



JOINT REVIEW MISSION REPORT : 2018 UTTAR PRADESH



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Government of India

Ministry of Human Resource Development

Department of School Education & Literacy



**मध्याह्न भोजन योजना
Mid Day Meal Scheme**

**Report of 11th Joint Review Mission on
Mid-Day Meal Scheme**

UTTAR PRADESH

(21st to 29th October, 2018)

Acknowledgement

The Joint Review Mission Team for the 11th Review Mission-Uttar Pradesh 2018-19 would like to thank the Ministry of Human Resource development, New Delhi and the Government of Uttar Pradesh for all the support rendered in organizing the logistics as well as in providing much required programmatic information that facilitated to the Mission meet the terms of reference developed by the Government of India.

The members of the Mission acknowledge and value the support and hospitality extended by the officials; the teachers working in the remote villages; the State officials of the Mid-Day Meal Scheme; the cook-cum-helpers in the MDM kitchens; SMC members and most importantly, the students of the sample schools.

The review team has made an earnest effort to include in the report the wide range of observations and discussions held at various levels with key officials and other stakeholders. It sincerely hopes that the recommendations that have emerged through this multi-pronged exercise by interacting with the officials, experts, implementers and the children, would help the Government of Uttar Pradesh in strengthening the implementation of the Mid-Day Meal Scheme in schools and ensure that every school going child avails its right to nutritious food in the State.

Our thanks are due to all the functionaries of MDM in the selected districts of the state for their heartfelt cooperation and support in carrying out the study in their respective areas.

Lastly, but not least, we would also like to thank all the students and parents for their whole-hearted support in carrying out the study.

JRM TEAM,

Uttar Pradesh: October, 2018

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ABBREVIATIONS

AWP&B	Annual Work Plan & Budget
BAS	Baseline Achievement Survey
BEO	Block Education Officer
BMI	Body Mass Index
BPL	Below Poverty Line
BRC	Block Resource Centre
BSA	Basic ShikshaAdhikari
CRC	Cluster Resource Centre
CWSN	Children with Special Needs
DIET	District Institute of Education and Training
DISE	District Information System for Education
DC	District Coordinator
GOI	Government of India
GP	Gram Panchayat
ICDS	Integrated Child Development Services
JRM	Joint Review Mission
KGBV	Kasturba Gandhi BalikaVidyalaya
MDM	Mid-day Meal
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MHRD	Ministry of Human Resource Development
MI	Monitoring Institute
MIS	Management Information System
MLA	Member of Legislative Assembly
MP	Member of Parliament
MME	Management Monitoring and Evaluation
MS	Mahila Samakhya
MTA	Mother Teacher Association
NFHS	National Family Health Survey
NGO	Non-Governmental Organization
OBC	Other Backward Community
PAB	Project Approval Board
PRI	Panchayati Raj Institution
PTA	Parent Teacher Association
RBSK	Rashtriya Bal Swasthya Karyakram
SC	Scheduled Caste
SMC	School Management Committee
SE&L	School Education & Literacy
SFD	Special Focus District

Executive Summary

The JRM Team visited 38 schools in two districts viz. Bulandshahar and Chandauli. During the visits the team collected information as per the Term of References, held discussions with all stakeholders i.e. students, teachers, cook-cum-helpers, community members, parents and officials at Block, District and State level.

The team also carried out nutritional assessment for 753 children (413 in district Bulandshahar and 340 in Chandauli).

1. Good Practices observed

- i. Meals are being cooked and served to children in every school.
- ii. The State Government is also providing milk and fruits.
- iii. State Government has also provided eating plates to all children.
- iv. LPG is being used as mode of fuel in almost all schools.
- v. Toilets are generally clean and are being used by school children. Separate toilets were available for boys and girls in all schools.
- vi. Dining tables were also available in few schools.
- vii. A separate place is constructed for cleaning of utensils in one school in Chandauli.
- viii. Use of IVRS for real time data.

2. Areas of Concern

- i. Huge delays in release of funds.
- ii. Negative balance of foodgrains in almost all of the visited schools.
- iii. Mismatch in the data with regard to availability of foodgrains between information furnished to district by block and record available at the schools.
- iv. Entitlement of children and logo are not displayed in majority of the visited schools.
- v. The portion size of meals served is less than the prescribed norms of the scheme.

- vi. Officials, teachers and stakeholders are not aware about the norms of the scheme.
- vii. Inadequate monitoring of scheme.
- viii. Payment of honorarium to Cook-cum-helpers is made through cheques. This may be done through e-transfer.
- ix. About 42 % school children were malnourished.
- x. Clinical signs and symptoms observed clearly indicates protein and micronutrient deficiency in children.

3. Recommendations

- i. Streamlining of the supply chain mechanism.
- ii. Reconciliation of records especially with regard to availability of foodgrains.
- iii. Training and sensitization of teachers and officials at different level.
- iv. Display of Entitlement, Menu and Logo of Mid Day Meal Scheme at a prominent place
- v. Women Self Help Groups may be involved in implementation of Mid Day meal Scheme.
- vi. Recipes for quantity food production of each dish should be standardized.
- vii. The portion size of each dish to be served to primary and upper primary students should be standardized.
- viii. Menu may be more flexible, preferably at the district level.

Introduction

Nutrition is directly linked to human resource development, productivity and ultimately to the nation's growth. Malnutrition on the other hand refers to insufficient, excessive, or imbalanced consumption of nutrients by an organism. In developed countries, the diseases of malnutrition are most often associated with nutritional imbalances or excessive consumption. In developing countries, malnutrition is more likely to be caused by poor access to a range of nutritious foods or inadequate knowledge. It is inextricably linked with illiteracy, especially female illiteracy, lack of safe drinking water, sanitation, ignorance, lack of awareness and ill health. It creates its own cycle within the large cycle of poverty.

Malnutrition adversely affects Universalization of Elementary Education (UEE). Even if a malnourished child does attend school, he/she finds it difficult to concentrate on and participate in the learning activities in school. Unable to cope, the child would very often drop out of school.

Various studies suggest that absence of an adequate breakfast over extended period can affect both behaviour and nutritional status; such children exhibit irritability, decreased attentiveness and low concentration span, all of which affect their active learning capacity. Malnutrition is therefore not just an issue for the nutritionist; the planners and economists also need to recognize that the cost of malnutrition is much greater than the investments required to end hunger/malnutrition.

With a view to enhance enrolment, attendance and retention and simultaneously to improve the nutritional status of children, a Centrally Sponsored Scheme 'National Programme of Nutritional Support to Primary Education (NP-NSPE)' was launched on the 15th August 1995. The scheme was extended in 2008-09, to cover children of upper primary classes and the Scheme was renamed as 'National Programme of Mid-Day Meal in Schools' popularly known as Mid-Day Meal Scheme (MDMS). The MDMS covers all school children studying in I-VIII classes in *Government and Government-*

aided schools, Special Training Centres (STCs) and Madrasas & Maqtabas supported under Samagra Shiksha.

The Mid-Day Meal (MDM) Scheme is a flagship programme of the Government of India, having the distinction of being the largest school feeding programme in the world, reaching out to about 9.51 crore children in 11.34 lakh primary and upper primary Government, Government Aided and Local Body schools, Special Training Centres (STC) and Madarsa and Maqtabas supported under Samgra Shiksha. Mid day meal is also served during the summer vacations in drought-affected areas. Cooked mid-day meal consists of 100 grams of wheat/rice, 20 grams of pulses, 50 grams of vegetables and 5 grams of oil/fat and provides 450 calories of energy and 12 grams of protein at primary stage. For upper primary stage children, it consists of 150 grams of wheat/rice, 30 grams of pulses, 75 grams of vegetables and 7.5 grams of oil/fat and to provide 700 calories of energy and 20 grams of proteins

1. Objectives of MDM

The objectives of the Mid-Day Meal Scheme are to address two of the pressing problems for majority of children in India, viz. hunger and education by:

- i. Improving the nutritional status of children studying in classes I – VIII in Government and Government-aided schools, Special Training Centers (STCs) and madrasas & maqtabas supported under Samagra Shiksha.
- ii. Encouraging poor children, belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities.
- iii. Providing nutritional support to children of elementary stage in drought-affected areas during summer vacations.

A programme of scale and magnitude of Mid Day Meal requires close monitoring and evaluation at all levels. In 2010, the Ministry of Human Resource Development, Govt. of India, decided to review implementation of the programme in all its aspects through the Review Missions, which are also to provide suggestions for improvement.

1.1 Composition of Joint Review Mission

- i. Dr. Rita Singh Raghuvanshi, Dean Home Science, GBPUA&T, Pantnagar-
Team Leader
- ii. Shri Abdul Samad, Director (MDM), Govt. of Uttar Pradesh - Member
- iii. Dr. Rashmi Singh Sr. Asstt. Prof., Deptt. of Foods & Nutrition, College of
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- iv. Shri Bhupendra Kumar, Chief Consultant, Mid Day Meal Scheme, New Delhi -
Member
- v. Shri Davander Kumar, Consultant, Mid Day Meal Scheme, New Delhi -
Member

Dr. Dashrath Bhati, Ms. Raushan Khan, Ms. Chetna Jantwal and Ms. Pragati Shukla, assisted the Joint Review Mission as Research Assistants.

The 11thJRM visited 20 schools in Bulandshahar and 18 schools in Chanduali for monitoring the implementation of Mid Day Meal Scheme as per the defined terms of reference.

1.2 The Terms of Reference for the Joint Review Mission:

- i. Review the fund flow from State to Schools/implementing agencies.
- ii. Review the coverage of the Scheme
- iii. Review the availability of Management Structure at State, District, Block level
- iv. Review the delivery mechanism of food grains from State to Schools
- v. Review the smooth implementation of the Scheme with particular reference to Interruptions.
- vi. Review the Creation of Capital Assets
- vii. Construction of Kitchen-cum-stores
- viii. Procurement/Replacement of Kitchen Devices
- ix. Review the involvement of NGO's/Trust/Centralized kitchens in the Scheme

- x. Review the payment of Cost of Food grains to Food Corporation of India
- xi. Review the convening the meetings of District Level Committee under Chairpersonship of senior most Member of Parliament(LokSabha).
- xii. Review the Management Information System (MIS)
- xiii. Review the implementation of Automated Monitoring System
- xiv. Convergence with Rastriya Bal Swasthya Karyakram for health check-up, supplementation of micronutrients under WIFS & deworming medicine under National deworming day and health checkups and supply of spectacles to children suffering from refractive errors.
- xv. **Review the following**
 - a. Operationalization of Mid-Day Meal Rules, 2015
 - b. Dissemination of Food Safety Guidelines up to District, Block and School
 - c. Enrolment of children and Cook-cum-Helpers under Aadhaar
 - d. Payment of Honorarium to Cook-cum-Helpers
 - e. System of Storage food grains and other ingredients
 - f. Role of Teachers in Mid-Day Meal Scheme.
 - g. Tasting of MDM by Teacher, Parents and Community.
 - h. Testing of meals
 - i. Involvement of Community
 - j. Bank Account of Cook-cum-helpers
 - k. Awareness of the Scheme
 - l. Contingency Plan

1.3 Terms of Reference for Nutritional aspects:

- a. To assess the anthropometric measurements of a sample of children availing MDM
- b. Height ii. Weight iii. Mid arm Circumference
- c. To Calculate the Body Mass Index (BMI) on the basis of measurement of height and weight.
- d. To identify the children who are undernourished and over nourished.
- e. To review the quality and quantity of the served MDM.
- f. To review the satisfaction of the children parents and community on the served meal under MDM in respect of quality and quantity.
- g. To suggest some nutritionally balanced region specific recipes.

1.4 Food and Calorific norms under MDM

Initially the MDM Scheme envisaged the provision of free of cost 100g of wheat /rice for children studying in classes' I-V in all Government, local body and Government aided primary schools. The central government provided wheat /rice to the States/UTs; 3 kg of cereals were to be distributed free of cost to children who had over 80% attendance in the previous month. Most of the states distributed food grains to children but some states who were earlier providing cooked mid day meal or ready to eat food to school children, continued to do so.

In 2001 Hon'ble Supreme Court of India directed that hot cooked mid day meal containing 300kcal energy and 12 g of protein/day for 200 days to all children studying in classes I-V in all government, local body and government aided primary schools should be provided under Mid Day Meal Scheme.

Table 1: Food Norms

Nutritional content	Norm as per NP-NSPE,2004	Revised norm as per NP- NSPE,2006
Calories	300	450
Protein	8-12 g	120
Micro – nutrients	Not prescribed	Adequate quantities of Micro nutrients like Iron, folic Acid and Vitamin A

The above food norms were revised w.e.f. 1st December, 2009 as indicated below:

- a) 450 kcal and 12g of protein which is derived from 100 g of food grains (rice/wheat), 20g of pulses , 50g of vegetables and 5g of oil for children studying in primary classes and
- b) 700 kcal and 20g of protein, which is derived from 150g of food grains (rice/wheat), 30g of pulses , 75g of vegetables and 7.5g of oil in upper primary classes.

Table 2: Revised Food Norms

S. No.	Items	Quantity per Child per Day	
		Primary	Upper Primary
1.	Food grains	100 g	150 g
2.	Pulse	20 g	30 g
3.	Vegetables (leafy also)	50 g	75 g
4.	Oil & fat	5.0 g	7.5 g
5.	Salt & Condiments	As per need	As per need

Profile of State and Selected Districts

2.1 Uttar Pradesh: An Introduction

Uttar Pradesh is India's fourth-largest state in terms of land area and is roughly of same size as United Kingdom with a total area of 243,290 square kilometres. It is situated on the northern spout of India and shares an international boundary with Nepal. The Himalayas border the state on the north, but the plains that cover most of the state are distinctly different from those high mountains. The larger Gangetic Plain region is in the north; it includes the Ganges-Yamuna Doab, the Ghaghra plains, the Ganges plains and the Terai. The smaller Vindhya Range and plateau region is in the south.

For administrative convenience, it has 18 divisions, 75 districts, 915 urban bodies, 8135 Nyaya Panchayats, 13 Municipal corporations, 226 municipal boards, 59163 gram sabhas, 822 development blocks, 97941 populated villages.

2.1.1 Population

As per 2011 census, Uttar Pradesh, the most populous state in India, is home to the highest numbers of both Hindus and Muslims. By religion, the population in 2011 was Hindus 79.73%, Muslims 19.26%, Sikhs 0.32%, Christians 0.18%, Jains 0.11%, Buddhists 0.10%, and Others 0.30%. The literacy rate of the state at the 2011 census was 67.7%, which was below the national average of 74%.

The sex ratio in 2011, at 908 women to 1000 men, was lower than the national figure of 933. The state's 2001–2011 decennial growth rate (including Uttrakhand) was 20.09%, higher than the national rate of 17.64%. Uttar Pradesh has a large number of people living below the poverty line. Estimates released by the Planning Commission for the year 2009–10 revealed that Uttar Pradesh had 59 million people below the poverty line, the most for any state in India.

2.1.2 Literacy

The literacy rate for men is 79% and for women 59%. In 2001 the literacy rate in Uttar Pradesh stood at 56.27% overall, 67% for men and 43% for women.



2.2 District - Bulandshahar

The District of Bulandshahar is located in Meerut region of Uttar Pradesh located between Ganga and Yamuna rivers. This is situated between 28.4° south and 28.0° north latitude and between 77.00 and 78.00 longitudes.

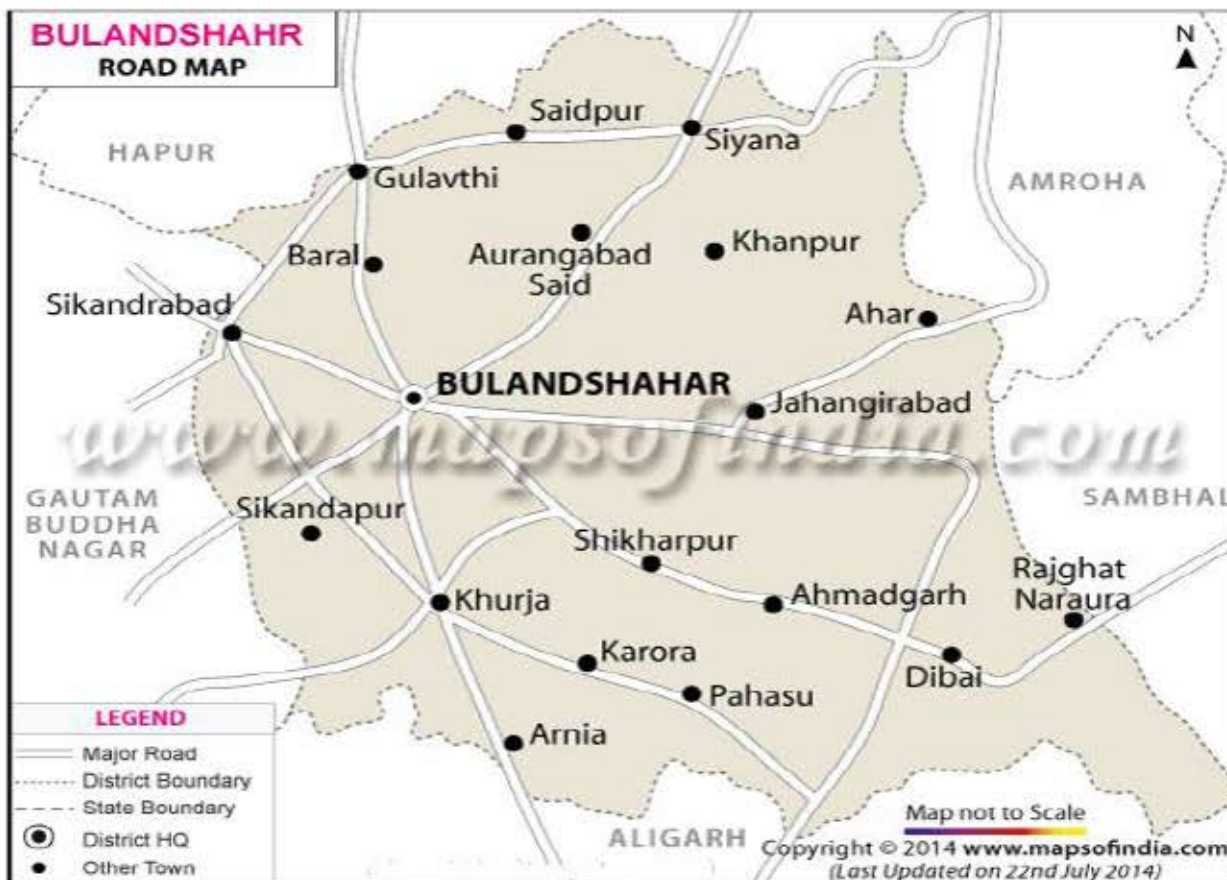
The District is about 84 km in length and 62 km is breadth. The district is 237.44 meters above sea level.

The river Ganga is the east separates this District from Moradabad and Badaun district and in the west river Yamuna separates the district from Haryana state and Delhi. In the north of district is Ghaziabad and in south east are the borders of Aligarh district.

The geographical area of the district is 4512 sq km which is about 1.48 percent of the total Uttar Pradesh area. The rural area of the district is about 4230.2 sq km. This district is near to Delhi and is in national capital region. The nuclear atomic power plant is located at Narora town of the district. Near Sikandrabad town is located the national level satellite earth station. This is also an important grain producing agriculture District.

2.2.1 Administrative setup Administratively the district is divided into seven subdivisions: Dabai, Anoopshahr, Khurja, Shikarpur, Siyana, Bulandshahr and Sikandrabad. For development purposes there are sixteen development blocks: Bulandshahr, Gulaothi, Lakhaowati, Shikarpur, Khurja, Pahasu, Arniya, Sikandrabad, Anoopshahr, Dabai, Danpur, Siyana, B.B.nagar, Jahagirabad, Uncha Gaon and Agauta blocks.

