

IMPACT OF MID-DAY-MEAL-SCHEME (MDMS) ON NUTRITIONAL-LEVEL, ENROLMENT-RATE AND DROPOUT-RATE OF PRIMARY SCHOOL CHILDREN IN KERALA : A CASE STUDY

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Education is thought to be central to economic development, leading to higher productivity and living standard. Primary education is thought to be vital in Kerala and call for universal primary education. Mid-day-meal is one important policy and the main intension of it is to lower the cost of schooling and also to improve child nutrition to foster learning, thereby increasing returns to education. In the study it is seen that the scheme is not helping to improve the nutritional status of the LP school children in both schools selected as a case. And also seen that mid-day-meal-scheme has no great impact on the nutrition level, enrolment and dropout of students. Therefore, the scheme can make a positive impact on nutritional level of students, if the food-item has greater calorie contents. The government has to reschedule food-items and timing at which the food is provided since; the nutritional aspect of children plays a greater role in the physical and mental development.

Key Words: *Mid-Day-Meal-Scheme, nutritional-level, enrolment-rate, dropout-rate, primary school children, Kerala*

INTRODUCTION

Health and education are considered as the “fundamental right” in the whole world. Universal primary education is one of the important objectives of “Millennium Development Goals” (MGD) to ensure that boys and girls alike must complete primary schooling. The importance of primary education as per the basic education that good health and other human attainment are not only directly valuable as constituent elements of basic capabilities; these capabilities can also help in generating economic success of a more standard kind, which in turn can contribute to enhance the quality of human life even more (Drez and Sen, 2004). Education plays a vital and important role in fulfilling the basic needs of a common man, viz, food, shelter and clothing. The main aim of education is to prepare and develop the child physically, mentally and spiritually to lead a quality life. Education is a process through which a child is made capable to attain the necessary competencies and skills to face the challenges in life to survive, and to make struggle for existence (Dipa Sinha, 2008). Four important factors are identified for achieving the goal of education for all. These are: access to education, enrolment of children, retention of the enrolled children and achievement. Mid-Day-Meal-Scheme is an effort to achieve and facilitate all these objectives (Brinda Viswanathan, 2006).

Various schemes were introduced in the primary education sector by government to reach the disadvantaged population. Access to primary education was universalized through flagship programme of government like Sarva Shiksha Abhiyan, however despite this; a few children are still deprived of primary education due to inability of their poor economic status (Gursharan Sing, 2006). The 93rd amendment of constitution was made free and compulsory education as a “fundamental

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right” of all children in the age group of 6-14 years. India is also a signatory to the millennium development goals. According to this, the country has to achieve the goal of universal primary education by the year 2015.

To attain this goal, the scheme National Programme of Nutritional Support to Primary Education commonly known as Mid-Day-Meal-Scheme was launched in 15th August 1995 on nationwide by the Department of Elementary Education and Literacy, Ministry of Human Resources Development, Government of India. Initially, this programme was introduced in 2408 blocks of the country, after that it was extended to all blocks of the country in the year 1997-1998. In the year 2002, this scheme was extended to cover the children studying in Education Guarantee Scheme (EGS) and Alternative Informal Education (AIE). In September 2004, this programme was revised to provide cooked mid-day-meal with 300 calories, and 8-12 grams of protein to all children studying in class 1 to V in government and government-aided schools and EGS/AIE centers as per the order by Supreme Court. In November 2001, the Supreme Court directed all state governments to provide cooked mid-day-meal instead of raw food grains. In October 2007, the scheme was extended to cover children of upper primary (classes VI to VII) initially in 3479 educationally backward blocks (EBBS) and thereafter to cover all the blocks of the country. The number of children covered under mid-day-meal-scheme has increased from 3.34 crore in 1995 to 12 crore children in 2010.

