

EFFICACY OF MID DAY MEAL PROGRAMME IN SERVING ITS OBJECTIVES

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ABSTRACT

Despite rapid development made by India, over the decades, it has not been very successful in eradicating malnutrition and illiteracy, especially among its children. India's rank has slipped to 100th out of 119 countries on the Global Hunger Index, 2017. Mid Day Meal Programme (MDMP) was envisioned with a holistic view to encourage children to attend school regularly, satisfy their hunger and nutritional needs, improve their concentration in classrooms, nurturing their physical and intellectual growth, improve their socialization skills, and reduce gender disparity in education and also for social upliftment of women by creating employment opportunities. In-depth research has been carried out in recent years to debate and understand the vision and goals outlined in the MDMP. The present study, keeping MDMP objectives (as laid down by the MHRD) as a benchmark, strives to evaluate MDMP with specific reference to Mumbai's municipal schools. The study is a descriptive one, based on intensive field work. Though thousands of crores have been poured incessantly into the scheme, over the years by successive well-meaning governments, one cannot overlook the fact that the programme has been dealt fatal body blows in the form of bureaucratic apathy, corrupt practices and shoddy implementation, emboldening a few detractors of the programme to question its continuance. The paper looks into the articulations by the critics and discusses the relevance of the programme in mitigating the crisis of gigantic proportion.

Keywords: Mid Day Meal Programme, Mumbai, schools

INTRODUCTION

The National Programme of Nutritional Support to Primary Education (NP-NSPE), popularly referred to as the Mid Day Meal Programme (MDMP), was launched on August 15, 1995 by the Government of India as a centrally sponsored scheme with a view to enhance school enrolment, retention, attendance and simultaneously improve the nutrition levels of students in primary classes (I-V). The programme was extended to upper primary classes (VI-VIII) since 2008-09. From September 2006, MDMP was also extended to children in drought-

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affected areas during summer vacations. As on December 2016, MDMP is one of the largest school feeding programme in the world catering to the nutritional needs of around 9.78 crore children in 11.43 lakh schools across India (MHRD, 2017). As per MDMP vision, cooked mid day meals seek to promote universalization of elementary education by providing parents a strong incentive to send children to school, facilitating regular school attendance, improving school retention, enhancing children's learning abilities, fostering social and gender equality, eliminating classroom hunger, inculcating hygiene among school children, helping to impart nutrition education to school children and improve the nutritional status of poor deprived school children (MHRD, 2006).

STATEMENT OF THE PROBLEM

MDMP has been regularly marred by accusations of inefficiency, corruption and substandard efforts. The MDMP without doubt is a critical component of nation building and conceptually offers bountiful benefits in terms of its potential to boost universalisation of elementary education, but those promises are yet to fructify in reality. The present study attempts a third party comprehensive evaluation of MDMP to assess its efficacy against stated objectives.

REVIEW OF LITERATURE

Though all the studies (field studies and econometric studies) that have reviewed, evaluated and highlighted achievements and shortcomings of Mid Day Meal Programme are important contributions to literature, studies that deserve a special mention include empirical research by Dreze & Kingdon (2001), Dreze & Goyal (2004), Pratichi Trust (2005), Afridi (2007), Afridi (2010), Jayaraman *et al.* (2011) for putting forth conclusive evidence about the positive outcomes of MDMP on school enrolment and attendance, especially among girls; Gopaldas (2004) for highlighting the need to address the problem of hidden hunger among school children by supplementing cooked school meals with health interventions in the form of periodic micronutrients supplementation and deworming medication; Thorat & Lee (2005) and Jain & Shah (2005) for red flagging the cases of blatant caste discrimination afflicting MDMP; Garg & Mandal (2013) for analyzing the impact of MDMP in the context of India's social milieu; Afridi (2005), Deodhar (2007) and Shukla (2014) for assessing the nutritional aspects of mid day meals; Afridi (2013) for analyzing the impact of MDMP on cognitive effort in the classroom as opposed to the traditional learning outcomes in terms of reading, writing and math skills; Singh (2008) for using longitudinal data to show how MDMP acts as a security net for younger children suffering from environmental shocks. Other studies have also contributed in terms of highlighting the financial, infrastructural and institutional bottlenecks in the successful delivery of MDMP.

OBJECTIVE OF THE STUDY

The present study attempts to assess the efficacy of MDMP in serving its objectives, with specific reference to Mumbai's municipal schools.

