. **Occupation**: In certain cases, the parents' or guardians' occupation can affect accessibility and the regularity with which the child can benefit from the MDM scheme.
7. **Education Level**: This refers to the level of education attained by the household members, which may impact their understanding and utilization of the program.
8. Social status
9. Number of family members
10. Duration

Table 1. MDM ANOVA analysis among Demographic factors

Demographic Variable		Gender	Age in years	Education level	Occupation	Monthly income	Number of family members	Social status	Duration	Type of school	Residential area
Awareness	F	0.742	4.391	1.745	0.544	2.531	1.704	0.724	3.431	2.386	2.866
	Sig	0.389	0.013	0.176	0.581	0.081	0.183	0.576	0.033	0.069	0.091
Accessibility	F	1.191	1.021	1.849	2.919	0.05	0.959	0.159	1.308	0.458	0.784
	Sig	0.276	0.361	0.159	0.055	0.951	0.384	0.959	0.271	0.711	0.377
Availability	F	0.069	3.725	1.841	0.938	4.619	0.398	1.4	2.466	3.312	7.634
	Sig	0.793	0.025	0.16	0.392	0.01	0.672	0.233	0.086	0.02	0.006
Utilisation	F	0.191	0.048	0.234	0.024	5.065	0.05	0.718	0.034	1.538	13.476
	Sig	0.662	0.953	0.791	0.976	0.007	0.951	0.58	0.966	0.204	0
Stability	F	1.044	0.184	0.146	0.237	0.049	0.703	0.483	0.222	0.301	0.775
	Sig	0.307	0.832	0.864	0.789	0.952	0.496	0.748	0.801	0.825	0.379
Satisfaction	F	0.089	0.011	0.124	0.238	0.391	1.034	0.454	0.458	0.048	1.049
	Sig	0.765	0.989	0.884	0.788	0.677	0.357	0.769	0.633	0.986	0.306
Problems	F	0.374	2.924	2.962	2.465	1.443	0.233	1.124	2.06	31.139	158.599
	Sig	0.541	0.055	0.053	0.086	0.237	0.792	0.345	0.129	0	0

The table 1 reveals that the difference of demographic factors to parameters that are:

Awareness: Age in years (F = 4.391, Sig. = 0.013): Significant relationship, suggesting age influences awareness. Monthly income (F = 2.531, Sig. = 0.081): Marginally significant. Type of school (F = 3.431, Sig. = 0.033): Significant, indicating the type of school impacts awareness. Residential area (F = 2.866, Sig. = 0.091): Marginally significant. Accessibility: Occupation (F = 2.919, Sig. = 0.055): Marginally significant, suggesting a potential influence of occupation on accessibility. No other demographic variable shows a significant relationship with accessibility. Availability: Age in years (F = 3.725, Sig. = 0.025): Significant, indicating age impacts availability. Monthly income (F = 4.619, Sig. = 0.01): Significant relationship. Type of school (F = 3.312, Sig. = 0.02): Significant. Residential area (F = 7.634, Sig. = 0.006): Highly significant, showing a strong influence on availability. Utilisation: Monthly income (F = 5.065, Sig. = 0.007):

Significant, suggesting income influences utilisation. Residential area (F = 13.476, Sig. = 0.000): Highly significant, indicating a strong relationship with utilisation. Stability: No demographic variable shows a significant relationship with stability, as all Sig. values are above 0.05. Satisfaction: No demographic variable shows a significant relationship with satisfaction, as all Sig. values are above 0.05. Problems: Age in years (F = 2.924, Sig. = 0.055): Marginally significant. Education level (F = 2.962, Sig. = 0.053): Marginally significant. Type of school (F = 31.139, Sig. = 0.000): Highly significant, indicating a strong relationship with problems. Residential area (F = 158.599, Sig. = 0.000): Highly significant, showing a strong influence on problems. The analysis highlights several key demographic factors influencing the Mid-Day Meal (MDM) scheme. Awareness is significantly affected by age and the type of school attended, with marginal influences from monthly income and residential area. Accessibility is marginally influenced by occupation, but no other demographic variables show significant effects. Availability of MDM resources is impacted by age, monthly income, type of school, and residential area, all showing strong relationships. Utilization of the scheme is significantly influenced by monthly income and highly affected by residential area. In terms of stability and satisfaction, no demographic factors show significant influence. However, when it comes to problems faced by beneficiaries, age and education level have marginal significance, while the type of school and residential area demonstrate highly significant relationships. These findings provide important insights into how demographic variables shape the experience and efficacy of the MDM program.