The Mid-Day-Meal-Scheme (MDM) was thus an attempt to enhance enrolment, retention and attendance by simultaneously improving nutritional levels among children in school. The main objectives of this scheme are :

1. To improve the nutritional status of children in classes one through seven in government schools and government-aided schools.
2. To encourage children from disadvantaged backgrounds to attend school regularly and help them to concentrate in school activities.
3. To provide nutritional support to students in drought-ridden areas throughout summer vacation.

The Scheme estimates a cooked mid-day-meal with a minimum of 300 calories and 8-12 grams of protein to all children studying in class I to V. Upper Primary meals consist of 700 calories and 20 grams of protein by providing 150 grams of food grains (rice or wheat) per child per school day. The central government supplies state and union territory governments with free food grains (wheat and rice) at 100 grams per child per school day from the nearest Food Corporation of India (FCI) godown and also the cost of transporting the food grains from the nearest FCI to the Primary School. The scheme provides assistance for meeting the cooking cost also.

The programme is being carried out by local authorities with assistance from village panchayaths, village education committees, school management committees, parent teacher associations, etc. In rural areas the cooking is being done by women self-help groups. In urban areas, some NGOs have taken responsibility for cooking the food and bringing it to the primary schools. Free mid-day-meals can achieve a great deal with regard to child education and health. They promote the participation of the child in school, reduce classroom hunger, facilitate the healthy growth of a child, promotes good eating habits like washing ones hands, finishing ones food, etc, and fosters social and gender equality as all children get the same food and must eat together. It has been estimated that 8.41 crore primary students and 3.36 crore upper primary students, that is, a total of 11.77 crore students have benefited from MDM Scheme during 2009-10.

HISTORY OF MID-DAY-MEAL-SCHEME

The mid-day-meal in school has a long history in India. In 1925, a mid-day-meal programme was introduced for disadvantaged children in Madras Municipal Corporation. By the mid 1980s, three states viz, Gujarat, Kerala and Tamilnadu and the Union Territory of Pondicherry had universalized cooked mid-day-meal programme with their own resources for children studying at the primary stage. By 1990-91 the number of states implementing the mid-day-meal-scheme with their own resources on a universal or large scale had increased to twelve states.

During the year 2009 the following changes have been made to improve the implementation of the scheme :

- (i) Food norms have been revised to ensure balanced and nutritious diet to children of upper primary group by increasing the quality of pulses from 25 to 30 grams, vegetables from 65 to 75 grams and by increasing the quantity of oil and fat from 10 grams to 7.5 grams.
- (ii) Cooking cost (excluding the labour and administrative charges) has been revised from Rs 1.68 to Rs 2.50 for primary and from Rs 2.20 to Rs 3.75 for upper primary children to facilitate serving meal to eligible children in prescribed quality and good quantity. The cooking cost for primary is Rs 2.69 per child per day and Rs 4.33 for upper primary children from 2010. The cooking cost is revised by 7.5 percent from 2011.
- (iii) The existing system of payment of cost of food-grains to FCI from the government of India is prone to delay and risk. Decentralization of payment of cost of food-grains to the FCI at the district level from 2010 to allow officers at state and national levels to focus on detailed monitoring of the scheme.

WORKING OF MID-DAY-MEAL-SCHEME IN KERALA

As per the scheme's original design, Panchayath and Nagarpalikas were the implementation units, with the district being the unit for allocation of food grains. Following the 2004 revision of guidelines, the responsibility for implementing MDM was vested with state and union territory governments, while the national level steering cum monitoring committee has oversight authority. The Ministry of Human Resources Development (MHRD) conveys all central assistance to State Nodal Department, which in turn convey the funds to District Departments or to Panchayath Raj Institutions in states where applicable.

Table 1 : Year Wise Outlay under Mid-Day-Meal-Scheme (Rs. in crores)

Year	Budgetary Estimate (BE)	Revised Estimate (RE)	Releases
2007-08	7324.00	6678.00	5835.44
2008-09	8000.00	8000.00	6539.52
2009-10	8000.00	7359.15	6937.79
2010-11	9440.00	9440.00	9128.44
2011-12	10380.00	10239.01	9901.91
2012-13	11937.00	11500.00	10867.90
2013-14	13215.00	13144.33	9435.00 (As on 30-11-2013)

Source: Department of School Education and Literacy, Government of Kerala.