RESEARCH METHODOLOGY

The study is based on intensive field work (unannounced visits to randomly selected municipal schools and food service units, one from each of the municipal wards) carried out during the academic year 2016-17. Personal observation and detailed semi-structured interview schedules, both based on a five point rating scale with higher points indicating a more favorable response, have been used to gather first hand evidence from the major stakeholders (240 school children, 120 parents and 120 school teachers randomly selected from the sample schools) about the ground realities of the implementation of the Mid Day Meal Programme. Descriptive and inferential statistics (Kolmogorov Smirnov test of normality, parametric one sample t test and non-parametric Wilcoxon signed rank test) has been used for in-depth analysis.

RESULTS AND DISCUSSION

The study evaluates MDMP on the basis of efficacy of MDMP in realizing its objectives on the basis of feedback from the major stakeholders (School Children, Teachers, Parents, FSPs) through observation and interview schedules, both based on a five point rating scale with higher points indicating a more favorable response. In line with the basic objective of the study, the following hypothesis has been formulated for the study: MDMP is serving its objectives. For statistical testing, Hypothesis 4 is formulated as: Null Hypothesis (H_0): MDMP is not serving its objectives and Alternative Hypothesis (H_1): MDMP is serving its objectives.

For testing the above hypothesis, data collected during field visits from Schools, FSPs, school children, teachers and parents using observation and interview schedules has been used. As per MDMP vision, cooked mid day meals seek to promote universalization of elementary education by providing parents a strong incentive to send children to school (O1), facilitating regular school attendance (O2), improving school retention (O3), eliminating classroom hunger (O4), improving the nutritional status of poor deprived school children (O5), enhancing children's learning abilities (O6), fostering social and gender equality (O7), imparting nutrition education to school children (O8) and inculcating hygiene among school children (O9). It also envisions to provide employment opportunities for women from marginalized sections of the society (O10).

Table 1: Efficacy of MDMP in serving its various objectives

	Item Number				
	School checklist and observation schedule	Children schedule	Parents schedule	Teachers schedule	FSP checklist and observation schedule
MDMP Objectives (O1, O2, O3, O4, O5, O6, O7, O8, O9, O10)					
MDMP has provided parents (from weaker sections of the society) a strong incentive to send their children to school			7		

MDMP is a strong incentive for the child to attend school			9		
MDMP has improved school retention				11	
MDMP has helped to eliminate classroom hunger		6			
MDMP has helped to improve nutritional status of school children			11		
MDMP has helped to improve learning abilities of school children				12	
MDMP has fostered social and gender equality among school children	37				
MDMP has helped to impart nutrition education among school children	34				
MDMP has helped to inculcate hygiene among school children	35				
MDMP has generated employment for women from marginalized sections of the society					22

Source: Compiled from Observation and Interview Schedules

Table 2: Details of variables, scores and Normality Tests for Hypothesis 4

Variable	Five point rating scale with codes	Null for Normality Test	Normality Test	p value	Result of Normality Test
Q7_O1 Parents schedule	1: Strongly disagree; 2: Disagree; 3: Neither agree nor disagree; 4: Agree; 5: Strongly agree	The distribution of Q7_O1 is normal with mean 4.3833 and S.D. 0.58	One sample Kolmogorov-Smirnov test	0.00	Reject null hypothesis
Q9_O2 Parents schedule	1: Strongly disagree; 2: Disagree; 3: Neither agree nor disagree; 4: Agree; 5: Strongly agree	The distribution of Q9_O2 is normal with mean 4.2750 and S.D. 0.62	One sample Kolmogorov-Smirnov test	0.000	Reject null hypothesis