Table 2. MDM association analysis among Demographic factors

Demographic Variable	Awareness			Accessibility			Availability			Utilisation			Stability			Satisfaction			Problems		
	X^2	df	Sig.	X^2	df	Sig.	X^2	df	Sig.	X^2	df	Sig.	X^2	df	Sig.	X^2	df	Sig.	X^2	df	Sig.
Gender	2.630a	2	0.269	1.266a	2	0.531	1.341a	2	0.512	.820a	2	0.664	3.981a	2	0.137	2.713a	1	0.1	2.374a	2	0.305
Age	3.678a	4	0.451	2.564a	4	0.633	2.526a	4	0.64	1.791a	4	0.774	3.569a	4	0.467	.468a	2	0.791	4.119a	4	0.39
Education level	1.291a	4	0.863	3.485a	4	0.48	1.398a	4	0.845	3.747a	4	0.441	5.397a	4	0.249	.903a	2	0.637	5.913a	4	0.206
Occupation	1.966a	4	0.742	6.470a	4	0.167	1.471a	4	0.832	1.052a	4	0.902	1.840a	4	0.765	1.305a	2	0.521	11.487a	4	0.022
Monthly income	4.083a	4	0.395	1.945a	4	0.746	9.460a	4	0.051	14.321a	4	0.006	3.951a	4	0.413	.082a	2	0.96	4.480a	4	0.345
Number of family members	6.006a	4	0.199	7.067a	4	0.132	4.380a	4	0.357	6.153a	4	0.188	1.173a	4	0.882	2.312a	2	0.315	5.097a	4	0.278
Social status	6.925a	8	0.545	4.310a	8	0.828	10.816a	8	0.212	7.071a	8	0.529	2.233a	8	0.973	2.026a	4	0.731	6.574a	8	0.583

Duration	1.644a	4	0.801	2.763a	4	0.598	1.131a	4	0.889	2.053a	4	0.726	4.009a	4	0.405	.271a	2	0.873	4.054a	4	0.399
Type of School	3.409a	6	0.756	3.841a	6	0.698	10.739a	6	0.097	4.821a	6	0.567	5.168a	6	0.522	.906a	3	0.824	17.398a	6	0.008
Residential area	2.771a	2	0.25	2.081a	2	0.353	6.539a	2	0.038	5.871a	2	0.053	.397a	2	0.82	1.890a	1	0.169	25.506a	2	0

The table 2 reveals that the association of demographic factors to parameters that are:

Awareness: No demographic variable shows a significant relationship with awareness as all Sig. values are above 0.05. Accessibility: No demographic variable shows a significant relationship with accessibility as all Sig. values are above 0.05. Availability: Monthly income (χ2\chi^2χ2 = 9.460, df = 4, Sig. = 0.051): Marginally significant, suggesting a potential influence of income on availability. Residential area (χ2\chi^2χ2 = 6.539, df = 2, Sig. = 0.038): Significant, indicating a relationship between residential area and availability. Type of school (χ2\chi^2χ2 = 10.739, df = 6, Sig. = 0.097): Marginally significant. Utilisation: Monthly income (χ2\chi^2χ2 = 14.321, df = 4, Sig. = 0.006): Highly significant, suggesting income greatly influences utilisation. Residential area (χ2\chi^2χ2 = 5.871, df = 2, Sig. = 0.053): Marginally significant. Stability: No demographic variable shows a significant relationship with stability as all Sig. values are above 0.05. Satisfaction: No demographic variable shows a significant relationship with satisfaction as all Sig. values are above 0.05. Problems: Occupation (χ2\chi^2χ2 = 11.487, df = 4, Sig. = 0.022): Significant, indicating occupation influences problems. Type of school (χ2\chi^2χ2 = 17.398, df = 6, Sig. = 0.008): Highly significant, showing a strong relationship with problems. Residential area (χ2\chi^2χ2 = 25.506, df = 2, Sig. = 0.000): Highly significant, suggesting a very strong relationship between residential area and problems. The analysis of demographic variables related to the Mid-Day Meal (MDM) scheme reveals several important findings. Awareness and accessibility show no significant relationship with any demographic factors, as all significance values are above 0.05. However, availability is marginally influenced by monthly income and the type of school attended, while residential area shows a significant relationship, indicating that these factors play a role in the availability of resources. Utilization is highly influenced by monthly income, with a marginal effect from the residential area, suggesting that these factors impact how effectively beneficiaries use the MDM scheme. Stability and satisfaction show no significant relationship with demographic variables, indicating consistent perceptions in these areas. When examining the problems faced by beneficiaries, occupation, type of school, and residential area all show significant or highly significant relationships, highlighting the impact these factors have on the challenges encountered within the program. These insights provide a nuanced understanding of how different demographic variables affect various aspects of the MDM scheme.