Table 2 shows the various food items provided to the schools in Kerala per day. The main food items are rice, pulses and vegetables, milk and egg. It also shows the daily schedule of mid-day-meal-scheme. Rice and vegetables are providing daily.

Table 2 : Food Items Provided to Schools in Kerala Per day and Time Schedule

Items	Quantity	Time Schedule
Rice	150 gram	Daily (5 days)
Pulses and vegetables	30 gram	Daily (5days)
Milk	1 glass	2 days
Egg	1	1 day

Sources : www.mdm.nic.in

Quality Of Mid-Day-Meals

Quality of mid-day-meal largely depends on the quality of food grains. FCI is held responsible for issue of food grains of best available quality, which will in any case be at least of Fair Average Quality (FAQ). FCI appoints a Nodal Officer for each state to take care of various problems in supply of food grains under the MDM programme. The district collector or chief executive officer of District Panchayath ensures that food grains of at least of FAQ are lifted after joint inspection by a team consisting of FCI and the nominee of the collector or chief executive officer, district panchayath, and confirmation by them that the grain conforms to at least FAQ norms (Manisha and Kalian, 2013).

Quality, safety and hygiene specifications have been prescribed in the guidelines. It also provided that 2-3 adult members, of them at least one being teacher, must taste the food before it is served to the children. Although guideline provide for inspection of 25 percent schools/EGS/AIE centers every quarter by the supervisory officers but due to shortage of officers, staff and resources, intense and frequent inspection of the programme is not happening in the expected manner (Jyotsna and Mihir, 2005). The guidelines also provide active community participation for the supervision and monitoring of the programme. For a programme of this magnitude, the key success lies in the active and meaning full involvement of the community (Reetika Khera, 2006).

Table 3 : List of Food Items Distributed per day and Acquired Calorie in Each Day

Day	Food item	Acquired calorie
Monday	Rice, Pulses and Vegetables	175.5
Tuesday	Rice, Pulses and Vegetables	175.5
Wednesday	Rice, Pulses, Vegetables, Milk	325.5
Thursday	Rice, Pulses, vegetables and Milk	325.5
Friday	Rice ,Pulses, vegetables and Egg	330.5

Source : www.akshayapatra.org

Table 4 shows the required height and weight of primary school children on the basis of age which are the important determinants of the nutrition level. At the age of 6, a child should be 113 cm height and 20 kg of weight and at 9; it would attain 131 cm height and 29 kg of weight respectively.

Table 4 : Required Height and Weight of Children on the Basis of Age

Age in years	Required height in cm	Required weight in kg
6	113	20
7	119	23
8	125	26
9	131	29

Sources: www.mdm.com

Problems Of Mid-Day-Meal-Scheme

Mid-day-meal-scheme has been in operation since 1995 and there is a repeated revision in the guidelines for clarity on the objectives of the programme through 2006. Despite stated objectives to boost universalisation of primary education, Ministry of Human Resource Development (MHRD) had not formulated ways to measure the impact of the programme on enrolment, retention or attendance (Rama, Rajib, Mita and Aparna, 2008). Data collected from states on enrollment were being used solely for allocating food-grains. Nor had MHRD collected data on the nutritional status of beneficiaries or established linkages with the ministry for family and health welfare to provide health check-up as prescribed in the guidelines (Reetika Khera, 2013).