Bulandshahr is an industrially developing district. Khurja is known as city of potteries, with more than five hundred potteries.



2.2.2 Population

According to the 2011 census Bulandshahar had population of 34,99,171 of which male and female were 18,45,260 and 16,53,911 respectively. In 2001 census, Bulandshahar had a population of 29,13,122 of which males were 15,50,326 and remaining 13,62,796 were females.

There was change of 20.12 percent in the population compared to population as per 2001. In the previous census of India 2001, Bulandshahar District recorded increase of 18.17 percent to its population compared to 1991.

Table 3: Information on vital parameters – District Bulandshahar

Description	2011	2001
Actual Population	34,99,171	29,13,122
Male	18,45,260	15,50,326
Female	16,53,911	13,62,796
Population Growth	20.12%	18.17%
Density/km ²	776	656
Area Sq. Km	4,512	4,512
Sex Ratio (Per 1000)	896	879
Child Sex Ratio (0-6 Age)	854	867
Average Literacy	68.88	59.39
Male Literacy	80.93	74.31
Female Literacy	55.57	42.48
Total Child Population (0-6 Age)	549,796	542,329
Male Population (0-6 Age)	2,96,558	2,90,455

Female Population (0-6 Age)	2,53,238	2,51,874
Literates	20,31,656	14,08,082
Male Literates	12,53,314	9,36,195
Female Literates	7,78,342	4,71,887
Child Proportion (0-6 Age)	15.71%	18.62%
Boys Proportion (0-6 Age)	16.07%	18.74%
Girls Proportion (0-6 Age)	15.31%	18.48%

2.3 District - Chandauli

District Chandauli was constituted in the year 1997 from the district Varanasi. The district is situated in the eastern and southern side of holy river Ganga. The district is named after its tahsil headquarters name. The region covered by the present district was part of the ancient kingdom of kashi.

On the basis of geology, soils, topology, climate and natural vegetation the district Chandauli is subdivided in the following regions:

- Chakia Plateau
- Chandauli Plain
- Ganga Khadar

2.3.1 Population

In 2011, Chandauli had population of 1,952,756 of which male and female were 1,017,905 and 934,851 respectively. In 2001 census, Chandauli had a population of 1,643,251 of which males were 855,123 and remaining 788,128 were females.

There was change of 18.83 percent in the population compared to population as per 2001. In the previous census of India 2001, Chandauli District recorded increase of 28.90 percent to its population compared to 1991.

Table 4: Information on vital parameters – District Chandauli

Description	2011	2001
Actual Population	19,52,756	16,43,251
Male	10,17,905	8,55,123
Female	9,34,851	7,88,128
Population Growth	18.83%	28.90%
Area Sq. Km	2,541	2,541
Density/km ²	768	647
Proportion to Uttar Pradesh Population	0.98%	0.99%
Sex Ratio (Per 1000)	918	922
Child Sex Ratio (0-6 Age)	911	937
Average Literacy	71.48	59.72
Male Literacy	81.72	74.04
Female Literacy	60.35	44.13
Total Child Population (0-6 Age)	3,09,597	3,28,365
Male Population (0-6 Age)	1,62,019	1,69,564
Female Population (0-6 Age)	1,47,578	1,58,801
Literates	11,74,606	7,85,284
Male Literates	6,99,454	5,07,557
Female Literates	475,152	277,727

Child Proportion (0-6 Age)	15.85%	19.98%
Boys Proportion (0-6 Age)	15.92%	19.83%
Girls Proportion (0-6 Age)	15.79%	20.15%



Methodology

3.1 Nutritional Assessment

A nutritional survey in a total of 38 government run primary and upper primary schools in two selected districts, namely Bulandshahar and Chandauli were undertaken in which a total of school children were surveyed with an objective to collect information related to the following aspects of children availing Mid Day Meal:

- Food pattern
- Anthropometric profile
- Clinical signs of nutritional deficiencies
- Quality and quantity of MDM

3.2 Sample selection

Nutritional status assessment survey was conducted in government and government aided primary and upper primary schools availing MDM in Uttar Pradesh. Two districts namely Bulandshahar and Chandauli were selected. Four blocks namely Sikandrabad, Khurja, Agauta and Gulawathi in Bulandshahar and three blocks i.e Chakia, Naugarh and Niyamatabad in Chandauli were selected. The multistage stratified random sampling was used for selection of schools in the districts. A total of 38 schools (Bulandshahar 20 schools and Chandauli 18 schools) were visited. Considering report of Annual Health Survey, Clinical Anthropometric and Biochemical (CAB), Uttar Pradesh, 2014 where in 27.2 percent prevalence of malnutrition for 5 to 18 years of children was observed. Minimum sample size for assessing nutritional status was calculated as per following formula.

$$\text{Sample size} = \frac{Z_{1-\alpha/2}^2 P(1-p)}{d^2}$$

Where,

$Z_{1-\alpha/2}$ = Standard normal variate (at 5% type 1 error ($P < 0.05$) it is 1.96. As in majority of studies P values are considered significant below 0.05 hence 1.96 is used in formula.

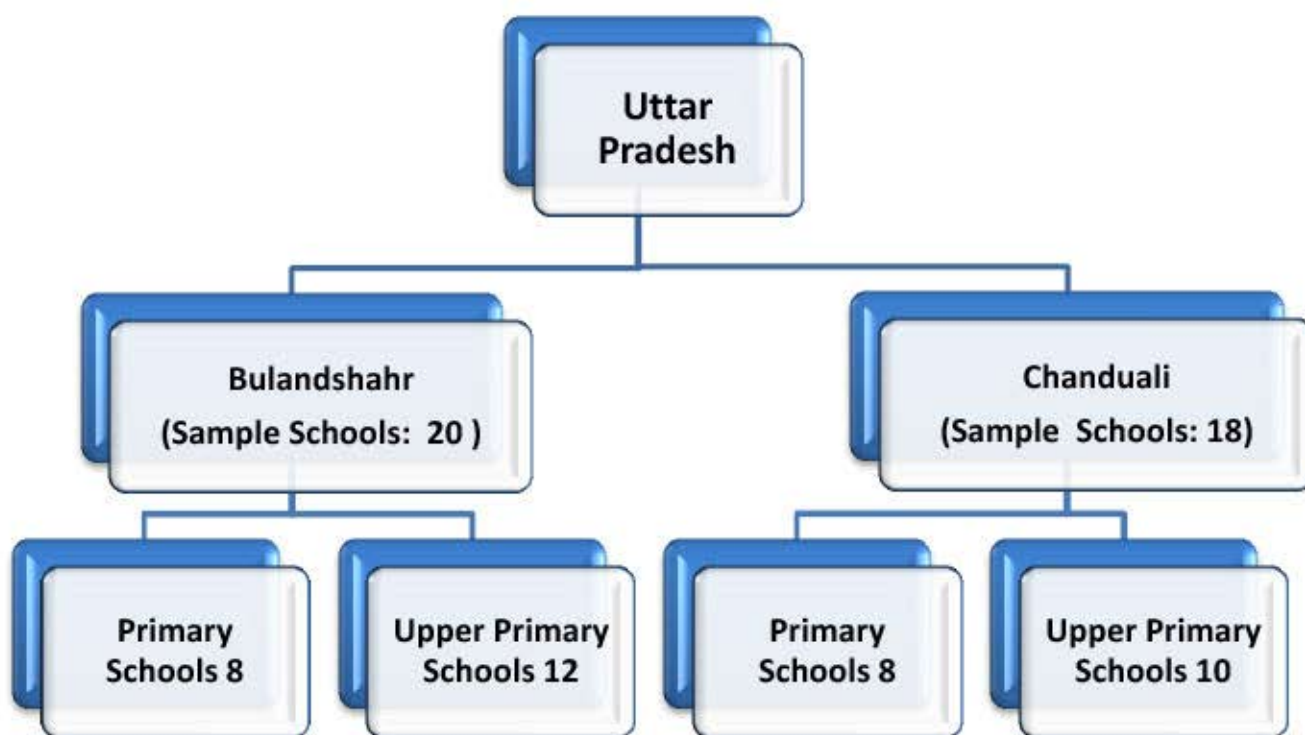
p = Percent prevalence.

d = Absolute error or precision.

Sample size obtained by using the above formula was multiplied by 2 i.e. is Design effect for the present study. Then 5 % of the sample size was added to it as contingency and sample of 639 was obtained.

3.2.1 Data collection

Using the above formula, sample size was estimated as 639. From both the districts more than 639 sample i.e. total 753 sample was selected. In Bulandshahr total children were 413 (Boys 186 and Girls 227) and in Chandauli total children were 340 (Boys 167 and Girls 173) . A multi stage stratified random sampling method was used for selection of schools in the selected districts.



3.3 Following procedures were adopted for assessing nutritional status of children

Anthropometric measurements of height, weight, mid upper arm circumference of selected children availing MDM was done to assess the nutritional status of children.

(Plate 1)

Diet survey was conducted using 24 hr dietary pattern and Food frequency pattern.

Clinical survey for nutritional deficiency signs and symptoms was done to identify the nutritional deficiencies.

The data collected was analysed by calculating mean, standard deviation, body mass index and compared with WHO reference standards (2007). The Height for Age and Body Mass Index (BMI) values were compared with the international classification as given by the World Health Organization for children aged five to nineteen years (WHO, 2007).

3.3.1 Classification of Children according to WHO SD classification 2007

Height for Age

Normal	Above median -1SD
Mild Stunting	Median < -1SD to - 2 SD
Moderate Stunting	Median > -2SD to < -3SD
Severely stunted	Median \geq -3SD

3.3.2 Classification of Children according to WHO SD classification 2007-

Body Mass Index (BMI)

Normal	Median -2SD to +1SD
Moderately Undernourished	Median -2SD to >-3SD
Severely Undernourished	Median < -3SD
Overweight	Median +1SD to < +3SD
Obese	Median \geq + 3SD

To collect data the members of MDM JRM were divided into two teams, each team consisted of 4/5 persons, The data was collected by using pretested questionnaires to collect the information related to objectives and pertaining to diet and nutritional status of school children, including their personal and environmental hygiene.

Cleanliness of the kitchen and cook-cum-helpers of the selected schools was also assessed for hygiene and practices as per MDM programme. The quantity of Mid day meal prepared on the day of the visit was checked keeping in mind the exact amounts of raw ingredients used and the number of children present on that day to find whether the “food norms” as recommended for MDM are being followed or not. Additionally, weighment diet survey of cooked MDM was used to assess individual intake of children,

to assess whether the serving of meals was as per the recommendations for primary & upper primary children.

3.4. Data analysis

Anthropometry is presented as mean and standard deviation. The Body Mass Index (BMI) was calculated using the following equation given by Garrow (1981):

$$\text{BMI} = \text{Weight (Kg)} / \text{Height (m)}^2$$

Where, weight is in kilogram and height is in meters. The height, weight and BMI were analyzed for Z - scores using WHO standards.

3.5. Quality and Quantity of MDM: The quality and quantity of MDM was assessed by visiting schools at the time of serving of MDM. One 'food serving' was measured with the help of a measuring cup. The quantity of food was classified into more than adequate, adequate and inadequate. Quality of MDM served was assessed as poor, average, good and very good.

Review of implementation of Mid Day Meal in Uttar Pradesh on Physical and financial parameters during last four years (2014-15 to 2017-18)

The Mid-Day Meal is an on-going Centrally-Sponsored Scheme which covers all school children studying in Classes I-VIII of Government, Government-Aided, Special Training Centres including Madarasas and Maqtabs supported under Samagra Shiksha.

The objectives of the MDM Scheme are to improve nutritional status of children studying in classes I – VIII eligible schools, to encourage poor children belonging to disadvantaged sections to attend school more regularly and to provide nutritional support to children of elementary stage in drought-affected areas even during summer vacation.

4.1 Norms of Central assistance under Mid Day Meal Scheme

At present, 100% recurring cost Central assistance is provided for cost of food grains, transportation of food grains from FCI depot to Schools and Management, Monitoring and Evaluation charges. 100% non-recurring Central assistance is provided for procurement/replacement of kitchen devices in schools. The Centre also provides assistance for cooking cost, payment of honorarium to cook-cum-helpers and construction of kitchen-cum-stores as per States Schedule of rates on sharing basis between Centre and State Government in the ratio of 60:40 for Non-NER States and 90:10 for NER States including 3 Himalayan States and 100% for Union Territories.

4.2 National Scenario of coverage of children under MDM

During 2017-18, 9.51 crore children studying in elementary classes in schools covered under MDM, have availed MDM on an average basis against the total enrolment of 12.38 crore. Thus about 76% of the enrolled children have availed MDM on each school day.

10	Payment to FCI (Rs in lakh)	8280.09	632.60
11	Cooking Cost utilized (Rs in lakh)	127957.60	37102.24
12	Hon. to CCH (Rs in lakh)	40535.30	10307.40
13	MME (Rs in lakh)	2011.60	334.69(As on date)
14	TA (Rs in lakh)	2325.87	57.90 (Up to 1 st qtr)
15	Implementation of RBSK	Implemented by Health Department	
15.1	Institutes covered under RBSK	168832	29796
15.2	Health checkup (no. of children)	17683288	1481049
15.3	IFA administered (no. of children)	17683288	1481049
15.4	De-worming tablets (no. of children)	17683288	1481049 (Information provided by Health Department)
16	Infrastructure facility available		
16.1	LPG facility	168832	157565
16.2	Drinking Water	168832	168170
16.3	Toilets	168832	167970
17	No. of Institution Inspected	168832	46430 (27.50%)
18	Schools having LPG facility	168832	157565
19	Annual Data Entry into MIS portal		FY: 2017-18 Annual: 99%, Monthly: 95%
20	Monthly Data Entry into MIS portal		FY: 2018-19 Annual: 69%, Monthly: 20%
21	Number of schools uploading data through AMS	168832	163890 (Due to unavailability of DISE Code of Around 5000 schools this is not being possible to upload data of those on AMS.)
22	Number of children having Aadhaar	17683288 (Enrollment)	12858837 (Information provided by districts in their 1 st QPR)
23	Cook-cum-helpers having bank a/c	395768	395768
24	CCH receiving hon. through bank a/c	395768	395768

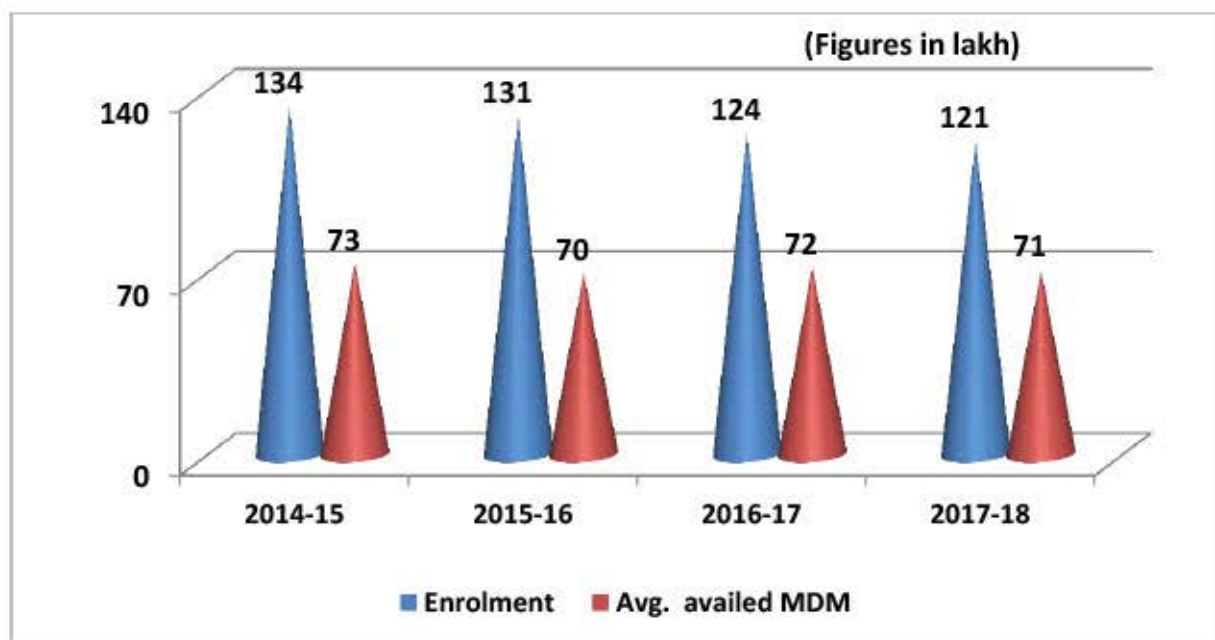
4.4 Review the coverage of children under MDM in Uttar Pradesh - Primary

The coverage of children at primary stage under Mid Day Meal scheme has shown improvement over the years as it has gone up to 59% in 2017-18 from 54% in 2015-16. However it is pertinent to mention that the coverage is still well below the national average of 76%. The trend in coverage is given as under:

Table 6: Enrolment, PAB Approval, and children availed MDM - Primary

Year	Enrolment	PAB approval	Avg. availed MDM	% availed vs. Enrol.	% availed vs PAB approval
2014-15	13374374	8679126	7334808	55%	85%
2015-16	13058656	8128187	6997043	54%	86%
2016-17	12351835	7199154	7215553	58%	100%
2017-18	12094277	7215553	7092792	59%	98%

Graph 1: Trends of Enrolment and Average number of children availing MDM: Primary



4.5 Review the coverage of children under MDM in Uttar Pradesh – Upper Primary

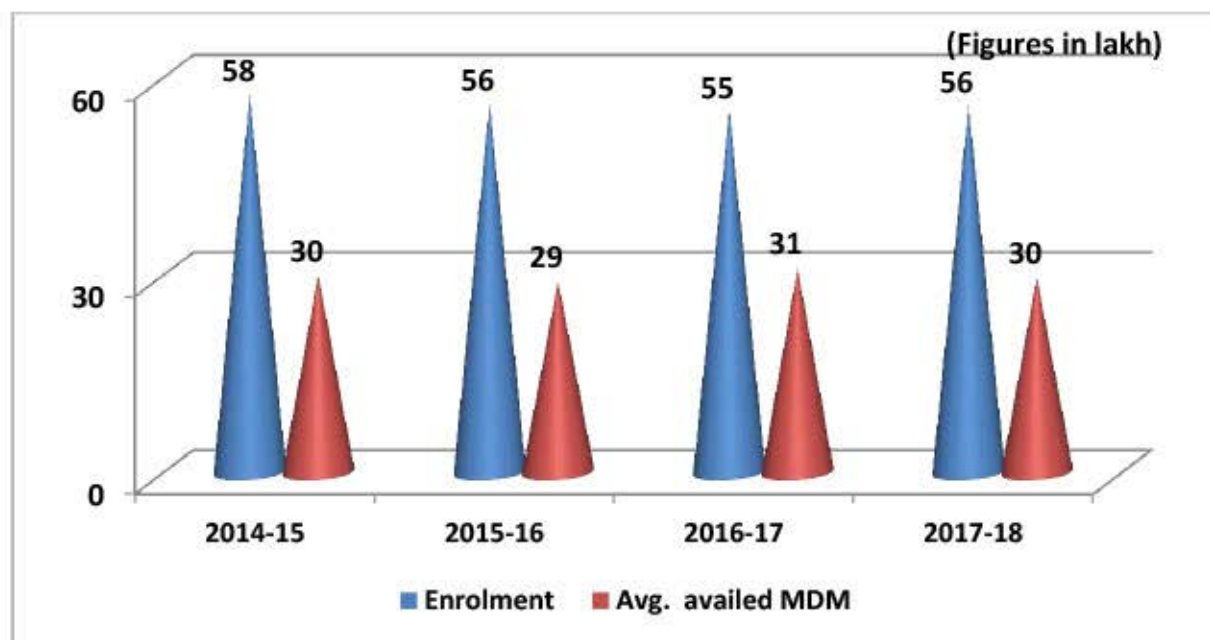
Unlike Primary, there is decline in coverage of enrolled children at upper primary stage, as coverage has gone down to 53% from 56%. The details are given as under:

Table 7: Enrolment, PAB Approval, and children availed MDM – Upper Primary

Year	Enrolment	PAB approval	Avg. availed MDM	% availed vs. Enrol.	% availed vs PAB approval
2014-15	5759496	3539468	2991235	52%	85%
2015-16	5612817	3239610	2910269	52%	90%
2016-17	5499249	3054071	3105425	56%	102%
2017-18	5589011	3105735	2961291	53%	95%

Graph 2: Trends of enrolment and Average number of children availing MDM:

Upper Primary



4.6 Engagement of Cook-cum-helpers

The Programme Approval Board-Mid Day Meal has approved the engagement of 3,97,829 cook-cum-helpers against which the State has engaged 3,95,704 during 2017-18 for cooking and serving of MDM.