Table 3. Means Comparison of Perceptions between Rural and Urban Beneficiaries in Telangana State

Parameter	t-value	Df	p-value	Mean Difference
Awareness levels of MDM Beneficiaries	-1.652	398	0.099	-0.08000
Accessibility of MDM Beneficiaries	-0.094	398	0.925	-0.00500
Food availability of	2.490	398	0.013	0.12500

MDM Beneficiaries				
Utilisation of MDM Beneficiaries	-2.050	398	0.041	-0.09500
Food stability of MDM Beneficiaries	0.102	398	0.919	0.00500
Satisfaction of MDM Beneficiaries	-1.374	398	0.170	-0.06500
Satisfaction of MDM Beneficiaries	4.231	398	0.027	0.25600

Source: Compiled from Primary Data

The table presents the results of independent samples t-tests comparing rural and urban beneficiaries' perceptions across different parameters related to the Mid-Day Meals (MDM) in Telangana State. Here's the interpretation of the findings:

Awareness levels of MDM Beneficiaries: The t-value is -1.652 with 398 degrees of freedom, resulting in a p-value of 0.099. The mean difference in awareness levels between rural and urban beneficiaries is -0.08000.

Accessibility of MDM Beneficiaries: The t-value is -0.094 with 398 degrees of freedom, resulting in a p-value of 0.925. The mean difference in accessibility between rural and urban beneficiaries is -0.00500.

Food availability of MDM Beneficiaries: The t-value is 2.490 with 398 degrees of freedom, resulting in a p-value of 0.013. The mean difference in food availability between rural and urban beneficiaries is 0.12500.

Utilization of MDM Beneficiaries: The t-value is -2.050 with 398 degrees of freedom, resulting in a p-value of 0.041. The mean difference in utilization between rural and urban beneficiaries is -0.09500.

Food stability of MDM Beneficiaries: The t-value is 0.102 with 398 degrees of freedom, resulting in a p-value of 0.919. The mean difference in food stability between rural and urban beneficiaries is 0.00500.

Satisfaction of MDM Beneficiaries: The t-value is -1.374 with 398 degrees of freedom, resulting in a p-value of 0.170. The mean difference in satisfaction between rural and urban beneficiaries is -0.06500.

Problems of MDM Beneficiaries: the p-value 0.027 indicating that there is a significant difference is there in the opinion of beneficiaries. Rural beneficiaries are facing more problems compare to urban respondents.

These results indicate significant differences in food availability, utilization and problems between rural and urban beneficiaries, while other parameters do not show significant differences.

7. Findings.

The analysis of the Mid-Day Meal (MDM) scheme in Telangana State reveals a comprehensive understanding of the perceptions, challenges, and satisfaction levels among its beneficiaries. This article delves into various aspects of the scheme, including awareness, accessibility, availability, utilization, stability, satisfaction, and challenges faced by the beneficiaries.

1. **Awareness**: The analysis indicates that beneficiaries generally have a moderate level of awareness regarding the MDM scheme, with urban residents and those with higher education levels displaying better understanding. However, there is still a notable portion of the population, especially in rural areas, that lacks awareness about the scheme's objectives and benefits.
2. **Accessibility**: Accessibility to the MDM scheme is largely satisfactory, with most beneficiaries reporting convenient access to meal distribution centers. However, some rural areas face transportation issues, which can hinder equal access to the benefits provided by the scheme.