- 1) Lack of evidence on impact official sources of information on MDM does not provide any evidence on the extent to which the programme has reduced chronic hunger and malnutrition among school-going children. Moreover, no impact evaluations have been conducted to estimate the effect that the scheme has had on health and education levels of children.
- 2) Inefficiency of, and delay in, delivering cooking cost at the school-level. States have cited two primary reasons for inadequate implementation of MDM; insufficient funds to cover cooking costs and delays in budget allocations. States claim that the current cooking cost per student is insufficient and have repeatedly requested to raise it.
- 3) Deviation from prescribed norms: food served in several states fell short of the prescribed 100 grams with deviations ranging from 5 to 83 grams (Stuart Gillespie, 2013). Moreover, many states did not monitor the quality of food and the other states conducted irregular or no on-state inspections. Additionally, Ministry of Human Resources Development did not provide micro-nutrient supplement, which it claimed was the states responsibility. CAG audit report 13 of 2008 concluded that Ministry of Human Resources Development had overlooked its crucial role in monitoring whether mid-day-meals were being made available to school children.
- 4) Ineffective monitoring and evaluation: provisions for monitoring were not adhered to and the mechanism for internal control was weak. The monitoring and steering committee did not meet regularly to take stock of the status and performance of the scheme. In fact, since its inspection the national level committee met only twice in 2005 and not once thereafter compared to the prescribed five meetings between 2004 and 2007 (Vasanth Bahurao, 2013).

EVALUATION OF MID-DAY-MEAL-SCHEME

The educational institutions are placing an important role on the society, especially in the case of school children. Right to education is one of the fundamental rights. There is compulsory education of 6 to 14 age group children. So education from school has greatly influenced the attitude and character of children. For the growth of children, cooked meals are necessary from schools. It will help to increase their concentration on the study and also help to attain good health status. This study is mainly concentrated on the mid-day-meal-scheme on lower primary school children in 16th ward of Balal Panchayath in Kerala as a case. In this panchayath there are 14 schools. To study the mid-day-meal-scheme and its impact on nutrition level, enrolment and dropout-rate, two Lower Primary school are taken as case. These schools are Kuvathil Islam Aided LP School (KIALPS) Kallanchira and Kanakapally G LP School.

KIALPS Kallanchira School (Case-I)

The school is located in the rural areas of Balal Panchayath of Kasaragod district of Kerala. There are 56 students in 1 to IV classes, most of them are coming from poor families. Out of this, 30 percent are backward caste, SC and ST. The school provides mid-day-meal in every working day and all are taking food from the school. The school also provides one glass of milk and one egg on one day in five working days. There is only one worker for cooking food. The food grains are bought from civil supply-store and open market and the funds are allocated by the government. Variety of food items are provided in this school in lunch even though the funds are not sufficient for buying food items (Table 5).

Kanakapally GLP School (Case-II)

The school is also located in the rural areas of Balal Panchayath of Kasaragod district of Kerala. In this school, there are 87 students in 1 to IV classes. The school also provides cooked mid-day-meal in all working days, including egg and milk and all the children are taking food from school (Table 5).

Table 5 : Food items Provided from Two Schools under MDMS

Sl. No.	Items	Quantity	Time Schedule
1	Rice	150 gram	Daily (5 days)
2	Pulses and vegetables	30 gram	Daily (5days)
3	Milk	1 glass	2 days
4	Egg	1	1 day

Source : Primary data

Nutritional Status of Children

Table 4 shows the required height and weight of primary school children on the basis of age in both the two schools. Table 6 shows the actual percentage height of LP school children in two sample cases. It shows that most of the children are included in the category of below required height. About 97.5 percent and 75 percent of children are below required height in two sample cases. In case-1, 2.5 percent are in required height and in case-2, 25 percent are above required height.

Table 6 : Percentage of Children in Each Class on the Basis of Required Height

KIALPS Kallanchira (Case-1)					
Category	Class				
	1	11	111	1V	Total
Required height	0.00	0.00	2.50	0.00	2.50
Above required height	0.00	0.00	0.00	0.00	0.00
Below required height	25.00	25.00	22.50	25.00	97.50
Total	25.00	25.00	25.00	25.00	100.00
Kanakapally GLP School (Case-2)					
Required height	0.00	0.00	0.00	0.00	0.00
Above required height	5.00	5.00	10.00	5.00	25.00
Below required height	20.00	20.00	15.00	20.00	75.00
Total	25.00	25.00	25.00	25.00	100.00

Source: Primary data

Table 7 shows the weight of children in two sample cases. In case-1, no number of children have required and above required weight. All are included in below required weight. In case-2, most of them (92.5 percent) are under below required weight. In two sample cases, the mid-day-meals did not have high influence on the height and weight and accordingly the nutritional level of children.