Table 8: Engagement of Cook-cum-Helpers vis-à-vis PAB Approval

Year	PAB approval	Engaged	% Engaged
2014-15	434032	401378	92%
2015-16	434032	398073	92%
2016-17	434032	397829	92%
2017-18	397829	395704	99%

Graph 3: Engagement of Cook-cum-Helpers vis-à-vis PAB Approval

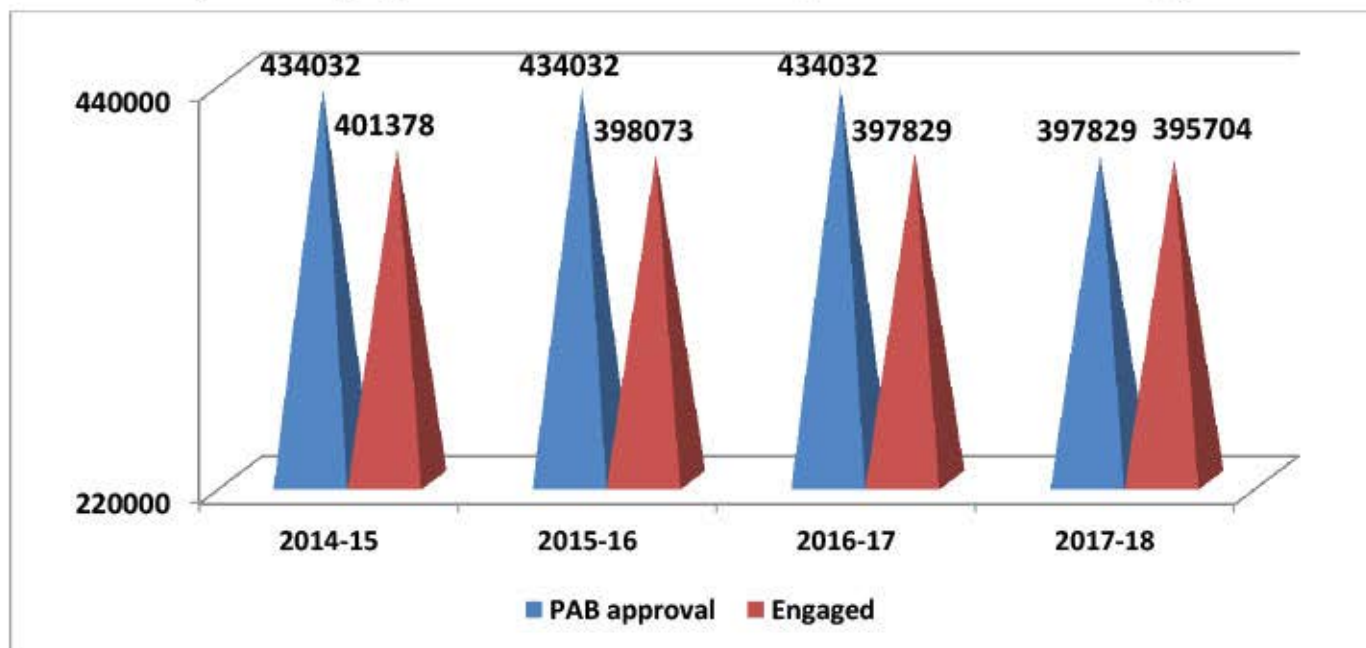


Table 9: Details of Allocation of funds and Expenditure against Central Assistance

(Rs. in Lakh)

Year	Cooking cost*		TA		Hon. to CCH		MME	
	Allocation	Util.	Allocation	Util.	Allocation	Util.	Allocation	Util.
2014-15	115839.86	92235.08	2456.13	1606.26	32552.40	30890.41	2521.88	1958.53
2015-16	118878.12	94847.86	2625.29	2139.95	26041.92	28020.64	2316.72	1868.32
2016-17	117468.07	103037.19	2155.93	1806.82	26041.92	17285.01	1786.86	2076.43
2017-18	121117.56	108049.22	2201.53	1988.38	23869.74	24026.60	1928.52	1992.43

*Central as well as State Share.

4.7 Component wise Details of Allocation and Expenditure

Table 10: Utilization of Cooking Cost (Central as well as State Share)

<i>(Rs in lakh)</i>				
Cooking Cost	2014-15	2015-16	2016-17	2017-18
Allocation of Funds	115839.86	118878.12	117468.07	121117.56
Expenditure	92235.08	94847.86	103037.19	108049.22

Graph 4: Utilization of Cooking Cost (Central as well as State Share)

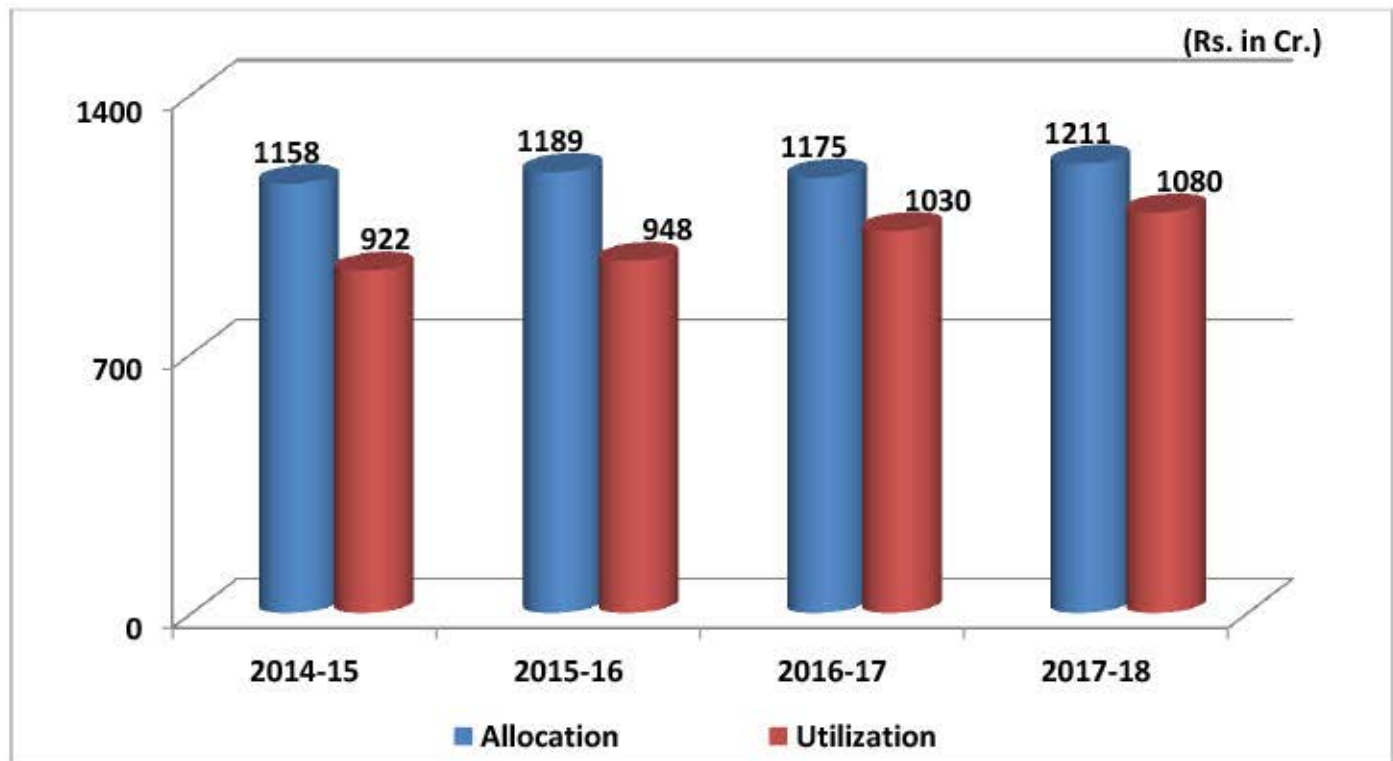


Table 11: Utilization of Honorarium to Cook-cum-helpers

<i>(Rs in lakh)</i>				
Hon. to CCH	2014-15	2015-16	2016-17	2017-18
Allocation of Funds	32552.40	26041.92	26041.92	23869.74
Expenditure	30890.41	28020.64	17285.01	24026.60

Graph 5: Utilization of Honorarium to Cook-cum-helpers

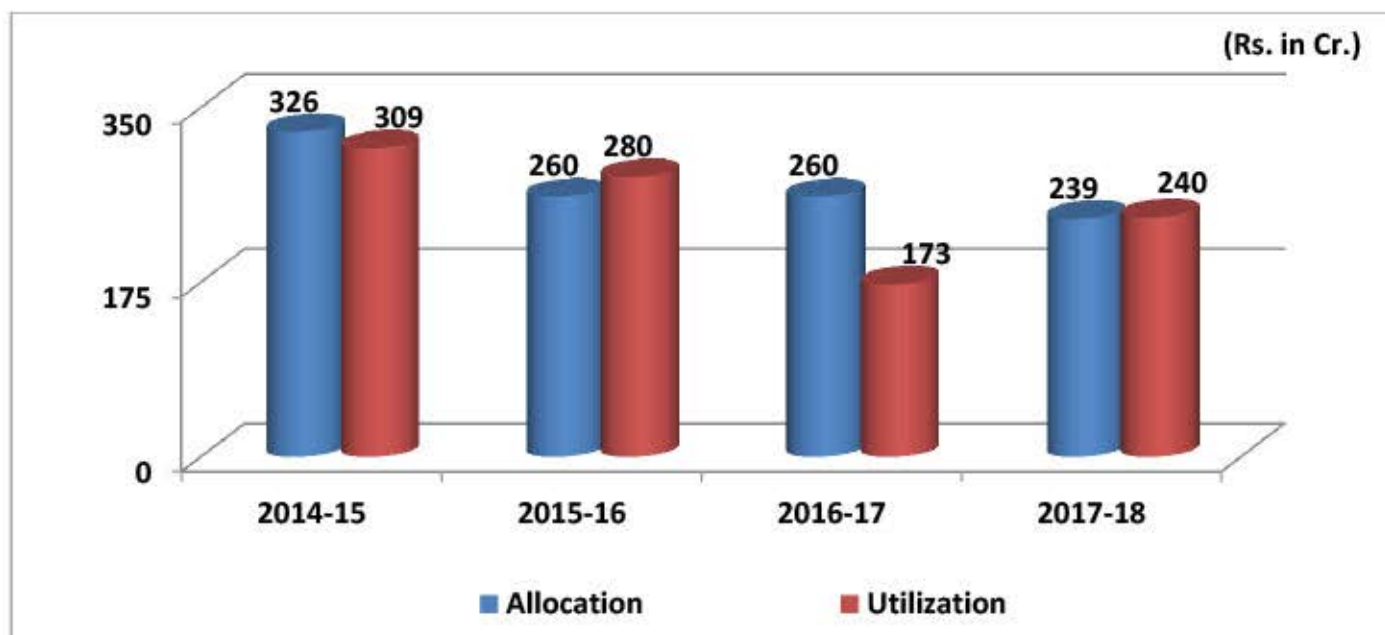


Table 12: Utilisation of Transportation Assistance

(Rs. in lakh)

Transportation Assistance	2014-15	2015-16	2016-17	2017-18
Allocation of Funds	2456.13	2625.29	2155.93	2201.53
Expenditure	1606.26	2139.95	1806.82	1988.38

Graph 6: Utilization of Transportation Assistance

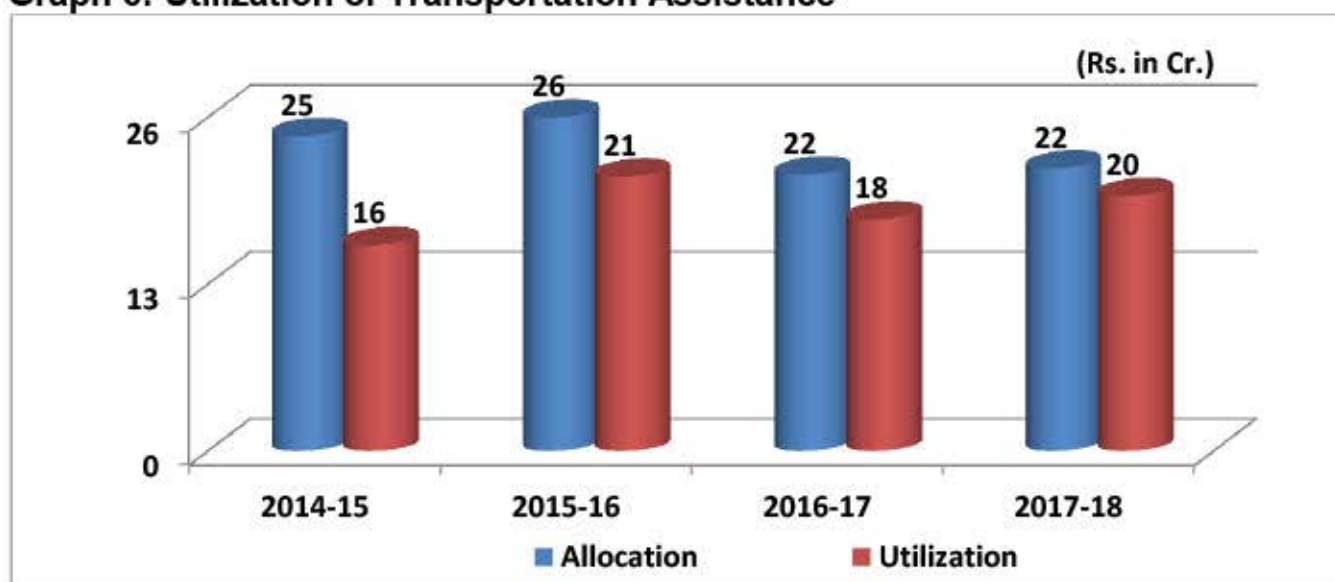
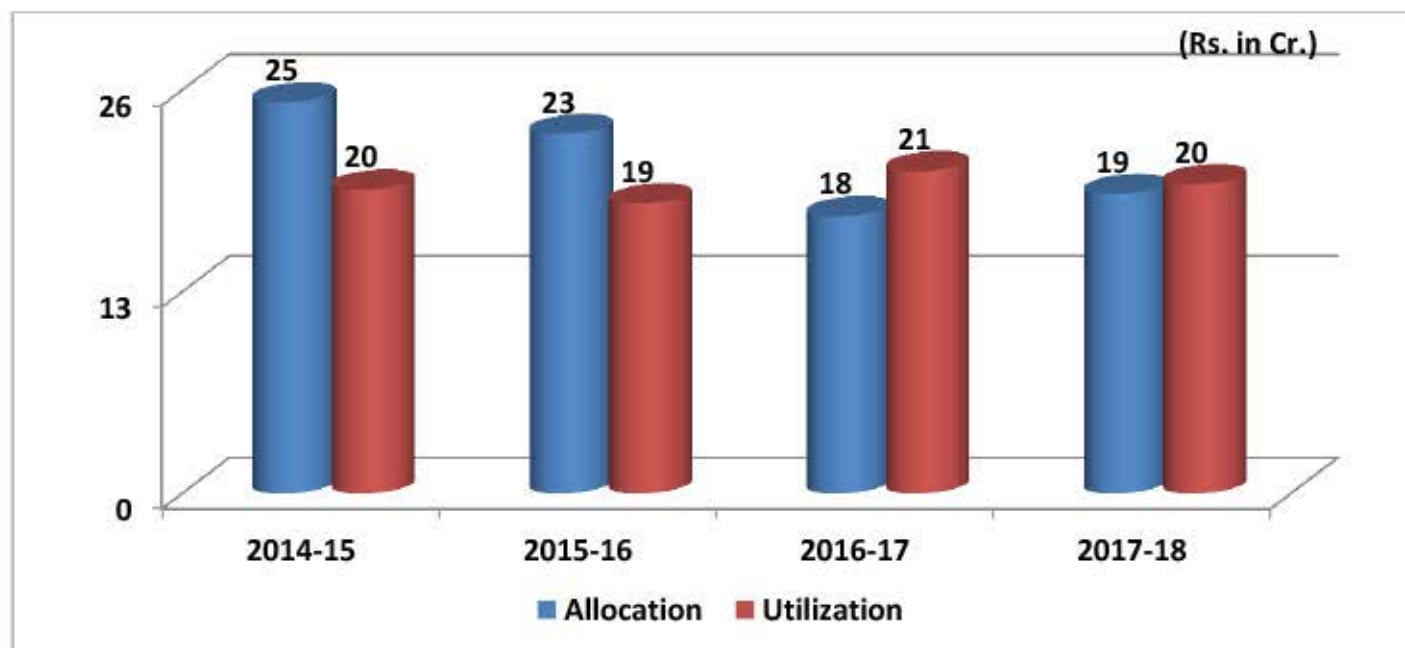


Table 13: Utilization of Management Monitoring and Evaluation (MME)

(Rs. in lakh)				
MME	2014-15	2015-16	2016-17	2017-18
Allocation of Funds	2521.88	2316.72	1786.86	1928.52
Expenditure	1958.53	1868.32	2076.43	1992.43

Graph 7: Utilization of Management Monitoring and Evaluation (MME)

4.8 Basic Information on implementation of MDM in District Bulandshahar

As per the information provided by the District Authorities the basic information on implementation of MDM in district Bulandshahar is given below

S. N.	Indicator	PAB Approval	Coverage / Utilization
1	No. of Institutions	2614	2447
2	Enrolment (pry)	172404	1912282
3	Enrolment (Up. pry)	96797	521277
4	Children (Pry): PAB Approval	118617	118617
5	Children (U Pry): PAB Approval	34857	34857

6	Working Days	242	110
7	No. of cook-cum-helpers	5319	5319
8	Food Grain Lifted (in MTs)	2870.531	1444.430
9	Food Grain utilised (in MTs)	982.010	768.150
10	Payment to FCI (Rs. in lakh)	26.11	26.11
11	Cooking Cost utilized (Rs. in lakh)	217.86	212.06673
12	Hon. to CCH (Rs. in lakh)	133.68	72.13
13	MME (Rs in lakh)	2.84538	1.19840
14	TA (Rs in lakh)	3.77	3.76324
15	Implementation of RBSK	Implemented by Health Department	
15.1	Institutes covered under RBSK	Implemented by Health Department	
15.2	Health checkup (no. of children)	Implemented by Health Department	
15.3	IFA administered (no. of children)	Implemented by Health Department	
15.4	De-worming tablets (no. of children)	Implemented by Health Department	
15.5	Spectacles (no. of children)		
16	Infrastructure facility available	2447	2447
16.1	LPG facility	2447	2433
16.2	Drinking Water	2447	2447
16.3	Toilets	2447	2447
17	No. of Institution Inspected	2447	703
18	Schools having LPG facility	2447	2433
19	Annual Data Entry into MIS portal	2447	547
20	Monthly Data Entry into MIS portal	2447	518
21	Number of children having Aadhaar	269201	169058
22	Cook-cum-helpers having bank a/c	5319	5319
23	CCH receiving hon. through bank a/c	5319	5319

4.9 Basic Information on implementation of MDM in District Chandauli

As per the information provided by the District Authorities the basic information on implementation of MDM in district Chandauli is given below

S.N.	Indicator	PAB Approval	Coverage/Utilization
1	No. of Institutions	1552	1551
2	Enrolment (Pry)	151828	151828
3	Enrolment (Up. Pry)	77352	77352
4	Children (Pry): PAB Approval	88688	83431
5	Children (U. Pry): PAB Approval	44360	41678
6	Working Days	247	112
7	No. of cook-cum-helpers	4530	4530
8	Food Grains Lifted (in MTs)	3279.26	2018.11
9	Food Grains utilised (in MTs)	3531.16	1654.79
10	Payment to FCI (Rs. In lakh)	88.52	64.29
11	Cooking Cost utilized (Rs. In lakh)	1452.63	682.69
12	Hon. to CCH (Rs. In lakh)	451.65	181.05
13	MME (Rs. In lakh)	9.91971	1.64749
14	TA (Rs. In lakh)	25.92	8.94
15	Implementation of RBSK	-	-
15.1	Institutes covered under of RBSK	-	-
15.2	Health Checkup (no. of Children)	137508	137508
15.3	IFA administered (no. of Children)	137508	137508
15.4	De-worming tablets (no. of Children)	137508	137508
15.5	Spectacles (no. of Children)	-	-
16	Infrastructure facility available	Yes	Yes
16.1	LPG facility	1551	1551
16.2	Drinking Water	1551	1551

16.3	Toilets	1551	1551
17	No. of Institution Inspected	1060	1060
18	School having LPG facility	1551	1551
19	Annual Data Entry into MIS portal	1546	1546
20	Monthaly Data Entry into MIS portal	1546	1546
21	Number of school uploading through AMS	-	-
22	Number of children having Aadhaar	229180	206262
23	Cook-cum-helpers having bank a/c	4530	4530
24	CCH receiving hon. Through bank a/c	4530	4530

Observations from the Field as per the ToR

5.1 Review of the fund flow mechanism

The state government makes budgetary provision for different objects and grants and nodal department of the state government releases financial sanctions directly to the District Collectors. The district collectors draw funds according to their requirements from district treasuries and send directly to Madhyan Bhojan Nidhi in the schools of rural areas; and in urban areas Nagar Nigams, Nagar Palika, Nagar Panchayats, town areas, FCI and Transportation agencies etc, as the case may be. In urban areas where NGO's are in operation, the conversion cost is given to them according to the bills raised by them after verification from the education department. MME fund is sent through RTGS to districts who sent to the schools through NEFT.