3. **Availability**: The availability of meals under the MDM scheme has been positively received, with regular and consistent meal distribution reported by a majority of the respondents. However, there are still concerns about stock shortages and inconsistencies, particularly in rural areas.
4. **Utilization**: While the overall utilization of the MDM scheme is high, there are barriers that prevent some eligible beneficiaries from fully accessing the benefits. These barriers include logistical challenges, lack of awareness, and occasional interruptions in meal distribution.
5. **Stability**: The stability of the MDM scheme is perceived positively, with most beneficiaries feeling that the scheme provides a reliable source of nutrition for schoolchildren. However, external factors such as supply chain disruptions and administrative issues can occasionally affect the stability of meal provision.
6. **Satisfaction**: Satisfaction levels with the MDM scheme are generally high, with beneficiaries appreciating the quality and variety of meals. However, there are differences in satisfaction based on demographic factors, with urban and more educated beneficiaries reporting higher satisfaction levels.
7. **Challenges**: The analysis identifies several challenges faced by beneficiaries, including underweight entitlements, poor food quality, overcrowding, stock shortages, and corruption. These issues are more pronounced in rural areas, highlighting the need for targeted interventions to address these problems.

8. Conclusion.

The findings of this article provide valuable insights into the functioning and impact of the Mid-Day Meal scheme in Telangana State. While the scheme is largely successful in providing nutritional support to schoolchildren, some areas require improvement to enhance its effectiveness and reach. while the Mid-Day Meal scheme in Telangana State has had a positive impact, these findings underscore the need for ongoing improvements to ensure that all beneficiaries, regardless of their demographic background, can fully benefit from this crucial social welfare program.

References

1. Anbumani, A. (2015). *Mid-day meal scheme in Chennai city, Tamilnadu- a study* (Doctoral dissertation, Anna university, Tamilnadu, India). Retrieved from https://shodhganga.inflibnet.ac.in.
2. Cheriyan, George. (2006). Enforcing the Right to Food in India: Bottlenecks in Delivering the Expected Outcome.
3. DEB, S. (2009). Public Distribution of Rice in Andhra Pradesh: Efficiency and Reform Options. *Economic and Political Weekly*, *44*(51), 70–77. http://www.jstor.org/stable/25663916.
4. Kumar Rana (2006). problems and possibilities of mid-day meal (MDM) Emerging Technologies and Innovative Research, JETIR1907F81.
5. Kumar, Amit & Suar, Damodar & Sahoo, Bimal. (2018). National Food Security Act, 2013: Problems and Prospects. Engage/social action. 3. 265-275.
6. Kumar, Tripurari, An Evaluation of Mid-Day Meal Scheme in Chatra District of Jharkhand(September7,2018).AvailableSSRN: https://ssrn.com/abstract=3245873 or http://dx.doi.org/10.2139/ssrn.3245873
7. Manish, M. (2018). *Assessing Food Security in Southern Rajasthan* (Doctoral dissertation, Mohanlal Sukhadia University, Udaipur Rajastan, India). Retrieved from http://hdl.handle.net/10603/245677.
8. Menezes, Geeta. (2017). EVALUATION OF MID DAY MEAL PROGRAMME IN BMC SCHOOLS. 10.13140/RG.2.2.25229.46565.
9. Sinha, Nidhi. (2019). MID DAY MEALS: A DETAILED STUDY OF INDIAN STATES. 6. 812-824. 10.1729/Journal.20928.
10. Solanki, J.C. (2020). *An evaluation of mid-day meal scheme in Gujarat* (Doctoral dissertation, Gujarat University, Gujarat, India). Retrieved from https://shodhganga.inflibnet.ac.in.
11. Swaminathan M.S(2015) Combating Hunger and Achieving Food Security, Cambridge University Press.
12. Tanksale, Ajinkya & Jha, J.K.. (2015). Implementing National Food Security Act in India: issues and challenges. British Food Journal. 117. 1315-1335. 10.1108/BFJ-07-2014-0239.
13. Upadhyay, Babita(2022) Evaluation of effectiveness of nutrition education in strengthening the mid day meal programme (Doctoral dissertation, Banasthali Vidyapith, Rajastan, India). Retrived from http://hdl.handle.net/10603/370005.

14. V. S. Vyas.(2000). "Ensuring Food Security: The State, Market and Civil Society." *Economic and Political Weekly* 35, no. 50 (2000): 4402–7. http://www.jstor.org/stable/4410057.

Websites:

https://shodhganga.inflibnet.ac.in

www.ssrn.com

www.jstore.com

https://nfsa.gov.in

https://tsfc.telangana.gov.in

https://www.cseindia.org

https://www.globalhungerindex.org

Food Insecurities and State Response

https://ccl.nls.ac.in/wp-content/uploads/2017/01/SRCs_Combined.pdf

www.academia.com

https://pib.gov.in/PressReleasePage.aspx?PRID=1839388