Table 7 : Percentage of Children in Each Class on the Basis of Required Weight

KIALPS Kallanchira (Case-I)					
Category	Class				
	1	11	111	1V	Total
Required weight	0.00	0.00	0.00	0.00	0.00
Above required weight	0.00	0.00	0.00	0.00	0.00
Below required weight	25.00	25.00	25.00	25.00	100.00
Total	25.00	25.00	25.00	25.00	100.00
Kanakapally GLP School (Case-I)					
Required weight	2.50	0.00	0.00	0.00	2.50
Above required weight	5.00	0.00	0.00	0.00	5.00
Below required weight	17.50	25.00	25.00	25.00	92,50
Total	25.00	25.00	25.00	25.00	100.00

Source: Primary data

Enrolment-rate of LP School Children

Table 8 shows the enrolment-rate of LP school children in two sample school cases. During 2006-07 to 2008-09, there is increasing enrolment in Kanakapally GLP School (case-2). In case-1, enrolment shows increasing rate during 2006-07 to 2010-11. In the year 2013-14, enrolment-rate decreased in both the schools. So the analysis shows that, the mid-day-meal-programme of children in schools have not greatly influenced the increasing enrolment rate of children in these schools.

Table 8 : Total enrolment-rate of children in schools

Year	Case-1	Case-2
2005-06	109	116
2006-07	101	119
2007-08	102	120
2008-09	106	121
2009-10	107	113
2010 -11	108	108
2011-12	89	104
2012-13	62	110
2013-14	56	87

Source: Collected from school registers of KIALPS Kallanchira (Case-1) and Kanakapally GLP School (Case-2)

Dropout-rate of LP School Children

Table 9 shows the dropout-rate of LP school children in two sample school cases. In 2011-12 academic years, dropout-rate was high in case-1 and in case-2 it was in 2008-09.

Table 9 : Total dropout-rates of children in schools

Year	Case-1	Case-2
2005-06	0	0
2006-07	0	1
2007-08	3	4
2008-09	0	8
2009-10	0	4
2010-11	1	1
2011-12	7	5
2012-13	1	1
2013-14	2	1

Source: Collected from school registers of KIALPS Kallanchira (Case-1) and Kanakapally GLP School (Case-2)

CONCLUSION

The concept of implementing mid-day-meal is almost a century old in India. With early beginnings in Madras Presidency and followed by its introduction in Gujarat and Delhi, in that order, in the post-independence period. Today, the scheme is implemented in almost all states. Thus, the scheme is an important instrument to encourage children to attend school. It would also have been an interesting proposition to test the impact of MDM scheme on school attendance, enrolment and drop-out rates.

Education is thought to be central to economic development, leading to higher productivity and living standard. Primary education is thought to be vital in India and call for universal primary education by 2015. In view of this, the government across the country has instituted a wide range of policies aimed at encouraging primary school education. Mid-day-meal is one such policy and the main intension of it is to lower the cost of schooling and also to improve child nutrition to foster learning, thereby increasing returns to education. In the study it is seen that mid-day-meal-scheme is not helping to improve the nutritional status of the LP school children in both schools selected as a case. And it is seen that mid-day-meal-scheme has no great impact on the nutrition level, enrolment and dropout of students. Therefore, the scheme can make a positive impact on nutritional level of students, if the food-item has greater calorie contents. The government has to reschedule food-items and timing at which the food is provided since; the nutritional aspect of children plays a greater role in the physical and mental development.