Department of School Education & Literacy, Government of India made ad-hoc release of Rs. 242.68 crore to the State on 25th April, 2018 for the implementation of Mid Day Meal Scheme. Rs. 392.42 crore were released on 31st August, 2018 towards the balance of first installment. The central Government also revalidated an amount of Rs 41.63 crore on 31st August, 2018.

The flow of funds released under Mid Day Meal Scheme during 2017-18 is given below:

S.No.	Installment / Component	Amount	Date of receiving of funds by the State / UT	Status of Releasing of Funds by the State		
				Directorate / Authority	District*	Block* Gram Panchayat / School*
(A) Recurring Assistance						Funds are released by district into the MDM accounts 'MadhyanhBhojan Nidhi' of the schools directly , through e-payment with in a month.
1	Adhoc Gran	26316.51	27.04.2017			
	Cost of Foodgrain	1986.43			12.05.2017	
	Cooking Cost	17371.42			12.05.2017	
	Cooks Honorarium	5967.44			12.05.2017	
	Transportation Cost	525.9			12.05.2017	
	MME	465.32			18.05.2017	

2	Balance of 1st Instalment	25931.06		
	Cost of Foodgrain	2311.23		24.08.2017
	Cooking Cost	15578.65		24.08.2017
	Cooks Honorarium	6798.25		24.08.2017
	Transportation Cost	602.34		24.08.2017
	MME	640.59	13.07.2017	24.08.2017
3	2nd Instalment	20848.35		
	Cost of Foodgrain	1432.56		09.01.2018
	Cooking Cost	13897.13		09.01.2018
	Cooks Honorarium	4773.95		16.01.2018
	Transportation Cost	376.08		04.01.2018
	MME	368.63	01.12.2017	09.01.2018
4	Bal. of 2nd	20848.34		
	Cost of Foodgrain	1432.55		13.03.2018
	Cooking Cost	13897.13		08.03.2018
	Cooks Honorarium	4773.95		08.03.2018
	Transportation Cost	376.07		08.03.2018
	MME	368.64	26.12.2017	08.03.2018

The flow of funds released under Mid Day Meal Scheme during 2018-19 is given below:

Component	Fund received		Released to district	
	Date	Amount	Date	Amount
Cost of FG	25.04.2018	1831.84	25.05.2018	2027.73
	31.08.2018	2690.14		
Cooking cost	25.04.2018	16019.56	15.05.2018	3192.36
	31.08.2018	25914.74	29.06.2018	63.16
			17.07.2018	8498.96
Hon. to CCH	25.04.2018	5503.05	25.05.2018	1685.34
	31.08.2018	9089.66	04.06.2018	4225.68
			13.07.2018	58.01
Transportation Asst.	25.04.2018	484.97	08.06.2018	569.59
	31.08.2018	780.36		
MME	25.04.2018	429.11	06.06.2018	539.28
	31.08.2018	767.47		

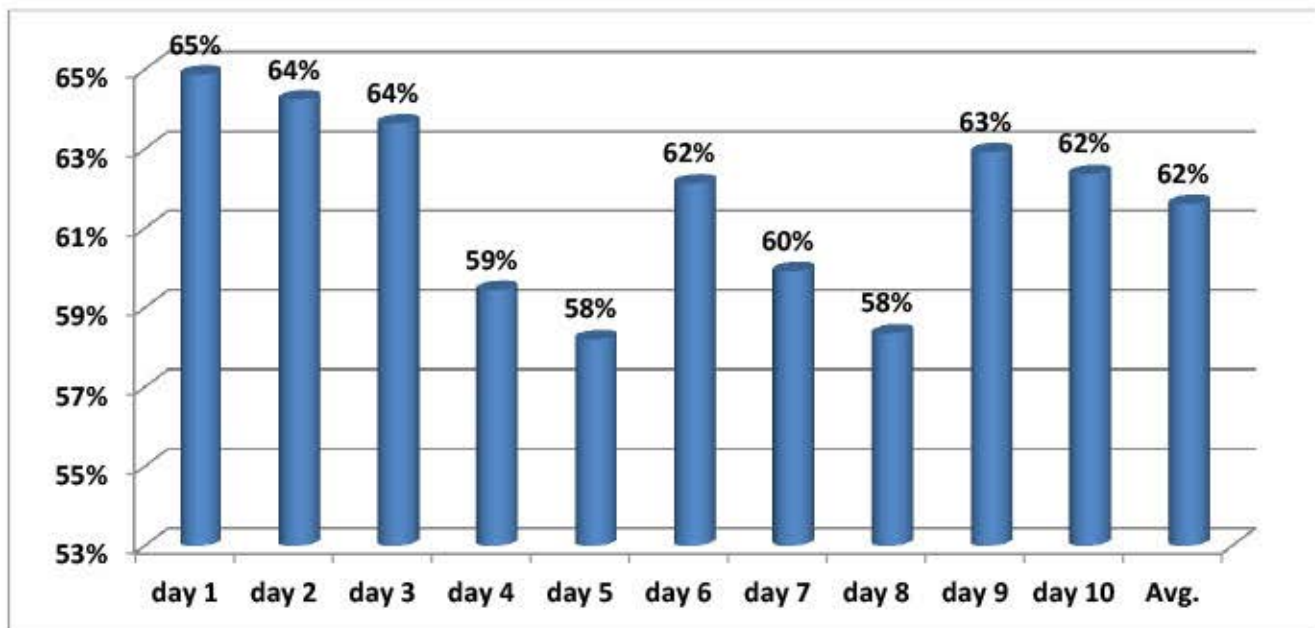
The Joint Review Mission observed during its visit to the schools that almost all the schools had negative balance of cooking cost due to the delay in the release of funds during 2018-19. The grants released by Government of India on 31st August, 2018 are yet to be released by the State Finance Department to Mid Day Meal Authorities. The negative balance in schools ranged from Rs.10,000 to Rs.1,00,000/-. The gram pradhans informed that they have been implementing the scheme by purchasing MDM ingredients from their own resources or by taking credit from the shopkeepers.

JRM recommends that fund flow system may be streamlined for ensuring that all schools get funds in time and teachers do not have to invest their money for MDM or take credit from the shopkeepers.

5.2. Review of the coverage of the scheme

The Review Mission visited 38 schools from 22nd to 26th October, 2018. The cumulative enrolment in these schools was 7681 against which 4732 (62%) children availed the mid day meal on an average on daily basis. Four schools had average attendance below 50%. All these schools were in Chanduli district.

Graph 8: Day wise average students availing MDM in the visited schools in both the districts



The JRM observed that attendance against enrolment in twenty two schools was between 60% to 86% and in twelve schools had average attendance between 50% to 60%.

The JRM recommends that special focus may be given to schools having average attendance of less than 60% so as to increase attendance against enrolment in these schools.

5.3 Review of the Management structure

In Uttar Pradesh Basic Education Department is nodal department for running Mid-Day Meal Scheme, which coordinates with different departments like Food Department, Food Corporation of India, Panchayati Raj Department, Health and other Departments for smooth implementation of Mid-Day Meal Scheme in the State. State Steering-cum-monitoring Committee has been constituted under the chairmanship of Chief Secretary, Govt. of Uttar Pradesh which meets on Quarterly basis to discuss performance of the Scheme.

A full-fledged Mid-Day Meal Authority with proper staff has been constituted in 2006 to act as a Nodal body at State level for running Mid-Day Meal Scheme. District Magistrates have been designated as the Nodal Officer of this scheme at District level. For frequent & effective supervision of MDM scheme in Schools,

various MDM Task forces have been formed at District & Block level under the leadership of District Magistrate & Sub Divisional Magistrate respectively. The Task Forces comprise of officers from the Education department as well as other departments. At Divisional & District level, MDM cells have been established, in the office of Asst. Director (Basic)/District Basic Education Officer respectively. There is one Coordinator & one Computer Operator appointed on contractual basis in MDM cells. At the school level Mid Day Meal is provided mostly through Gram Panchayats in rural areas. In urban areas, the Ward Members & NGOs are responsible for providing MDM. The official (accountants and computer operators) at block level made available under Samagra Shiksha have been instructed to work for MDM scheme too. An innovative mechanism of IVRS based monitoring system has been deployed to take information directly from schools on daily basis.

The Joint Review Mission observed that schools were being inspected regularly on monthly basis by the Cluster/Block Resource Coordinators. The District officers also inspected the schools time to time. However, it was also observed that the inspection needs to be more focused as most of the times inspecting officials are not providing adequate attention to vital parameters in implementation of MDM. Almost all the NPRC coordinators, all BRC Coordinators, all Block Education Officers, to whom the JRM team interacted were unaware about the norms of Mid Day Meal Scheme. None of the officials was familiar about the quantities of food to be served under Mid Day Meal scheme.

The Community participation was found to be minimal. Although instructions have been issued by the State for creation of Maa Samuh (Mothers group) at every school, in most of the visited schools this Maa Samuh was found non functional.

The JRM recommends to design a proforma for inspections, and after every inspection a copy of the filled format should be shared with District and State authorities for keep a close watch on the effectiveness of inspections.

5.4 Review the delivery mechanism of food grains from State to Schools

The Food Corporation of India (FCI) supplies Fair Average Quality (FAQ) food grains under Mid Day Meal Scheme. Food and civil supply Department and State food and essential commodity corporation are the lifting agencies for foodgrains from the FCI's depot. These agencies lift the foodgrains and transport to Block level go-downs and it is then transported to Schools/Cooking agencies via fair price shops.

To ensure quality of grains as per the specification of Government of India, the Government of U.P. has issued instructions for Joint inspection of food grains by a team consisting of senior officers from FCI and Department of Education. Besides this, the provision of keeping sample of food grains allocated for MDM purposes at district and block level has been ensured, so that cross checking of quality of grains could be done during inspection.

The JRM observed huge amount of negative balance of foodgrains in most of the visited schools in both the districts. It was also observed that the information with regard to quantity of foodgrains available at school does not tally at school level register vis-à-vis information submitted by the Block Education Officers to the district. School records are showing as much as 20 quintal foodgrains as negative balances.

The JRM suggests that the food grain supply management may be streamlined so as to ensure timely availability of food grain in all the schools.

5.5 Review the smooth implementation of the Scheme with particular reference to Interruptions.

JRM team did not observe any interruption in the mid day meal during 2017.

5.6 Review the Creation of Capital Assets

Component	Sanctioned	Constructed / Procured	Yet to construct / procure
Kitchen-cum-store	122572	112807	9762
Kitchen devices (New)	182875	175961	6914
Kitchen devices (Replacement)	144403	127830	16573

5.7 Construction of Kitchen-cum-stores

Central assistance of Rs. 75000.66 Lakhs has been released for construction of Kitchen-cum-Stores in 122572 schools during 2006 -07 to 2017-18. No additional kitchen-cum-stores was sanctioned to the State from 2010-11 till 2017-18. Out of 122572 Kitchen-cum-Stores sanctioned, 112807 (92%) Kitchen sheds have been constructed.

The JRM observed that all the visited schools had kitchen-cum-stores for cooking of mid day meal in safe and hygienic conditions.

5.8 Procurement/Replacement of Kitchen Devices

The non-recurring central assistance of Rs. 9143.75 lakh was released during 2006-07 to 2014-15 for the procurement of kitchen devices in 182875 schools @ Rs. 5000/- each school. The State has utilized Rs. 8798.90 lakh entire non-recurring central assistance for the procurement of sanctioned 175838 kitchen devices.

Non recurring central assistance of Rs. 7220.15 lakh was released during 2012-13 and 2015-16 for the replacement of kitchen devices in 144403 schools. The State has utilized Rs. 6391.50 lakh non-recurring central assistance for the replacement 127830 sanctioned kitchen devices.

As per MDM guidelines, non recurring central assistance is admissible to all the schools for procuring cooking utensils and serving devices under Mid Day Meal Scheme. The JRM found that most of the schools had adequate number of cooking and serving utensils. Eating plates were also available in all the schools for all children. These plates are provided by State Government. Community has also donated eating plates in some schools. Glasses are required for drinking milk in most of the schools.

5.9 Review the convening the meetings of District Level Committee under Chairpersonship of senior most Member of Parliament (LS)

The MDM guidelines provides for monitoring structures at various levels for monitoring and supervision of the scheme. The MHRD has constituted a District level committee under the chairpersonship of the senior most Member of Parliament (Lok Sabha) in the district. The committee is supposed to meet atleast once in a quarter. As per the information provided by the district authorities three meetings of this committee has taken place in district Bulandshahar and two meetings has taken place in district Chandauli during 2018-19. Similarly, 4 and 5 meetings of the District Level Monitoring Committee under the chairpersonship of District Magistrate have been held in Bulandshahar and Chandauli.

5.10 Review the Management Information System (MIS)

Web-enabled Management Information System for Mid Day Meal (MIS-MDM) was launched in June, 2012 for monitoring of the scheme. The States are required to make monthly as well as annual data entries in the MIS-MDM. The State has made 20% monthly data entries. However, 69% annual data entries have been made in the said portal. The State may make entries for the remaining schools also.

The JRM team observed that although the information is being submitted by the schools through MIS and IVRS, but this information is not fully utilized for monitoring and releasing of funds and foodgrains to schools. As was noticed in both the districts that the number of beneficiaries and quantity of foodgrains and availability of funds in a particular school was not taken in to consideration while releasing the foodgrains, which resulted in negative balances of foodgrains in many schools.

5.11 Review the implementation of Automated Monitoring System

Uttar Pradesh has introduced Interactive Voice Response System (IVRS) for monitoring the implementation of MDM scheme at school level. So the IVRS data is being used in the state for monitoring purpose. Commissioners, District Magistrates, BSAs & Block Education Officers are provided with a Password to monitor & supervise the programme on daily basis with the help of IVR system. An automated IVR call is send to school on a working day to collect the data of number of student having meals on that day just after meal has been served. The information collected on number of meals served through IVRS is uploaded on the

AMS portal. Out of 1,68,832 schools, the data is being reported by 1,63,890 schools i.e. 97% as on 20-10-2018. JRM was informed that the less reporting in AMS was due to certain administrative reasons which have since been sorted out and teachers have now started submitting daily information under AMS about the number of children who availed the mid day meal on a particular day. JRM team personally saw the reporting under AMS on day of visit.

JRM would recommend that the State may ensure daily reporting by 100% schools on MDM beneficiaries through AMS on the central server.

5.12 Convergence with Rastriya Bal Swasthya Karyakram for health check-up, supplementation of micronutrients under WIFS & deworming medicine under National deworming day and health checkups and supply of spectacles to children suffering from refractive errors.

Mid Day Meal Guidelines envisage health check up of the students through Rashtriya Bal Swasthya Karyakaram (RBSK) under National Health Mission of the Ministry of Health & Family Welfare. The medical teams have been conducting the health check up of the children in all the schools. Iron Folic Acid capsules and deworming tablets were also distributed to the children. The children with refractive errors were also given spectacles. However, School Health Cards (SHC) of the students were not kept by the schools except in 5 visited schools. The Headmasters/Principals of the schools informed that Health authorities had taken the SHCs with them.

5.13 Operationalization of Mid-Day Meal Rules, 2015

The State Government has not operationalised the Mid Day Meal Rules, 2015.

5.14 Enrolment of children and Cook-cum-Helpers under Aadhaar

Department of School Education & Literacy has advised all States/UTs in February, 2017 for enrolment of the school children under Aadhaar.

The information on the status of enrolment under Aadhaar as on 30th September, 2018 is given as under:

Level	Enrolment	Aadhar enrolled	%
State	17683288	12858837	73
District			
i) Bulandshahar	269201	169058	63
ii) Chandauli	229180	206262	90

All the cook-cum-helpers in Bulandshahar and Chandauli districts are enrolled under Aadhaar.

Joint Review Mission recommends that the remaining children may also be enrolled under Aadhaar before or by 31st December, 2018

5.15 Payment of Honorarium to Cook-cum-Helpers

The JRM observed that in most of visited schools honorarium to cook-cum-helpers is being paid up to the month of September. However, in some schools cook-cum-helpers reported about delay of 3-4 months in payment of their honorarium. Since the CCHs belong to socio-economically challenged segment of the society, the payment of honorarium should be made regularly on monthly basis.

The JRM team also observed that payment of honorarium is being made through A/C payee cheques. monthly e-payment in to their bank account may be made. It is recommended to make the payment directly in their accounts through e-payment to avoid delays.

5.16 System of Storage food grains and other ingredients

Food grains and other ingredients were not stored in schools, as these are kept with the gram pradhans and Raion Dealers.

5.17 Role of Teachers in Mid-Day Meal Scheme.

As per the MDM guidelines, the role of the teacher is to organize, supervise and ensure that the mid day meal is served in an orderly manner. The JRM interacted with the teachers in the visited schools. Almost all the teachers informed that they are able to keep the MDM record easily because gram pradhans and Cook-cum-Helpers are responsible for cooking and serving the mid day meal. This has relieved them for attending to their teaching and learning activities.