Q11_O3 Teachers schedule	1: Strongly disagree; 2: Disagree; 3: Neither agree nor disagree; 4: Agree; 5: Strongly agree	The distribution of Q11_O3 is normal with mean 4.52 and S.D. 0.518	One sample Kolmogorov- Smirnov test	0.000	Reject null hypothesis
Q6_O4 Children schedule	1: Strongly disagree; 2: Disagree; 3: Neither agree nor disagree; 4: Agree; 5: Strongly agree	The distribution of Q6_O4 is normal with mean 4.4417 and S.D. 0.61	One sample Kolmogorov- Smirnov test	0.000	Reject null hypothesis
Q11_O5 Parents schedule	1: Strongly disagree; 2: Disagree; 3: Neither agree nor disagree; 4: Agree; 5: Strongly agree	The distribution of Q11_O5 is normal with mean 3.8917 and S.D. 0.683	One sample Kolmogorov- Smirnov test	0.000	Reject null hypothesis
Q12_O6 Teachers schedule	1: Strongly disagree; 2: Disagree; 3: Neither agree nor disagree; 4: Agree; 5: Strongly agree	The distribution of Q12_O6 is normal with mean 4.4917 and S.D. 0.50	One sample Kolmogorov- Smirnov test	0.000	Reject null hypothesis
Q37_O7 School checklist	1: Never; 2: Rarely; 3: Sometimes; 4: Quite Often; 5: Always	The distribution of Q37_O7 is normal with mean 5.00 and S.D. 0.00	The distribution has no variance for this variable. One sample Kolmogorov-Smirnov Test cannot be performed.		
Q34_O8 School checklist	1: Never; 2: Rarely; 3: Sometimes; 4: Quite Often; 5: Always	The distribution of Q34_O8 is normal with mean 3.17 and S.D. 1.523	One sample Kolmogorov- Smirnov test	0.251	Retain null hypothesis
Q35_O9 School checklist	1: Never; 2: Rarely; 3: Sometimes; 4: Quite Often; 5: Always	The distribution of Q35_O9 is normal with mean 2.5000 and S.D. 0.51	One sample Kolmogorov- Smirnov test	0.009	Reject null hypothesis
Q22_O10 FSP checklist	1: Never; 2: Rarely; 3: Sometimes; 4: Quite Often; 5: Always	The distribution of Q22_O10 is normal with mean 2.44 and S.D. 0.86	One sample Kolmogorov- Smirnov test	0.024	Reject null hypothesis

Source: Statistical Analysis from Primary Data

Each of the objective taken into consideration for statistical analysis along with the item number from the respective observation and interview schedules is tabulated in Table 1. The details of scores, variables and Normality test for Hypothesis 4 are given in Table 2.

From Table 1, it is observed that the p values for all variables except Q37_O7 and Q34_O8 are less than the critical p value of 0.05. Hence the null hypothesis that data is normally distributed is rejected for these variables. Since data is not normally distributed, non-parametric Wilcoxon signed rank test is used for testing significance of these variables with hypothesized median value 3. For variable Q37_O7, since the distribution has no variance one sample Kolmogorov-Smirnov test cannot be performed.

For variable Q34_O8, since the p value of normality test is greater than the critical value of 0.05, the null hypothesis that data is normally distributed is retained and so parametric one sample t test is used for testing statistical significance of this variable with hypothesized mean value 3.

**Table 3: Descriptive Statistics for variables
Q7_O1, Q9_O2, Q11_O3, Q6_O4, Q11_O5, Q12_O6, Q35_O9 and Q22_O10**

	Q7_ O1	Q9_ O2	Q11_ O3	Q6_ O4	Q11_ O5	Q12_ O6	Q35_ O9	Q22_ O10
N	120	120	120	240	120	120	24	34
Median	4.0000	4.0000	5.0000	5.0000	4.0000	4.0000	2.5000	2.0000

Source: Statistical Analysis from Primary Data

Descriptive statistics for all variables except Q37_O7 and Q34_O8 is given in Table 3 and Results of non-parametric one sample Wilcoxon signed rank test for testing significance of these variables with hypothesized median value 3 are presented in Table 4.

As reflected in Table 3, since median score values for variables Q7_O1, Q9_O2, Q11_O3, Q6_O4, Q11_O5 and Q12_O6 are greater than 3, it indicates that MDMP is serving these objectives. As median score values for variables Q35_O9 and Q22_O10 are less than 3, it indicates that MDMP is not serving these objectives.

From Table 4, it is observed that for variables Q7_O1, Q9_O2, Q11_O3, Q6_O4, Q11_O5, Q12_O6, p value is 0.000 and for variables Q35_O9 and Q22_O10, p value is 0.001. Since these values are less than 0.01, null hypothesis is rejected for each of these variables. Hence it may be inferred that median score values for all these variables are significantly different than 3. This indicates that MDMP is serving its objectives for Q7_O1, Q9_O2, Q11_O3, Q6_O4, Q11_O5, Q12_O6 variables and MDMP is not serving its objectives for variables Q35_O9 and Q22_O10. For the variable Q37_O7, the distribution has no variance (S.D. is zero) with mean value 5. Since mean value 5 is greater than 3, it may be inferred that MDMP is serving its objective for variable Q37_O7.