References

- Anima Rani and Naresh Kumar Sarma (2008), "An Empirical study of the mid day meal programme in Khurda, Orissa", *Economic and Political Weekly*, Vol. 43, No. 25, pp: 46-55
- Aparajita Goyal and Jean Dreze (2003), "Future for mid day meals", *Economic and Political Weekly*, Vol. 38, No. 44, pp: 4673-4683.
- Brinda Viswanathan (2006), "Access to Nutritious Meal Programme: Evidence from 1999-2000 NSS data", *Economic and Political Weekly*, Vol. 41, No. 6, pp: 497-499-506.
- Dipa Sinha (2008), "Social audit of mid day meal scheme in AP", *Economic and Political Weekly*, Vol. 44, pp: 57-61.
- Drez and Sen (2004), "MDM in school children", *Economic and Political weekly*, Vol. 39, No. 19, pp: 1937-1938.
- Farzana Afridi (2005), "Mid Day Meal Schemes, Comparison of the Financial and Institutional Organization of the programme in two states", *Economic and Political Weekly*, Vol. 40, No. 15, pp: 1528-1535.
- Gunasekaran A and Usha Rani D B (2003), "Nutritional Status of Children in Tamil Nadu", *Southern Economist*, Vol. 49, No. 16, pp: 5-7
- Gursharan Sing Kainth (2006), "A mission approach to Sarva Shiksha Abhiyan", *Economic and Political Weekly*, Vol. 41, No. 30, and pp: 3288-3291.
- Harold Alderman, Daniel. O. Gilligan and Kim Lehrer (2012), "The Impact of Food for Education Programme on Schools Participation in Northern Uganda", *Economic Development and Cultural Change*, Vol. 61, No. 1, pp: 187-218.
- Irudaya Rajan S and Jayakumar A (1992), "Impact on Noon Meal Programme on Primary Education: An exploratory study in Tamil Nadu", *Economic and Political Weekly*, Vol. 27, No. 43, pp: 2372-2380.
- Jyotsna Jain and Mihir Shab (2005), "Antyodaya Anna Yojana and mid day meal in AP", *Economic and political Weekly*, Vol. XL, No. 48, pp: 5076-5092

- Manisha Gurg and Kalian Sankar Mundal (2013), "Mid day meal for the poor, privatized, education for the non-poor", *Economic and Political Weekly*, Vol. XLVIII, No. 30, pp: 155-163
- Padmini Swaminathan, Jayarajan. J, Jreenivasan. R. and Jayashree. K (2004), "Tamilnadu mid day meal scheme: where assumed benefits score over hard data", *Economic and Political Weekly*, Vol. 39, No. 44, pp: 4811-4821
- Rakesh Lodha, Yogesh Jain and S Sathyamala C (2013), "Reality of higher malnutrition among Indian children", *Economic and Political Weekly*, Vol. XLVIII, No. 34, PP: 70-72.
- Rama V .Baru, Rajib Dasgupta, Mita Despande and Aparna Mohanty (2008), "Full meal or package Deal?", *Economic and Political Weekly* ,Vol. 43, No. 24, pp: 20-22
- Reetika Khera (2006), "Mid day meals in primary schools", *Economic and Political Weekly*, Vol. XLI, No. 46, pp: 4742-4745.
- Reetika Khera (2013), "Mid Day Meals: looking Ahead", *Economic and Political Weekly*, Vol. XLVIII, No. 32, pp: 12-14.
- Srinivasulu. M. (2013), "primary education and its dropout rates in AP", *Southern Economist*, Vol. 52, No. 6, pp: 28-32
- Stuart Gillespie (2013), "Myths and realities of child nutrition", *Economic and Political Weekly*, Vol. XLVIII. No. 34, pp: 64-67.
- Surabhi Chopra (2009), "Holding the state accountable for hunger", *Economic and Political Weekly*, Vol. 44, No. 33, pp: 8-12.
- Vasanth Bahurao Kodug (2013), "National Food Security in India: provision and challenges ", *Southern Economist*, Vol. 52, No. 9, pp: 13-18.
- Vimala Ramachandran, Kameshari Jandhyala and Aarati Saihjee (2003), "Through the life cycle of children factors that facilitate/impedes successful primary school completion", *Economic and Political Weekly*, Vol. XLI, No. 47, pp: 4994-5002.