5.18 Testing of meals

The Mid Day Meal Rules, 2015 envisage that randomly selected food samples by the State Food & Drugs Department would be sent for testing of quality as well as quantity of meals. The JRM could not get information from any of the visited schools about the food samples having been collected by the State Food & Drugs Department for testing by accredited Labs. The State may ensure that provisions of MDM Rules, 2015 are complied by sending randomly selected samples to the accredited labs for testing.

5.19 Awareness of the Scheme

Menu of MDM was displayed in majority of the visited schools. However, Entitlement of children under MDM were not displayed in all visited schools. In some schools during interaction with the community some people informed that they at times visit schools for seeing the implementation of MDM. However, they could not comment about the quantity of meals being served as they were not sure about the norms. The JRM team observed in all the visited schools that none of the teachers, Cook-cum-Helpers were aware of the food norms for primary and upper primary stage children.

It is recommended to display the logo and entitlement of children under MDM at a visible place, preferably on the outer walls of the school, so that these are visible to all.



Nutritional and Anthropometric Assessment

6. Nutritional Anthropometry

The data reveals that till age 11 both the genders had similar height, thereafter height of girls became more till the age of 12 (Table 1 A, B, C). From age 13 onwards height of boys was found to be more than girls. Weight of boys and girls was almost similar by the age of 9 years.

There is slight increase in weight of girls from 05 to 8 years and there after both boys and girls had almost similar weight. Adolescence is a period of rapid growth and the growth differs for boys and girls. Also age of attainment of maximum height and weight is different for boys and girls. Therefore, in comparison no common pattern is observed.

Table14 (A): Nutritional Anthropometry as per Age and Gender (District Bulandsahar)

Age	N		Height (cm)		Weight (Kg)		MUAC (Cm)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
5	7	9	105.43± 6.87	104.44 ± 13.14	15.07 ± 1.37	17.28 ± 3.23	15.79 ± 1.19	16.17 ± 2.00
6	12	16	105.29± 14.84	106.81 ± 6.70	15.88 ± 3.97	16.34 ± 2.48	16.58 ± 1.14	16.19 ± 1.28
7	20	14	117.35± 8.63	117.07 ± 9.96	17.40 ± 3.31	20.71 ± 5.87	16.63 ± 1.12	17.57 ± 1.90
8	18	19	118.92± 10.87	123.68 ± 7.80	20.87 ± 2.33	22.21 ± 4.63	17.39 ± 0.88	18.11 ± 1.97
9	24	29	131.25 ± 7.94	131.14 ± 8.42	24.79± 3.64	23.50 ± 5.52	18.40 ± 2.31	17.88 ± 1.80
10	20	36	134.80 ± 7.96	137.38 ± 10.42	26.05± 4.53	27.99 ± 4.73	18.78 ± 2.01	19.54 ± 2.17
11	34	40	140.71 ± 8.47	141.19 ± 7.95	28.04± 6.15	28.60 ± 6.02	19.56 ± 2.00	19.94 ± 2.26
12	26	33	147.12± 11.56	146.44 ± 6.30	32.69 ± 6.80	32.77 ± 5.18	20.23 ± 3.17	20.70 ± 1.84
13	18	21	152.03 ± 7.91	148.81 ± 6.52	37.11± 8.21	37.07 ± 7.42	21.92 ± 2.63	21.69 ± 1.89
14	7	8	155.57± 10.78	151.13 ± 7.18	38.86 ± 8.01	37.25 ± 3.65	21.92 ± 2.41	20.50 ± 7.15
15	0	2	0	147.50 ± 2.121	0	34.00 ± 0.00	0	21.00 ±1.414

Table 14 (B): Nutritional Anthropometry as per Age and Gender (District Chanduli)

Age	N		Height (cm)		Weight (kg)		MUAC (cm)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
5	4	4	114.13 ± 3.43	115.00 ± 2.35	18.13 ± 3.01	18.38 ±1.70	16.63 ± 1.34	16.88 ± 1.03
6	7	7	116.71 ± 6.23	116.29 ± 6.11	17.79 ± 2.36	17.71 ± 2.14	16.16 ± 0.69	15.57 ± 1.02
7	15	14	122.77 ± 6.34	121.89 ± 8.56	21.33 ± 2.55	20.54 ± 3.92	16.73 ± 1.33	17.11 ± 1.29
8	19	19	124.45 ± 7.62	124.50 ± 8.07	21.32 ± 3.51	21.84 ± 3.62	17.00 ± 1.65	17.34 ± 1.55
9	18	13	133.75 ± 9.25	130.50 ± 9.48	26.33 ± 5.42	26.77 ± 6.82	18.53 ± 2.38	18.32 ± 3.10
10	30	31	136.05 ± 9.44	136.79 ± 8.37	26.63 ± 5.13	27.71 ± 6.06	19.05 ± 1.79	18.98 ± 2.18
11	21	21	140.05 ± 6.45	139.64 ± 7.88	28.57 ± 4.69	31.50 ± 7.55	19.60 ± 1.69	19.81 ± 2.43
12	17	24	147.06 ± 8.44	144.42 ± 7.06	32.21 ± 6.36	33.63 ± 6.26	20.71 ± 2.19	21.44 ± 2.77
13	23	31	151.76 ± 9.82	148.89 ± 6.63	38.33 ± 6.94	36.85 ± 7.26	22.00 ± 1.85	22.02 ± 2.38
14	11	6	154.45 ± 6.33	148.42 ± 6.76	37.77 ± 7.93	39.42 ± 6.61	22.59 ± 2.77	23.25 ± 1.70
15	2	3	148.50 ± 9.19	150.50 ± 8.32	34.50 ± 7.78	39.00 ± 3.46	20.50 ± 1.41	22.67 ± 0.58

Table 14(C): Nutritional Anthropometry as per Age and Gender (Uttar Pradesh)

Age	N		Height (cm)		Weight (Kg)		MUAC (cm)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
5	11	13	108.59 ± 7.23	107.69±11.93	16.18 ± 2.67	17.62 ±2.82	16.02 ± 1.32	16.38 ± 1.75
6	19	23	109.50 ± 13.04	109.70 ± 7.79	16.58 ± 3.42	16.76 ±2.42	16.43 ± 0.97	16.00 ± 1.22
7	35	28	119.67 ± 8.10	120.45±10.39	19.09 ± 3.56	20.63 ±5.03	16.67 ± 1.20	17.34 ± 1.65
8	37	38	121.76 ± 9.71	124.09 ±7.84	21.10 ± 3.02	22.03 ±4.11	17.19 ± 1.36	17.72 ± 1.79
9	42	42	132.32 ± 8.51	130.94 ± 8.65	25.45 ± 4.49	24.51 ±6.06	18.45 ± 2.31	18.02 ± 2.25
10	50	67	135.55 ± 8.82	137.10 ± 9.46	26.40 ± 4.86	27.86 ±5.35	18.94 ± 1.87	19.28 ± 2.18
11	55	61	140.45 ± 7.71	140.66 ± 7.90	28.24 ± 5.59	29.60 ±6.67	19.57 ± 1.87	19.89 ± 2.30
12	43	57	147.09 ± 10.33	145.59 ± 6.64	32.50 ± 6.56	33.13 ±5.62	20.42 ± 2.80	21.01 ± 2.28

13	41	52	151.88 ± 8.93	148.86 ± 6.53	37.79 ± 7.45	36.94 ± 7.25	21.96 ± 2.20	21.88 ± 2.18
14	18	14	154.89 ± 8.06	149.96 ± 6.88	38.19 ± 7.74	38.18 ± 5.03	22.33 ± 2.58	21.68 ± 5.53
15	2	5	148.50 ± 9.19	149.30 ± 6.20	34.50 ± 7.78	37.00 ± 3.67	20.50 ± 1.41	22.00 ± 1.22

6.2 BMI: BMI and MUAC has shown continuous increasing trend which is normal and expected. (table 2A,B,C).Using BMI Z score prevalence of malnutrition among school children was assessed and is presented in Table 3(A,B,C) and Plate. Nearly 54.67 per cent boys and 60.75 per cent girls had normal nutritional status (Table 3A, B, C). It was found that 21.53 per cent boys and 10.50 per cent girls were severely undernourished. Upto 19.83 per cent boys and 22.50 per cent girls suffered from moderate undernutrition. Also 3.68 per cent boys and 5.50 per cent girls were overweight. (Fig. 1)

Table 15(A): Calculated BMI of school children (District Bulandsahar)

Age	N		BMI(Kg/m ²)			
	Boys	Girls	Boys	WHO Median (Boys)	Girls	WHO Median (Girls)
5	7	9	13.68 ± 2.06	15.3	16.10 ± 3.04	15.2
6	12	16	14.26 ± 1.17	15.4	14.43 ± 2.54	15.3
7	20	14	12.65 ± 1.92	15.6	14.48 ± 2.29	15.5
8	18	19	14.97 ± 2.42	15.9	14.52 ± 2.60	15.9
9	24	29	14.40 ± 1.77	16.2	13.59 ± 2.63	16.3
10	20	36	14.31 ± 1.98	16.7	14.89 ± 2.41	16.9
11	34	40	14.04 ± 2.12	17.2	14.24 ± 2.13	17.6
12	26	33	15.00 ± 1.88	17.9	15.22 ± 1.73	18.4
13	18	21	15.90 ± 2.52	18.6	16.69 ± 3.09	19.2
14	7	8	15.90 ± 2.14	19.4	16.31 ± 1.13	19.9
15	0	2	-	20.1	15.63 ± 0.45	20.5

Table 15 (B): Calculated BMI of school children (District Chanduli)

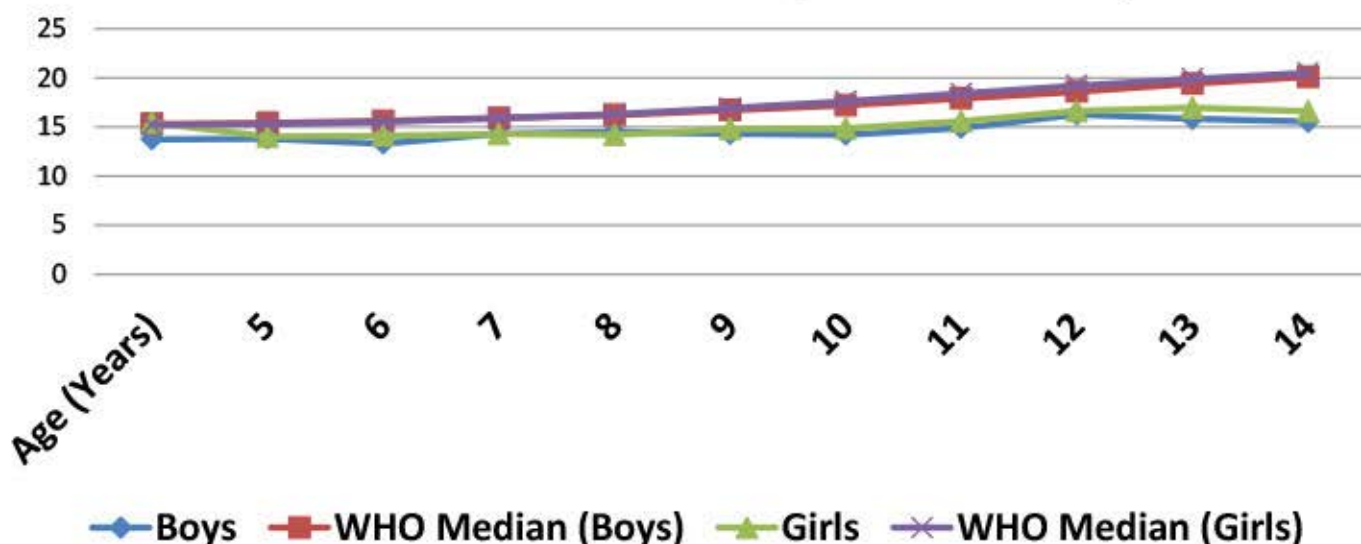
Age	N		BMI(Kg/m ²)			
	Boys	Girls	Boys	WHO Median (Boys)	Girls	WHO Median(Girls)
5	4	4	13.83 ± 1.58	15.3	13.88 ± 0.93	15.2
6	7	7	13.03 ± 1.15	15.4	13.06 ± 0.70	15.3
7	15	14	14.14 ± 1.17	15.6	13.71 ± 1.11	15.5
8	19	19	13.70 ± 1.27	15.9	14.01 ± 1.19	15.9
9	18	13	14.60 ± 1.72	16.2	15.51 ± 2.32	16.3
10	30	31	14.29 ± 1.45	16.7	14.65 ± 1.74	16.9
11	21	21	14.49 ± 1.61	17.2	15.97 ± 2.66	17.6
12	17	24	14.76 ± 1.61	17.9	16.05 ± 2.20	18.4
13	23	31	16.58 ± 2.35	18.6	16.57 ± 2.71	19.2
14	11	6	15.75 ± 2.76	19.4	17.77 ± 1.98	19.9
15	2	3	15.52 ± 1.60	20.1	17.21 ± 0.47	20.5

Table 15 (C): BMI of school children (Uttar Pradesh)

Age	N		BMI(Kg/m ²)			
	Boys	Girls	Boys	WHO Median (Boys)	Girls	WHO Median(Girls)
5	11	13	13.74 ± 1.88	15.3	15.42 ± 2.74	15.2
6	19	23	13.81 ± 1.57	15.4	14.01 ± 2.22	15.3
7	35	28	13.29 ± 1.78	15.6	14.09 ± 1.86	15.5
8	37	38	14.32 ± 2.01	15.9	14.26 ± 2.01	15.9
9	42	42	14.49 ± 1.73	16.2	14.18 ± 2.67	16.3
10	50	67	14.30 ± 1.66	16.7	14.78 ± 2.12	16.9
11	55	61	14.21 ± 1.94	17.2	14.84 ± 2.45	17.6

12	43	57	14.90 ± 1.76	17.9	15.57 ± 1.97	18.4
13	41	52	16.28 ± 2.44	18.6	16.62 ± 2.84	19.2
14	18	14	15.81 ± 2.47	19.4	16.94 ± 1.66	19.9
15	2	5	15.52 ± 1.60	20.1	16.58 ± 0.95	20.5

BMI of school children (Uttar Pradesh)



Graph.9. Comparison of BMI with WHO standards

Table 16(A): BMI (Z scores) of school children as per Gender (District Bulandshahar)

Age (years)	N		Normal		Moderate Undernutrition		Severe Undernutrition		Over weight	
	Boys	Girls	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)
5	7	9	2(28.53)	4(44.44)	5(71.43)	1(11.11)	-	-	-	4 (44.44)
6	12	16	8(66.67)	7(43.75)	3(25.00)	4 (25.00)	-	1(6.25)	1(8.33)	4 (25.00)
7	20	14	6 (30)	9 (64.29)	1 (5.00)	2 (14.29)	13 (65.00)	-	-	3(21.43)
8	18	19	7 (38.89)	11 (57.89)	4 (22.22)	4 (21.05)	2 (11.11)	1(5.26)	5 (27.78)	3 (15.79)
9	24	29	13 (54.17)	9 (31.03)	5 (20.83)	10 (34.48)	4 (16.67)	8 (27.59)	2 (8.33)	2 (6.89)
10	20	36	9 (45.00)	23 (63.89)	7 (35.00)	9 (25.00)	3 (15.00)	2 (5.56)	1 (5.00)	2 (5.56)
11	34	40	13	20	7	10	13	10	1(2.94)	-

			(38.24)	(50.00)	(20.59)	(25.00)	(38.24)	(25.00)		
12	26	33	15(57.69)	20(60.61)	4(15.38)	8(24.24)	7(26.92)	5(5.15)	-	-
13	18	21	11 (61.11)	14 (66.67)	2 (11.11)	4 (19.04)	4 (22.22)	2 (9.52)	1(5.56)	1 (4.76)
14	7	8	5(71.43)	5(62.50)	1(14.29)	3(37.50)	1(14.29)	-	-	-
15	-	2	-	-	-	2(100)	-	-	-	-
Total	186	227	89 (47.85)	121 (53.30)	40 (21.51)	56 (24.67)	47 (25.27)	29 (12.78)	11 (5.91)	18 (7.93)

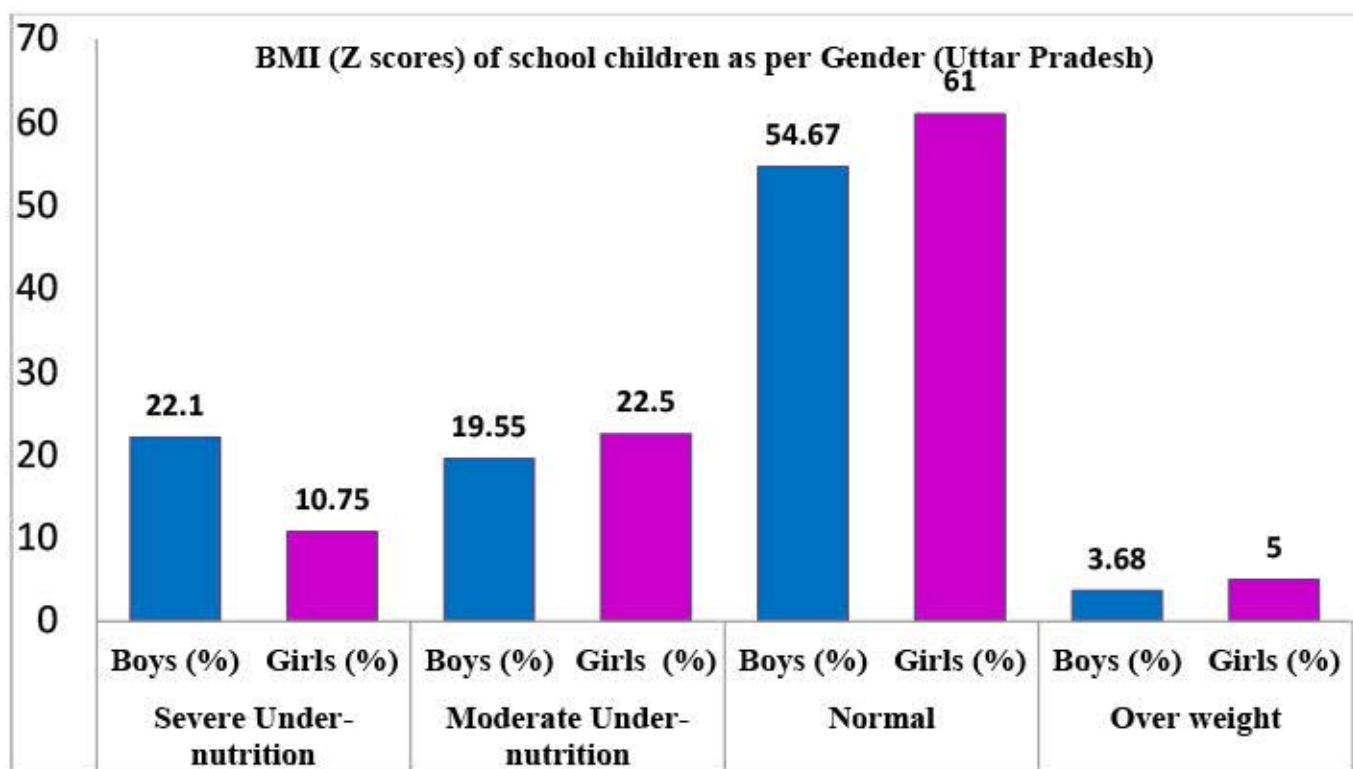
Table 16(B): BMI (Z scores) of school children as per Gender (District Chanduli)