Table 4: Hypothesis test summary of non-parametric one sample Wilcoxon signed rank test for variables Q7_O1, Q9_O2, Q11_O3, Q6_O4, Q11_O5, Q12_O6, Q35_O9 and Q22_O10 servicing of programme objectives

Null Hypothesis	p value	Decision
The median of Q7_O1 equals to 3.00	0.00	Reject null hypothesis
The median of Q9_O2 equals to 3.00	0.00	Reject null hypothesis
The median of Q11_O3 equals to 3.00	0.00	Reject null hypothesis
The median of Q6_O4 equals to 3.00	0.00	Reject null hypothesis
The median of Q11_O5 equals to 3.00	0.00	Reject null hypothesis
The median of Q12_O6 equals to 3.00	0.00	Reject null hypothesis
The median of Q35_O9 equals to 3.00	0.001	Reject null hypothesis
The median of Q22_O10 equals to 3.00	0.001	Reject null hypothesis

Source: Statistical Analysis from Primary Data

Descriptive Statistics for variable Q34_O8 is given in Table 5 and results of parametric one sample t test for testing significance of this variable with hypothesized mean value 3 are presented in Table 6. Mean score value for Q34_O8 is 3.17. Since 3.17 is greater than 3, it indicates that MDMP is serving its objective for this variable. Results of t test for Q34_O8 indicate that the p value is 0.597 and so null is retained and it is inferred that that mean score value for variable Q34_O8 is not significantly greater than hypothesized value 3 and MDMP is not serving its objective for variable Q34_O8.

Table 5: Descriptive statistics for variable Q34_O8

	N	Mean	S.D.	Std. Error Mean
Q34_O8	24	3.17	1.523	.311

Source: Statistical Analysis from Primary Data

Table 6: One sample t test of mean vs hypothesized score 3 for variable Q34_O8 regarding MDMP serving its objectives

Variable	Test Value = 3		
	t	Degrees of freedom (df)	Sig. (2-tailed) p value
Q34_O8	0.536	23	0.597

Source: Statistical Analysis from Primary Data

Overall summary with respect to the hypothesis tested is presented in Table 7. On the positive side, MDMP has provided parents a strong incentive to send their children to schools. For school children, MDMP is a strong incentive to attend school; it facilitates elimination of classroom hunger; improves school retention, learning abilities and nutritional status and fosters social equality. On the negative side, MDMP has failed to inculcate hygiene and impart nutrition education among school children. As far as the role of MDMP in generating employment opportunities for women from the marginalised sections of the society is concerned, it has failed on this front also.

Table 7: Summary of Hypothesis Tested under the study

MDMP Objective	Variable	MDMP serving its objective
MDMP has provided parents (from weaker sections of the society) a strong incentive to send their children to school	Q7_01 Parents schedule	yes
MDMP is a strong incentive for the child to attend school	Q9_02 Parents schedule	yes
MDMP has improved school retention	Q11_03 Teachers schedule	yes
MDMP has helped to eliminate classroom hunger	Q6_04 Children schedule	yes
MDMP has helped to improve nutritional status of school children	Q11_05 Parents schedule	yes
MDMP has helped to improve learning abilities of school children	Q12_06 Teachers schedule	yes
MDMP has fostered social and gender equality among school children	Q37_07 School checklist	yes
MDMP has helped to impart nutrition education among school children	Q34_08 School checklist	no
MDMP has helped to inculcate hygiene among school children	Q35_09 School checklist	no
MDMP has generated employment for women from marginalized sections of the society	Q22_010 FSP checklist	no

Source: Statistical Analysis from Primary Data

CONCLUSION

Though thousands of crores have been poured incessantly into the MDMP, over the years by successive well-meaning governments, one cannot overlook the fact that the programme has been dealt fatal body blows in the form of bureaucratic apathy, corrupt practices and

shoddy implementation, emboldening a few detractors of the programme to question its continuance. While it cannot be denied in entirety that such apprehensions do need to be allayed by revamping the machinery to streamline the delivery process, casting aspersions on the very existence of such a socially relevant mechanism is uncalled for. MDMP was not conceived and cannot be a panacea to all hunger related issues in India, and no doubt, maladies like corruption and poor execution and insipid monitoring continue to plague MDMP, one cannot overlook the fact that it has delivered to a great extent on school participation, especially among girls and marginalized sections of the society, and fostered gender and social equality in the context of India's rigid social milieu. Above all, its mission to reduce classroom hunger and provide nutrition to school going children is above reproach. The MDMP is a step forward in welfare schemes for children, and with a little improvement, it can truly help better the nation's future.

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