Age (years)	N		Normal		Moderate Undernutrition		Severe Undernutrition		Over weight	
	Boys	Girls	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)
5	4	4	2(50)	3(75)	1(25)	1(25)	1(25)	-	-	-
6	7	7	2(28.57)	5(71.43)	4(57.14)	2(28.57)	1 (14.29)	-	-	-
7	15	14	12(80.00)	11(78.57)	2(13.33)	2(14.29)	1(6.67)	1(7.14)	-	-
8	19	19	13 (68.48)	15 (78.95)	2 (10.53)	4 (21.05)	4 (21.05)	-	-	-
9	18	13	13 (72.22)	11(84.62)	1(5.56)	-	3 (16.67)	1(7.69)	1(5.56)	1(7.69)
10	30	31	18 (60.00)	18 (58.06)	8 (26.67)	10 (32.26)	4 (13.33)	2 (6.45)	-	1(3.23)
11	21	21	12(57.14)	14(66.67)	5 (23.81)	4 (19.05)	4 (19.05)	1(4.76)	-	2(9.52)
12	17	24	8(45.06)	18 (75.00)	4 (23.53)	2 (8.33)	5 (29.41)	4 (16.67)	-	-
13	23	31	17 (73.91)	19 (61.29)	2 (8.70)	7 (22.58)	3 (13.04)	5 (16.12)	1(4.35)	-
14	11	6	6(54.55)	5(83.33)	1(9.09)	1(6.67)	4(36.36)	-	-	-
15	2	3	1(50.00)	3 (100)	-	-	1 (50.00)	-	-	-
Total	167	173	104 (62.28)	122 (70.52)	30 (17.96)	34 (19.65)	29 (17.37)	13 (7.51)	2 (1.20)	4 (2.31)

Table 16(C): BMI (Z scores) of school children as per Gender (Uttar Pradesh)

Age (years)	N		Normal		Moderate Under nutrition		Severe Under nutrition		Over weight	
	Boys	Girls	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)
5	11	13	4 (36.33)	7 (53.85)	6 (54.55)	2(15.38)	1(9.09)	-	-	4 (30.77)
6	19	23	10 (52.63)	12 (52.17)	7 (36.84)	6 (26.09)	1(5.26)	1(4.35)	1(5.26)	4 (17.39)
7	35	28	18 (51.43)	20	3 (8.57)	4 (14.29)	14 (40.00)	1 (3.57)	-	3(10.71)

				(71.43)						
8	37	38	20 (54.05)	26 (68.42)	6 (16.22)	8 (21.05)	6 (16.22)	1 (2.63)	5 (13.51)	3 (7.89)
9	42	42	26(61.90)	20(47.62)	6(14.29)	10 (23.81)	7(16.67)	9(21.43)	3(7.14)	3 (7.14)
10	50	67	27(54.00)	41 (61.19)	15 (30.00)	19 (28.36)	7 (14.00)	4 (5.97)	1 (2.00)	3 (4.48)
11	55	61	25 (45.45)	34 (55.74)	12 (21.82)	14 (22.95)	17 (30.91)	11 (18.03)	1 (1.82)	2 (3.28)
12	43	57	23(53.49)	38(66.67)	8(18.60)	10(17.54)	12(27.91)	9(15.79)	-	-
13	41	52	28 (68.29)	33 (63.46)	4 (9.76)	11 (21.15)	7 (17.07)	7 (13.46)	2 (4.88)	1 (1.92)
14	18	14	11(61.11)	10 (71.43)	3 (16.67)	4 (28.57)	5 (27.78)	-	-	-
15	2	5	1(50.00)	3(60.00)	-	2(40.00)	1(50.00)	-	-	-
Total	353	400	193(54.67)	244 (61.00)	69(19.55)	90 (22.50)	78 (22.10)	43 (10.75)	13 (3.68)	23 (5.00)



Graph 10. Percentage for BMI (Z scores) of school children as per Gender (Uttar Pradesh)

6.3. Height for Age Z-scores (table 4 A, B, C) reveals that nearly 49.86 per cent boys and 49.25 per cent girls had normal height for age. Nearly 6.80 per cent boys and 6.25 per cent girls were severely stunted i.e. these children did not achieve normal height as

per their age. This data depicts chronic under nutrition. It is possible for a stunted or severely stunted child to become overweight or obese.

Table 17(A): Height for Age (Z scores) of school children as per gender (District Bulandsheher)

Age (years)	N		Normal		Mild stunting		Moderate stunting		Severe stunting	
	Boys	Girls	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)
5	7	9	3 (42.86)	4 (44.44)	3 (42.86)	1 (11.11)	-	1(11.11)	1(14.29)	3(33.33)
6	12	16	5 (41.67)	1 (6.25)	-	10 (62.50)	2 (12.50)	1(6.25)	5(41.67)	4(25.00)
7	20	14	10 (50.00)	9 (64.29)	3 (15.00)	1 (7.14)	4 (28.57)	2(14.29)	3(15.00)	2(14.29)
8	18	19	5 (27.78)	10 (52.63)	4 (22.22)	7 (36.84)	4 (21.05)	-	5(27.78)	2(10.53)
9	24	29	16 (66.67)	16 (55.17)	5 (20.83)	9 (31.03)	1 (3.45)	3 (10.34)	2 (8.33)	1(3.45)
10	20	36	7 (35.00)	21 (58.33)	9 (45.00)	10(27.78)	4 (11.11)	3 (8.33)	-	2 (5.56)
11	34	40	20 (58.82)	21 (52.50)	7 (20.59)	10 (25.00)	6 (15.00)	7 (17.50)	1(2.94)	2(5.00)
12	26	33	12 (46.15)	16 (48.48)	10 (38.46)	11 (33.33)	3 (9.09)	5(15.15)	1(3.85)	1(3.03)
13	18	21	7(38.89)	8(38.10)	8 (44.44)	10(47.62)	2 (9.52)	3(14.29)	1(5.56)	-
14	7	8	4(53.14)	2 (25.00)	1 (14.29)	4 (50)	1 (12.50)	2 (25.00)	1(14.29)	-
15	0	2	-	-	-	1(50)	-	1(50.00)	-	-
Total	186	227	89 (47.85)	108 (47.58)	50 (26.88)	74 (32.60)	27 (11.89)	28 (12.33)	20 (10.75)	17 (7.49)

Table 17(B): Height for Age (Z scores) of school children as per gender (District Chandauli)

Age (years)	N		Normal		Mild stunting		Moderate stunting		Severe stunting	
	Boys	Girls	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)
5	4	4	4(100.00)	4(100.0)	-	-	-	-	-	-

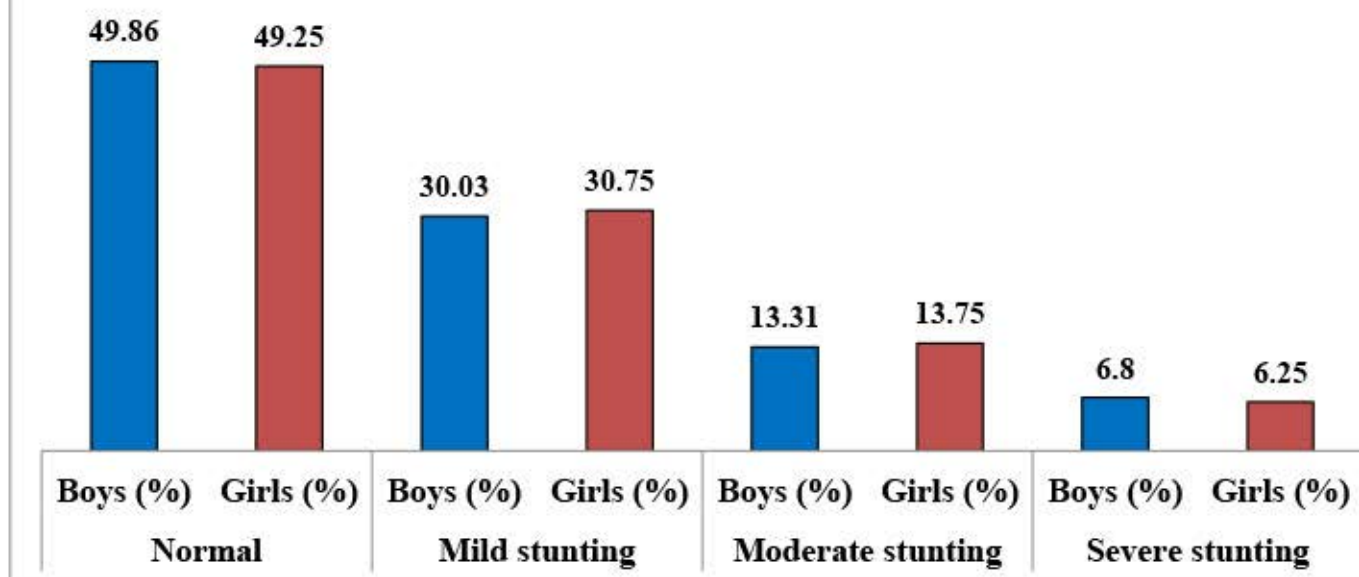
6	7	7	4(57.14)	5(71.43)	2(28.57)	² 2(28.57)	1(14.29)	-	-	-
7	15	14	11(73.33)	10(71.43)	3(20.00)	3(21.43)	1(6.67)	-	-	1(7.14)
8	19	19	9(47.37)	12(63.16)	5(26.32)	3(15.79)	5(26.32)	³ 3(15.79)	-	1(5.26)
9	18	13	11(61.11)	7(53.85)	6(33.33)	4(30.77)	1(5.56)	2(15.38)	-	-
10	30	31	16(53.33)	17(54.84)	9(30.00)	9(29.03)	5(16.67)	4(12.90)	-	1(3.23)
11	21	21	10(47.62)	9(42.86)	10(47.62)	6(28.57)	1(4.76)	4(19.05)	-	2(9.52)
12	17	24	8(47.06)	8(33.33)	6(35.29)	10(41.67)	3(17.65)	5(20.83)	-	1(4.17)
13	23	31	11(47.83)	14(45.16)	8(34.78)	10(32.26)	2(8.70)	6(19.35)	² 2(8.70)	1(3.23)
14	11	6	3(27.27)	2(33.33)	7(63.64)	2(33.33)	-	1(16.67)	¹ 1(9.09)	1(16.67)
15	2	3	-	1(33.33)	-	-	1(50.00)	2(66.67)	¹ 1(50.00)	-
Total	167	173	87(52.10)	89(51.45)	56(33.53)	49(28.32)	20(11.98)	27(15.61)	4(2.40)	8(4.62)

Table 17(C): Height for Age (Z scores) of school children as per gender (Uttar Pradesh)

Age (years)	N		Normal		Mild stunting		Moderate stunting		Severe stunting	
	Boys	Girls	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)	Boys n(%)	Girls n(%)
5	11	13	7(63.64)	8(61.54)	3(27.27)	1(7.69)	-	1(7.69)	1(9.09)	3(23.08)
6	19	23	9(47.37)	6(26.09)	2(10.53)	12(52.17)	3(15.79)	1(4.35)	5(26.32)	4(17.39)
7	35	28	21(60.00)	19(67.86)	6(17.14)	4(14.29)	5(14.29)	2(7.14)	3(8.57)	3(10.71)
8	37	38	14(37.84)	22(57.89)	9(24.32)	10(26.32)	9(24.32)	3(7.89)	5(13.51)	3(7.89)
9	42	42	27(64.29)	23(54.79)	11(26.19)	13(30.95)	2(4.76)	5(11.90)	2(4.76)	1(2.38)
10	50	67	23(46.00)	38(56.72)	18(36)	19(28.36)	9(18.00)	7(10.45)	-	3(4.48)
11	55	61	30(54.55)	30(49.18)	17(30.91)	16(26.23)	7(12.73)	11(18.03)	1(1.82)	4(6.56)
12	43	57	20(46.51)	24(42.11)	16(37.21)	21(36.84)	6(13.95)	10(17.54)	1(2.33)	2(3.51)

13	41	52	18(43.90)	22(42.31)	16(9.02)	20(38.46)	4(9.76)	9(17.31)	3(7.32)	1(1.92)
14	18	14	7(38.89)	4(28.57)	8(44.44)	6(42.86)	1(5.56)	3(21.43)	2(11.11)	1(7.14)
15	2	5	-	1(20.00)	-	1(20.00)	1(50)	3(60.00)	1(50.00)	-
Total	353	400	176(49.8 6)	197(49.2 5)	106(30.0 3)	123(30.7 5)	47(13.3 1)	55(13.75)	24(6.80)	25(6.25)

Height for Age (Z scores) of school children as per gender (Uttar Pradesh)



Graph 11. Percentage of Height for Age (Z scores) of school children as per gender

6.4. Food Frequency:

Table no 18 (A): Food frequency pattern of school children in Bulandshahar

	Daily		5-6 times a week		3-4 times a week		1-2 times a week		Rarely		Never	
	PRIMARY	UPPER PRIMARY	Primary	Upper Primary	Primary	Upper Primary	Primary	Upper Primary	Primary	Upper Primary	Primary	Upper Primary
Cereals	298	115	-	-	-	-	-	-	-	-	-	-
Pulses	178(60.33)	78(67.83)	22(7.38)	8(6.96)	68(22.81)	15(13.04)	20(6.71)	12(10.43)	10(3.36)	2(1.74)	-	-
Milk and milk products	205(68.79)	42(36.52)	-	30(26.09)	34(11.40)	16(13.91)	19(6.37)	13(11.30)	28(9.39)	13(11.30)	9(3.02)	8(6.96)
Meat/Fish/Egg	36(12.08)	20(17.39)	19(6.37)	-	54(18.12)	26(22.60)	135(45.30)	41(35.65)	7(2.34)	24(20.87)	47(15.77)	4(3.47)

Sugar	159(53.35)	55(47.83)	16(5.36)	23(20)	57(19.12)	12(10.43)	37(12.41)	5(4.35)	21(7.04)	20(17.39)	8(2.68)	-
Others	69(23.15)	25(21.74)	13(4.36)	21(18.26)	31(10.40)	20(17.39)	45(15.10)	20(17.39)	75(25.16)	27(23.47)	65(21.81)	2(1.74)

Table no 18 (B): Food frequency pattern of school children in Chandauli

Component	Daily		5-6 times a week		3-4 times a week		1-2 times a week		Rarely		Never	
	Prim ary	Upper Prim ar y	Prima ry	Upper Prim ar y	Prima ry	Upp er Prim ary	Pri mar y	Upp er Prim ary	Prim ary	Upp er Prim ary	Prima ry	Upp er Prim ary
Cereals	100.00	38(100.00)	-	-	-	-	-	-	-	-	-	-
Pulses	67(70.52)	33(86.04)	15(15.79)	1(2.63)	1(1.05)	2(5.26)	11(11.57)	2(5.26)	1(1.05)			
Milk and milk products	48(50.52)	24(63.10)	-	-	8(8.42)	1(2.63)	22(23.50)	2(5.26)	16(16.48)	6(15.78)	1(1.05)	5(13.15)
Meat/Fish/Egg	24(25.64)	1(2.63)	5(5.26)	1(2.63)	4(4.21)	8(21.05)	39(1.05)	17(44.73)	22(23.15)	3(7.89)	1(4.05)	8(21.05)
Sugar	34(35.78)	23(60.53)	5(5.26)	2(5.26)	14(14.73)	4(10.52)	25(26.31)	6(15.78)	11(11.57)	3(7.82)	6(6.31)	-
Others	6(6.31)	-	1(1.05)	-	5(5.26)	-	17(17.89)	3(7.89)	47(49.47)	35(92.10)	19(50.00)	-

Table no 18 (C): Food frequency pattern of school children in Uttar Pradesh

Com pon ent	Daily		5-6 times a week		3-4 times a week		1-2 times a week		Rarely		Never	
	Prim ary	Upper Prim ary	Prim ary	Upp er Prim ary	Prim ary	Upper Prim ary	Prim ary	Upper Prim ary	Prima ry	Upper Prim ary	Prima ry	Upp er Prim ary
Cereals	100	100	-	-	-	-	-	-	-	-	-	-
Puls es	62.34	72.55	9.41	5.92	17.56	11.11	7.89	9.15	2.80	1.31	-	-
Milk and milk	64.38	43.14	-	19.74	10.69	11.11	10.43	9.80	11.20	12.42	12.54	8.50

products												
Meat/Fish/Egg	15.27	13.73	6.11	0.66	14.76	22.22	44.27	37.91	7.38	17.65	12.21	7.84
Sugar	49.11	50.98	5.34	16.45	18.07	10.46	15.78	7.19	8.14	15.03	13.56	-
Others	19.08	16.34	3.56	13.82	9.16	13.07	15.78	15.03	31.04	40.52	21.37	1.31

Table indicates that 100 % children were consuming cereals more than once per day. Daily pulse consumption was found 62.34 and 72.55 % in primary and upper primary school respectively. 9.4 % of primary school children were consuming pulses 5-6 times a week whereas only 5.92 per cent upper primary children were consuming pulses 5-6 times a week. The food frequency table clearly reveals that diet of school children majorly comprises of cereal, pulses and tubers. 15.27 and 13.73 per cent children in primary and upper primary were consuming non vegetarian food daily which mainly comprises egg. The consumption of fish was negligible. The consumption of sugar was found once per day.

The food frequency clearly indicates that all the five food groups are not being consumed in appropriate quantities. Consumption of Protective foods especially fruits, milk and milk products were found to be inadequate therefore micro-nutrient deficiencies are rampant in studied school children.

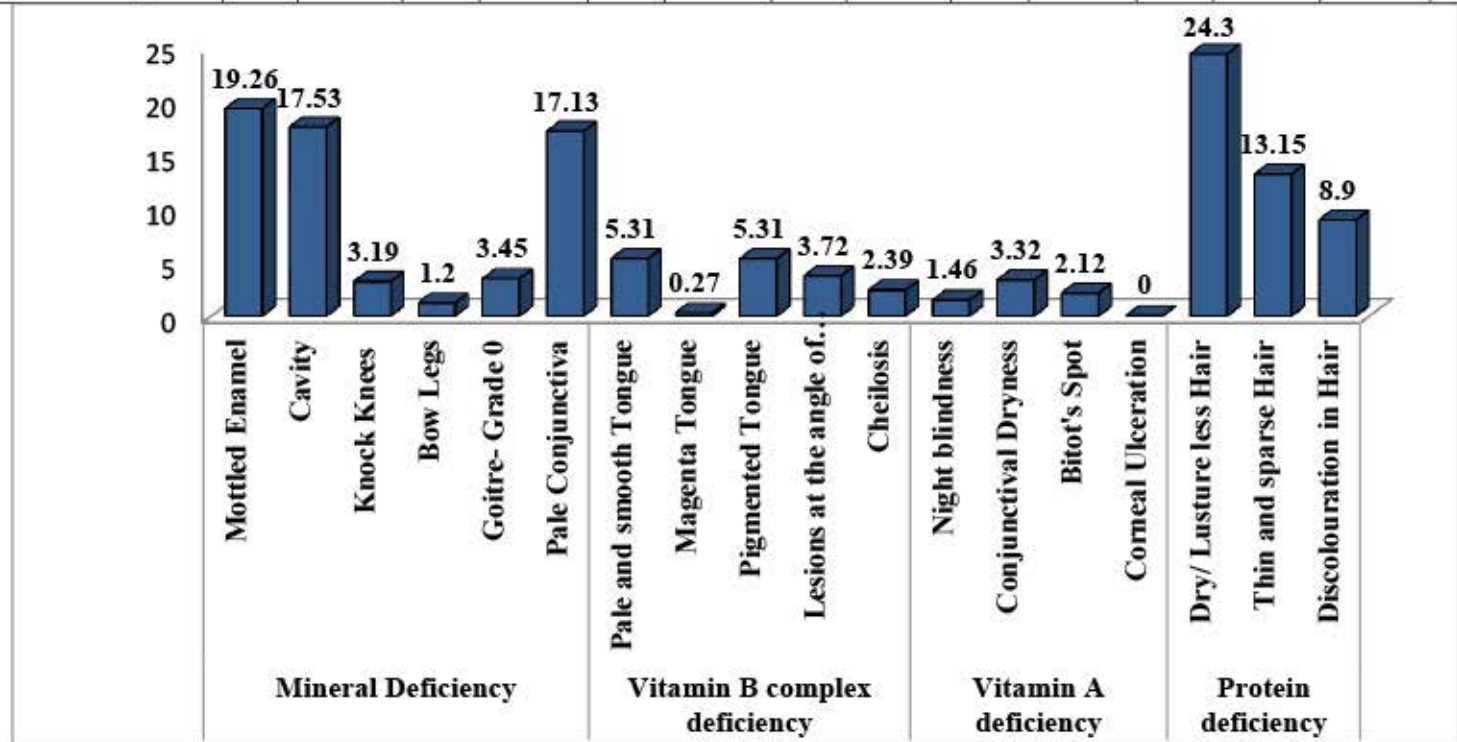
6.5. Clinical signs and symptoms

The Table 5 shows high incidences of protein energy malnutrition, vitamin A deficiency, and anaemia. Mottled teeth and cavity emphasizing poor oral hygiene followed by children. Deficiency of vitamin C symptoms i.e. bleeding and swollen gums was negligible in the studied children. High incidences of B vitamin deficiency symptoms like tongue atrophy, magenta tongue and angular stomatitis have also been observed in few children. Pale conjunctiva has been observed in nearly 17.13 per cent children indicating iron deficiency (Plate 2).

Table no 19: Clinical signs of nutritional deficiencies in school Children (Uttar Pradesh)

Clinical Signs	Bulandshahar				Total=413		Chandauli				Total=340		Total = 753	%
	Girls=227		Boys=186		N	%	Girls=173		Boys=167		N	%		
	n	%	n	%			N	%	N	%				
Teeth														
Mottled Enamel	39	17.2	37	17.2	76	18.4	28	16.2	41	24.6	69	20.3	145	19.3
Cavity	32	14.1	34	18.3	66	16	31	17.9	35	21	66	19.4	132	17.5
Gums														
Swollen	5	2.2	3	1.61	8	1.94	1	0.58	0	0	1	0.29	9	1.2
Bleeding			1	0.53	1	0.24	1	0.58	0	0	1	0.29	2	0.27
Mouth														
Lesions at the angle of mouth	3	1.32	13	6.99	16	3.87	3	1.73	9	5.39	12	3.53	28	3.72
Cheilosis	3	1.32	7	3.76	10	2.42	2	1.16	6	3.59	8	2.35	18	2.39
Tongue														
Pale and smooth	7	3.08	4	2.15	11	2.66	11	6.36	18	10.8	29	8.53	40	5.31
Magenta Tongue	0	0	1	0.53	1	0.24	0	0	1	0.6	1	0.29	2	0.27
Pigmented Tongue	5	2.2	6	3.22	11	2.66	20	11.6	9	5.39	29	8.53	40	5.31
Hair														
Dry/ Lusture less	72	31.7	22	11.8	94	22.8	61	35.3	28	16.8	89	26.2	183	24.3
Thin and sparse	34	15	19	10.2	53	12.8	39	22.5	7	4.19	46	13.5	99	13.2
Discolouration	41	18.1	5	2.6	46	11.1	20	11.6	1	0.6	21	6.18	67	8.9
Eyes														
Night blindness	2	0.88	1	0.53	3	0.73	4	2.31	4	2.4	8	2.35	11	1.46
Pale Conjunctiva	28	12.3	34	18.3	62	15	28	16.2	39	23.4	67	19.7	129	17.1
Conjunctival Dryness	1	0.44	-	-	1	0.24	4	2.31	20	12	24	7.06	25	3.32
Bitot's Spot	2	0.88	-	-	2	0.48	9	0.05	5	2.99	14	4.12	16	2.12
Skin														
Scaly Dry Skin	8	3.52	13	6.99	21	5.08	2	1.16	7	4.19	9	2.65	30	3.98
Lesions	1	0.44	-	-	1	0.24	-	-	-	-	-	-	1	0.13
Neck														
Grade 1	10	4.4	14	7.52	24	5.81	1	0.58	1	0.6	2	0.59	26	3.45
Nails														

Chalky Nails	4	1.76	6	3.23	10	2.42	3	1.73	4	2.4	7	2.06	17	2.26
Knees														
Knock Knees	9	3.96	13	6.99	22	5.33	-	-	2	1.2	2	0.59	24	3.19
Bow Legs	1	0.44	1	0.54	2	0.48	-	-	7	4.19	7	2.06	9	1.2



Graph 12. Percentage for Clinical signs of nutritional deficiencies in school Children

6.6. QUANTITY AND QUALITY OF MID DAY MEAL

It was noted that most children eat breakfast before coming to school whereas few (approx.25%) children don't consume breakfast at home and Mid Day Meal becomes their first meal at around 11:30 am and 12 noon. Some children take lunch at home while others don't take lunch after eating mid day meal in school.

Majority (75%) of the children reported that the quality of MDM meal served to them is satisfactory. Quantity was MDM was inquired from children it was found that most of the school children were satisfied whereas few children told that the quantity of the meal is inadequate and were not satisfied with quantity of the meal. It was observed by the JRM team that the quantity of the food served was not as per the recommended norms of MDM guidelines.

6.7. Recipes

1. Nutri-pulao

Ingredients

- Rice- 200g
- Soya granules- 150g
- Onions-30g
- Green peas- 50g
- Green chillies (finely chopped)- 2-3
- Cumin seeds (jeera)- 1 tsp
- Turmeric powder (haldi)- 1/2 tsp
- Cooking oil-2 tbsp
- Salt to taste

Instructions

1. Soak the soya granules in 2 cups of hot water for about 10 minutes. Drain and keep aside.
2. Heat the oil in a pressure cooker and add the cumin seeds. When the seeds start crackling, add chopped onions. Saute for 2 minutes on medium high heat.
3. Add green peas, rice and soya granules. Stir constantly for few more minutes.
4. Add salt and spices and mix very well. Before closing the pressure cooker, add 6 cups of water and then cover with a tight lid.
5. Pressure cook the pulao for 3 whistles until rice are fully done.

2. Mix Vegetable dal

Ingredients

- Masoor dal/ Moong dal- 200g
- Mixed vegetables of your choice (as spinach, potato, peas, carrot, capsicum etc)- 250g
- Onion- 30g
- Tomatoes-50g
- Green chillies- 3-4
- Turmeric powder-1/2 tsp
- Salt to taste

For Tempering

- Oil- 2 tbsp

- Cumin seeds- 1 tsp

Instructions

1. Soak the dal for 30 minutes. This speeds up the cooking process so that we can ensure that the vegetables and dal cook at the same time
2. Prepare your vegetables as the dal soaks. Roughly chop everything into small pieces and keep ready
3. When ready, add the dal to the bottom of the pressure cooker and layer the chopped vegetables on top
4. Add turmeric powder and salt
5. Pour in enough water to just submerge the vegetables and dal. The amount will depend on the size of your pressure cooker.
6. Pressure cook on medium heat for 10-12 minutes or two whistles. This is enough to cook the dal and also the vegetables just right
7. When the pressure has released, open and gently stir the dal to ensure the consistency is right. If the dal is too thick, add more water at this time and bring to a boil
8. Heat oil for tempering and add the cumin seeds
9. Dunk the tempering into the dal
10. Serve hot with rotis or phulkas

3. Aate ka halwa

Ingredients

- wheat flour / atta- 250g
- Ghee / clarified butter/Oil- 200ml
- ¼ tsp Cardamom powder / ealchi powder=¼ tsp
- Sugar-250g
- Water-750ml

Instructions

1. Heat ghee/oil in a large kadai.
2. Add wheat flour and mix well without forming any lumps.
3. Roast on low to medium flame stirring continuously.
4. After 14 minutes, the mixture will start to turn golden and aromatic.
5. Slowly after 20 minutes, the mixture will turn dark golden brown indicating wheat flour has cooked completely, then keep it aside.
6. Now in a saucepan take sugar and water.
7. Stir well-dissolving sugar and boil for 2 minutes. No need to get thread consistency sugar syrup.

8. Pour the hot boiling sugar syrup over wheat mixture stirring continuously.
9. Be careful as the mixture will splutter.
10. Keep stirring continuously, till the wheat flour will absorb all the water.
11. Continue to cook for 5 minutes stirring continuously without forming lumps.
12. Now add cardamom powder and mix well.

4. Missi roti with rasedaar aloo

Ingredients (Missi Roti)

- Gram Flour- 200g
- Whole Wheat Flour- 250g
- Cumin seeds- 1/2 tsp
- Carom seeds (ajwain)- 1/4 tsp
- Turmeric powder- 1/2 tsp
- Salt to taste
- Oil- for kneading and greasing

Instructions

1. Take gram flour and whole wheat flour in a bowl. Roast cumin seeds, carom seeds and pound them to form powder.
2. Add green salt, turmeric powder and mix well. Add sufficient water and knead. Add one tablespoon of oil and the pounded spice powder and knead into dough.
3. Cover and rest the dough for about fifteen minutes. Divide into sixteen equal portions and roll into balls. Further roll each portion into a roti.
4. Heat a tawa and roast the rotis with a little oil till both sides are well done.

Ingredients (rasedaar aloo)

- Potato boiled and peeled- 400 g
- Vegetable Oil-3 tbsp
- Tomato Chopped- 150g
- Ginger Chopped- 1 inch
- Green Chilli-2-3
- Hing-1/2 tsp
- Zeera-1 tsp

- Turmeric Powder-1/2 tsp
- Salt to taste

Instructions

1. Add tomato, ginger and green chilli in a bowl and blend to make a smooth puree.
2. Heat oil in a pan.
3. Once the oil is hot, add hing and zeera and let them crackle for a few seconds.
4. Add tomato ginger green chilli paste and cook for 2 minutes.
5. Add coriander powder, turmeric powder cook until oil separates from the sides.
6. Break the potatoes using your fingers roughly and add them in the pan.
7. Add 2 cups of water and salt to taste.
8. Cook for 3-4 minutes.
9. Add more water if required and cook till done.

5. Kale channe and poori

Ingredients (kale channe)

- Kale Chane (Black Chickpeas)- 150g
- Chana Masala- 1/2 tbsp
- Dry Mango Powder (Amchur)- 1/2 tbsp
- Turmeric Powder (Haldi)- 1/2 tsp
- Ginger-garlic paste- 1 tbsp
- Cumin seeds- 1tsp
- Garam masala- 1tsp
- Oil-2 tbsp
- Salt to taste

Instructions

1. Wash Black chickpeas and soak them in water overnight (atleast 8 hours).
2. Drain the water and transfer the chickpeas into a pressure cooker. Add 1 Cup of water along with Salt & Turmeric Powder.

3. After the Pressure Cooker gives one whistle, turn the flame to low and cook for 10 more minutes. Let the steam come out and then open the lid of the pressure cooker.
4. Heat oil in a pressure cooker. When the oil becomes hot, add cumin seeds, ginger garlic paste and fry them.
5. Then add the boiled chickpeas to the pan and fry them.
6. Add Chana Masala and Dry mango Powder (Amchur). Sauté the spices for a few seconds and add water and let it cook for some time.

Ingredients (Poori)

- Whole wheat flour (Chapati atta)- 200g
- Salt to taste
- Oil- 1 tsp

Instructions

Making dough:

1. Take whole wheat atta and salt in a bowl and mix well.
2. Add a teaspoon of oil and mix well with your fingertips, so everything is incorporated well.
3. Now add little water at a time and start kneading the dough. It should be smooth and tight (Not soft like roti or chapati dough).
4. Cover the dough and let it rest for 15 minutes.

Making puris:

1. After resting time knead the dough once again to smooth out.
2. Divide the dough into 12 equal sized portions, Make smooth ball out of it.
3. Flatten it out between your palm and make disc. Keep those discs covered with kitchen towel.
4. Now roll into 2-3 inch diameter circle. It should not be too thin or too thick.
5. Roll few pooris and keep them in a plate, also keep them covered with kitchen napkin.
6. Heat the oil in a pan on medium heat. Once hot slide one poori into hot oil.
7. By very gentle pressure using back of slotted spatula fry them. It will help poori to puff up.
8. Then flip it. Fry the other side until it is light golden brown in color.
9. Remove it from the oil using slotted spoon and place on paper towel lined plate.
10. Fry all the pooris same way and serve.

6. Arhar ki khichdi and raita

Ingredients (Khichdi)

- Rice- 200g
- Tuvar daal/arhar ki daal- 100g
- Oil- 2 tbsp
- Cumin seeds- 1 tsp
- Salt to taste

Instructions

1. Pick and wash the rice and the dal, and soak together in water for 1/2 an hour, at least.
2. Put the rice mixture in a colander to drain the water.
3. Heat the ghee in a heavy based saucepan and add cumin seeds.
4. When the seeds splutter, add the rice and dal mixture, and saute over high heat, till well mixed and excess water dries up. Add the coriander powder and the salt and mix well too.
5. Add 2 1/4 cups water, and bring to a boil, covered. Lower the heat and simmer for 10 minutes, by which time the khichdi should be cooked, and ready to serve.
6. Note: You can make this spicier, by adding some more ground spices like garam masala and chilli powder.
7. The lentils used can vary according to taste.

Ingredients (Raita)

- Yoghurt-400g
- Cucumber-100g
- Tomato-100g
- Onion-50g
- Cumin seeds, toasted and coarsely ground-1 tsp
- Sugar- 1 pinch
- Salt to taste

Instructions

1. Stir together the tomato, onion, cucumber, cumin seeds, plain yogurt, and a large pinch of sugar. Season to taste.

7. Vegetable dalia

Ingredients

- Broken wheat soaked- 200 g
- Green peas- 100g
- Tomato- 50g
- Ginger- 1/2 inch piece
- Green chillies- 2
- Onion- 30g
- Oil- 1 tbsp
- Cumin seeds- 1 tsp
- Turmeric powder- 1/4 tbsp
- Salt to taste

Instructions

1. Chop ginger finely. Cut green chillies and onion into large pieces. Heat oil in a non-stick pan, add cumin seeds and sauté till light brown.
2. Add ginger, green chillies and onion and sauté till lightly coloured. Drain and add dalia to the pan and mix.
3. Add turmeric powder, salt and mix well. Add green peas and 3 cups water and mix.
4. Cover and cook on the low heat till done. Cut tomato into large pieces and add. Mix well and serve hot.

8. Vegetable rolls

Ingredients:

- Wheat flour- 250g
- Oil- 3 tbsp
- Garam masala powder-1/2 tbsp
- Onion-50g
- Ginger garlic paste-1 tbsp
- Potato- 60g
- Chopped beans, cabbage – 100g
- Salt to taste

Instructions:

1. Knead wheat flour to soft dough by adding salt, 1 tbsp oil and water. Divide it to equal sized balls.
2. Heat oil in pan, add chopped onion, ginger and garlic paste and cook well.
3. Add garam masala powder to it
4. Add chopped potato, beans and cabbage.
5. Add salt generously and cook it covered till cook.
6. Prepare hot chapattis, from the above prepared dough.
7. Apply the prepared vegetable to the chapatti.
8. Roll the chapatti and serve hot.

9. Miri – Laapsi (Salted/ Sweet)

Ingredients

- Finger Millet/Ragi - 50g
- Ginger, Garlic, Green Chillies- 10g
- Salt or sugar/ jiggery- To taste
- Ghee/oil- 5g

Instructions

1. Put ghee in a pan to heat. Add flour and stir for a few minutes.
2. Add water to make a liquid mixture.
3. Add salt and spices for salty lapsi and sugar or jaggery for sweet lapsi.
4. Keep stirring on low heat till a thick kadhi soup like consistency is reached.

10. Vegetable upma

Ingredients:

- Semolina (rawa/suji)- 200g
- Beans- 10
- Green peas- 50g
- Green capsicum- 50g
- Onion- 30g
- Green chillies- 3
- Mustard seeds- 1/2 tsp

- Curry leaves- 15-20
- Split black gram skinless (dhuli urad dal)- 2 tsp
- Oil-1tbsp
- Salt to taste

Instructions:

1. Chop onion and green chillies. Heat oil in a non-stick pan. Add mustard seeds, curry leaves and urad dal and sauté for 1 minute.
2. Add onion and sauté for 2 minutes. When the onion becomes golden, add chopped vegetables and sauté well. Then add semolina and sauté for 2-3 minutes.
3. Add green chillies, salt and mix. Sauté for 1 minute. Add hot water to the pan and cook till most of the water is absorbed and semolina is properly cooked
4. Serve hot.

RECOMMENDATIONS

The JRM observed that main problems in implementation of MDM are delay in availability of funds and food grain for smooth running of the scheme. The quality and quantity aspects of the served meal are also to be monitored closely. Some suggestions and recommendations are given below which may help in further improvement in implementation of MDM scheme:

- 1) Supply chain mechanism needs to be streamlined. Foodgrains should be released for a particular school, considering its attendance and consumption of foodgrains. Food grains are not being stored in schools due to various reasons like theft etc. Almost every day or in week time food grains come from Pradhan's house or dealer's house to the school. However, there is no record available on the quantity of food grain lifted from Pradhan's house and how much food grain has been cooked. In majority of the visited schools negative balance of foodgrains was noticed. This leads to compromise of the quality of grain and also creates problems in reconciling the figures of negative balance.
- 2) The records related to utilization and unspent balance of foodgrains needs to be reconciled and monitored carefully, as there were mismatch in the information submitted by the Block and the information reflected in the school register.
- 3) State should ensure release of funds under Mid Day Meal Scheme in time. The grant released by Govt. of India on 31st August, 2018 is yet to be released by State Finance to State Mid Day Meal Authority. Huge delays were observed in release of funds. Almost in all the visited schools the implementing agencies are using their own money or on credit basis. This again may lead to compromise with the quality of meals.
- 4) Women Self Help Groups may be involved in implementation of Mid Day meal Scheme. The State team may visit States like Chhattisgarh and Telangana to see the implementation of MDM by SHGs.
- 5) Training and sensitization of teachers and officials at different level is required, as none of the officials were aware about the norms of the Mid Day Meal Scheme.

- 6) Display of Entitlement, Menu and Logo of Mid Day Meal Scheme at a prominent place so that is easily visible to community.
- 7) Cooks should be trained in food safety. It should be made compulsory for them to follow hygienic practices and wear headgears and aprons during meal preparations.
- 8) It was observed that the amount of rice, wheat flour, potato, tomato, ginger, onion, garlic, oil etc taken by cooks was very approximate. Standard weighing and measuring equipments should be made available in all kitchens to weigh the exact amount of raw ingredients to be cooked.
- 9) There is no record available how the conversion cost is being utilized. There is need to give training to govt. Officials and school teachers about how much raw food converts to cooked food. All head teachers should be asked to get cooked one unit of khichadi, one unit of rice (100 g or 150 g), Chapatis from 100g or 150g and one unit of sabji in school. They should measure the cooked amount in one vessel/serving device. This measure should be used to serve food as per norms.
- 10) Recipes for quantity food production of each dish should be standardized.
- 11) The portion size of each dish to be served to primary and upper primary students should be standardized. It was observed during survey that the recommended quantity of food items is not being served to the school children. There should be standard equipments for serving food to primary and upper primary children. Serving size was found to be highly approximate. School Management Committees should be involved for ensuring the quantity and quality of food being served.
- 12) Inspection is an important component for smooth implementation of the Scheme at the grass root level. Effective monitoring mechanism should be developed by the State Govt. to ensure periodic inspection of the scheme by officials at all levels. Inspecting Officers should record their observations on the implementation of the Scheme. The PRIs or SMC member or any government official can write their remarks/comments about their observations of MDM in school.
- 13) The community participation in MDM was negligible and needs to be improved for successful implementation of the scheme.

- 14) Vegetables and pulses should be added daily in the mid day meal as prescribed under MDM guidelines. Inclusion of seasonal fruits and green leafy vegetables is recommended. Locally available inexpensive vegetables should be used. Leaves of radish, methi, mustard, bathua etc should be used in meal preparation.
- 15) Menu may be more flexible, preferably at the district level.
- 16) The quality of water in schools may be checked on regular basis. It has been found that there is water facility in each and every school but very rare with water purifier. A number of schools had hand pumps/submersible pumps with no facility of water purifier. There should be provision of water purifiers for cooking MDM as well as for drinking purpose. In case of absence of such facilities it is recommended that the testing of water quality and fluorine content of the water source and cleanliness of the surrounding of the drinking source must be ensured and its proper record should be maintained.
- 17) Environmental sanitation and cleanliness of kitchen and school premises is very much required. School children may also be involved in cleanliness of the school. During survey it was found that wastes were not being segregated. Dry and wet waste should be segregated and big dustbins instead of pedestal dustbin should be placed in schools.
- 18) More number of taps are required for washing hands. To ensure hygiene, area for washing of utensils should be separate and cleaning of utensils should be done using soap and scrub pad.
- 19) There is no planned arrangement for storage of items particularly pulses, salt and spices. In some schools storage area was found to be damped and dark. There is need to work on systematic storage facility with provision of air and light.
- 20) In some of the schools cooking was being done in open area and classrooms. Cooking activity should be carried in kitchen only.
- 21) It is also noticed that meal is distributed among the children in verandah or open space in the school, while eating which are found not to be clean in some of the schools. Proper dining areas/halls should be there for serving of foods to children.
- 22) It is appreciated that every school has LPG cylinder, however at some places they are using firewood due to non-availability of refilled LPG cylinder.

- 23) LPG tube should be checked for leakage periodically. Provision of fire extinguisher at easily reachable place should be made near the kitchen in all the schools.
- 24) It is appreciated that State Government has provided eating plates to all children. It was found from the survey that in large number of the schools, students bring glasses from their own home for milk and children use their hands to eat food as spoon is not included in utensils. So it is recommended to provide the spoons and glasses so that children can really enjoy their meal
- 25) Payment of Honorarium to Cook-cum-Helpers should be timely and regular. There is urgent need to revise and enhance the honorarium of CCH because they belong to the disadvantaged segment of the society.
- 26) For effective implementation of MDM, all the functionaries involved in the scheme need to be aware about nutrition, health, hygiene and safety of foods. It is recommended that in the districts where State Agricultural Universities/ Colleges are located their Foods and Nutrition Department may be roped in for develop model schools in their districts by providing training to the Block officials, teachers and cook-cum-helpers regarding nutrition, health, hygiene and food safety. Horticulture department can also help in growing vegetables in model schools. Development of Kitchen garden should be encouraged. Plantation of fruit bearing trees like papaya, guava, lemon and mango and green leafy vegetables can be done in space available in school.
- 27) There is a need to develop a nutrition health index card for each child so that tracking can be done easily for monitoring of moderate and severely undernourished children.
- 28) The convergence with Rastriya Bal Swasthya Karyakram involvement needs to be strengthened. Every district should have a nutritionist to monitor growth and nutritional status of school children. In case of severe undernutrition or urgency they should be referred to health department. The nutritional status of these identified children may be recorded on quarterly basis.

SWOC ANALYSIS

A) STRENGTH

- i. Meals is being cooked and consumed by children in every school.
- ii. Provision of milk and fruits.
- iii. Provision of eating plates.
- iv. Provision of LPG.
- v. Toilets are generally clean and are being used by school children
- vi. No discrimination of any sort, even though large number of cooks were from deprived caste
- vii. Use of IVRS for real time data.

B) WEAKNESS


- i. Delay in release of funds.
- ii. Food grain supply is not regular
- iii. Poor monitoring.
- iv. Inadequately trained cook-cum-helpers
- v. Mata samooch, teachers and cooks are not signing on tasting register and if sign they do not give comment on quality of food.


C) OPPORTUNITY

- i. Opportunity for improvement is there as very well built system of providing MDM. Bulandsahar is an industrial area so CSR can be tapped for providing an infrastructure as it has been done in some schools
- ii. Development of kitchen gardens.
- iii. Involvement of Community.
- iv. Flexible menu, preferably at district level to overcome regional variations.
- v. Constitution of State JRM on the lines of Govt. of India.
- vi. Training of officials for improved monitoring and reporting.

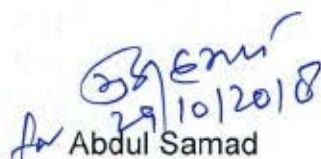
D) CHALLENGES

- i. Delay in supply of funds and foodgrains may leads to disruption of serving of MDM.
- ii. If quality and quantity of MDM is not taken care children will remain undernourished which will be great national loss in terms of GDP
- iii. If hygiene, sanitation and fire extinguisher are not ensured properly, it may lead to safety and disease threats.


29/10/2018
Davander Kumar


29/10/18
Dr. Rashmi Singh


29/10/2018
Bhupendra Kumar


29/10/2018
for Abdul Samad


29/10/18
Dr. Rita Singh Raghuvanshi

School wise details of Attendance and Avg. children availed MDM during last ten days**Districts Bulandshahar and Chandauli**

Sl.No.	School Name	Enrol	Aadhaar	day 1	day 2	day 3	day 4	day 5	day 6	day 7	day 8	day 9	day 10	Avg	% of Enrol
Bulandshahar															
1	UPS Saimly	55	55	45	44	46	47	43	42	35	49	48	45	44	81%
2	PS Barari	33	30	18	24	25	25	25	24	26	26	20	24	24	72%
3	UPS Manohargarhi	68	65	40	42	42	30	40	32	43	38	31	17	36	52%
4	PS Manohargarhi	84	84	60	70	64	59	57	47	69	61	52	78	62	73%
5	PS Saimly	151	110	86	78	79	98	83	100	62	75	109	103	87	58%
6	PS Gulaothi Town	343	343	211	219	218	222	235	241	217	177	234	228	220	64%
7	PS Bhanwra	396	367	241	222	220	240	245	234	266	134	234	255	229	58%
8	PS Ladlawas	314	280	206	191	179	187	193	219	226	234	244	217	210	67%
9	UPS Bhanwra	91	84	50	49	51	53	44	59	54	43	52	53	51	56%
10	PS Samali	221	130	151	140	156	164	141	141	55	160	164	169	144	65%
11	UPS Samali	61	61	54	49	55	53	54	56	33	40	47	56	50	81%
12	UPS Jhokhabad	68	63	57	50	57	60	57	56	46	48	58	56	55	80%
13	PS Jhokhabad	180	180	125	132	125	128	130	138	79	116	143	143	126	70%
14	PS Sarai Dulha	107	87	88	90	97	92	95	86	95	89	92	99	92	86%
15	UPS Sarai Dulha	42	25	35	35	36	36	37	26	27	31	33	38	33	80%
16	PS Kirra	202	134	118	141	150	130	154	149	118	83	109	116	127	63%
17	UPS Kirra	112	106	74	64	69	61	56	54	53	66	57	68	62	56%
18	PS Hajratpur	183	98	137	124	116	114	122	144	128	84	72	140	118	65%

19	UPS Hajratpur	102	92	68	60	62	65	66	72	72	55	50	64	63	62%
20	PS Mainna Kallendergarhi	143	123	90	97	104	102	111	94	112	96	64	103	97	68%
Chandauli															
21	PS Naugarh I	185	165	95	96	128	120	136	139	134	140	135	130	125	68%
22	PS Naugarh II	170	135	70	64	84	85	75	64	84	70	50	75	72	42%
23	UPS Rithia	107	95	63	53	65	59	62	65	66	64	61	68	63	59%
24	PS Amritpur	195	165	96	87	83	74	83	89	88	97	89	75	86	44%
25	UPS Amritpur	171	171	87	69	70	60	68	70	85	88	62	80	74	43%
26	PS Mavaiya	262	198	160	140	109	114	142	137	149	159	158	148	142	54%
27	UPS Mavaiya	137	137	101	99	75	77	73	86	80	78	80	92	84	61%
28	PS Sonhul	196	182	93	125	112	62	85	101	94	108	87	72	94	48%
29	PS Chakiya	341	341	242	265	264	175	232	240	234	236	220	224	233	68%
30	UPS Chakiya	595	549	437	424	412	332	425	442	441	443	429	421	421	71%
31	PS Dulhipur	305	302	254	241	221	210	179	220	203	221	235	213	220	72%
32	UPS Dulhipur	282	249	185	185	170	164	158	156	144	148	167	167	164	58%
33	PS Bahadurpur	485	431	308	319	326	288	239	263	293	263	311	193	280	58%
34	UPS Bahadurpur	219	198	128	120	120	109	69	100	102	115	117	111	109	50%
35	PS Jaleelpur	388	280	283	276	264	252	139	205	198	183	255	208	226	58%
36	UPS Jaleelpur	231	212	145	147	145	144	107	125	114	97	194	197	142	61%
37	PS chanduasi	302	260	191	211	197	187	139	184	204	185	191	169	186	62%
38	UPS chanduasi	154	135	90	92	92	87	71	72	73	81	78	75	81	53%

**School wise details of Infrastructure facilities
Districts Bulandshahar and Chandauli**

Sl.No.	School Name	Menu	Logo	Entitlement	Kitchen cum store	Mode of Fuel	Availability KD	Eating plates
Bulandshahar								
1	UPS Saimly	Yes	No	No	No	LPG	Yes	Yes
2	PS Barari	Yes	No	No	Yes	LPG	Yes	Yes
3	UPS Manohargarhi	Yes	No	No	Yes	Fire wood	Yes	Yes
4	PS Manohargarhi	Yes	No	No	Yes	Fire wood	Yes	Yes
5	PS Saimly	Yes	No	No	Yes	LPG	Yes	Yes
6	PS Gulaothi Town	Yes	Yes	No	Yes	LPG	Yes	Yes
7	PS Bhanwra	Yes	No	No	Yes	LPG	Yes	Yes
8	PS Ladlawaas	No	No	No	Yes	LPG	Yes	Yes
9	UPS Bhanwra	Yes	Yes	No	Yes	LPG	Yes	Yes
10	PS Samali	Yes	No	No	Yes	LPG	Yes	Yes
11	UPS Samali	Yes	No	No	Yes	LPG	Yes	Yes
12	UPS Jhokhabad	No	No	No	Yes	LPG	Yes	Yes
13	PS Jhokhabad	No	No	No	Yes	LPG	Yes	Yes
14	PS Sarai Dulha	Yes	No	No	Yes	LPG	Yes	No
15	UPS Sarai Dulha	Yes	No	No	Yes	LPG	Yes	Yes
16	PS Kirra	Yes	Yes	No	Yes	LPG	Yes	No
17	UPS Kirra	Yes	No	No	Yes	LPG	Yes	Yes
18	PS Hajratpur	Yes	No	No	Yes	LPG	Yes	Yes
19	UPS Hajratpur	Yes	No	No	Yes	LPG	Yes	Yes
20	PS Mainna Kallendergarhi	Yes	No	No	Yes	LPG	Yes	Yes
Chandauli								
21	PS Naugarh I	Yes	Yes	No	Yes	LPG	Yes	Yes
22	PS Naugarh II	Yes	Yes	No	Yes	LPG	Yes	Yes
23	UPS Rithia	Yes	No	No	Yes	LPG	Yes	Yes
24	PS Amritpur	Yes	No	No	Yes	LPG	Yes	Yes
25	UPS Amritpur	Yes	No	No	Yes	LPG	Yes	Yes
26	PS Mavaiya	Yes	Yes	No	Yes	LPG	Yes	Yes
27	UPS Mavaiya	Yes	Yes	Yes	Yes	LPG	Yes	Yes
28	PS Sonhul	Yes	Yes	Yes	Yes	LPG	Yes	Yes
29	PS Chakiya	Yes	Yes	Yes	Yes	LPG	Yes	Yes
30	UPS Chakiya	Yes	Yes	Yes	Yes	LPG	Yes	Yes

31	PS Dulhipur	Yes	Yes	Yes	Yes	LPG	Yes	Yes
32	UPS Dulhipur	Yes	Yes	Yes	Yes	LPG	Yes	Yes
33	PS Bahadurpur	Yes	Yes	Yes	Yes	LPG	Yes	Yes
34	UPS Bahadurpur	Yes	Yes	Yes	Yes	LPG	Yes	Yes
35	PS Jaleelpur	Yes	Yes	Yes	Yes	LPG	Yes	Yes
36	UPS Jaleelpur	Yes	Yes	Yes	Yes	LPG	Yes	Yes
37	PS chanduasi	Yes	Yes	Yes	Yes	LPG	Yes	Yes
38	UPS chanduasi	Yes	Yes	Yes	Yes	LPG	Yes	Yes

Sl.No.	School Name	Toilet facility		Water source		CCH engaged	Trainin g of CCH
		Boy	Girl	Tap	Hand Pump		
Bulanshahar							
1	UPS Saimly	Yes	Yes		Yes	2	Yes
2	PS Barari	Yes	Yes		Yes	2	Yes
3	UPS Manohargarhi	Yes	Yes	Yes	Yes	2	No
4	PS Manohargarhi	Yes	Yes	Yes	Yes	2	No
5	PS Saimly	Yes	Yes		Yes	3	No
6	PS Gulaothi Town	Yes	Yes		Yes	3	No
7	PS Bhanwra	Yes	Yes		Yes	2	No
8	PS Ladlawas	Yes	Yes		Yes	5	Yes
9	UPS Bhanwra	Yes	Yes		Yes	1	No
10	PS Samali	Yes	Yes	Yes	Yes	4	Yes
11	UPS Samali	Yes	Yes	Yes	Yes	2	Yes
12	UPS Jhokhabad	Yes	Yes	Yes	Yes	2	No
13	PS Jhokhabad	Yes	Yes		Yes	3	No
14	PS Sarai Dulha	Yes	Yes	Yes	Yes	2	No
15	UPS Sarai Dulha	Yes	Yes	Yes	Yes	2	No
16	PS Kirra	Yes	Yes		Yes	3	No
17	UPS Kirra	Yes	Yes		Yes	3	No
18	PS Hajratpur	Yes	Yes		Yes	3	No
19	UPS Hajratpur	Yes	Yes		Yes	3	Yes
20	PS Mainna Kallendergarhi	Yes	Yes	Yes	Yes	3	Yes
Chandauli							
21	PS Naugarh I	Yes	Yes		Yes	3	No
22	PS Naugarh II	Yes	Yes	Yes	Yes	3	No
23	UPS Rithia	Yes	Yes		Yes	2	No
24	PS Amritpur	Yes	Yes		Yes	4	No
25	UPS Amritpur	Yes	Yes		Yes	3	No
26	PS Mavaiya	Yes	Yes	Yes	Yes	3	No

27	UPS Mavaiya	Yes	Yes	Yes	Yes	3	No
28	PS Sonhul	Yes	Yes		Yes	3	No
29	PS Chakiya	Yes	Yes		Yes	5	Yes
30	UPS Chakiya	Yes	Yes		Yes	4	Yes
31	PS Dulhipur	Yes	Yes	Yes	Yes	4	Yes
32	UPS Dulhipur	Yes	Yes	Yes	Yes	4	Yes
33	PS Bahadurpur	Yes	Yes	Yes	Yes	5	Yes
34	UPS Bahadurpur	Yes	Yes	Yes	Yes	4	Yes
35	PS Jaleelpur	Yes	Yes	Yes	Yes	4	No
36	UPS Jaleelpur	Yes	Yes	Yes	Yes	4	Yes
37	PS chanduasi	Yes	Yes	Yes	Yes	4	Yes
38	UPS chanduasi	Yes	Yes	Yes	Yes	3	Yes

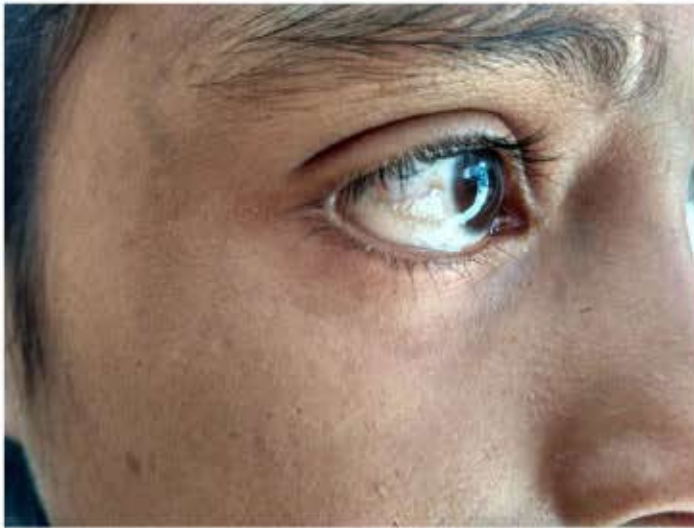
Sl.No.	School Name	Inspection	School Health Programme	Emergency plan	Tasting Meal register
Bulanshahar					
1	UPS Saimly	Yes	Yes	No	Yes
2	PS Barari	No	Yes	No	Yes
3	UPS Manohargarhi	No	Yes	No	Yes
4	PS Manohargarhi	Yes	Yes	No	Yes
5	PS Saimly	Yes	Yes	No	Yes
6	PS Gulaothi Town	Yes	Yes	No	Yes
7	PS Bhanwra	Yes	Yes	No	Yes
8	PS Ladlawas	Yes	Yes	No	Yes
9	UPS Bhanwra	Yes	Yes	No	Yes
10	PS Samali	Yes	Yes	Yes	Yes
11	UPS Samali	Yes	Yes	Yes	Yes
12	UPS Jhokhabad	Yes	Yes	No	Yes
13	PS Jhokhabad	Yes	Yes	No	Yes
14	PS Sarai Dulha	Yes	Yes	Yes	Yes
15	UPS Sarai Dulha	Yes	Yes	Yes	Yes
16	PS Kirra	Yes	Yes	No	Yes
17	UPS Kirra	Yes	Yes	Yes	Yes
18	PS Hajratpur	Yes	Yes	Yes	Yes
19	UPS Hajratpur	Yes	Yes	Yes	Yes
20	PS Mainna Kallendergarhi	Yes	Yes	No	Yes
Chandauli					
21	PS Naugharh I	Yes	Yes	Yes	Yes
22	PS Naugharh II	Yes	Yes	Yes	Yes
23	UPS Rithia	Yes	Yes	Yes	Yes
24	PS Amritpur	Yes	Yes	No	No

25	UPS Amritpur	Yes	Yes	No	Yes
26	PS Mavaiya	Yes	Yes	Yes	Yes
27	UPS Mavaiya	Yes	Yes	Yes	Yes
28	PS Sonhul	Yes	Yes	Yes	Yes
29	PS Chakiya	Yes	Yes	Yes	Yes
30	UPS Chakiya	Yes	Yes	Yes	Yes
31	PS Dulhipur	Yes	Yes	Yes	Yes
32	UPS Dulhipur	Yes	Yes	Yes	Yes
33	PS Bahadurpur	Yes	Yes	Yes	Yes
34	UPS Bahadurpur	Yes	Yes	Yes	Yes
35	PS Jaleelpur	Yes	Yes	No	Yes
36	UPS Jaleelpur	Yes	Yes	Yes	Yes
37	PS chanduasi	Yes	Yes	Yes	Yes
38	UPS chanduasi	Yes	Yes	Yes	Yes

Plate 1: Anthropometric measurements and Dietary assessment



Plate 2: clinical signs and symptoms of nutritional deficiencies



A. Bitot's Spot



B. Cavity



B. Knock Knees



C. Discoloured Hairs

Plate 3: Clinical signs and symptoms



A. Pale Conjunctiva



B. Pigmented Tongue



B.



C. Mottled Teeth



Plate 5: Quantity of served food



Plate 5: eating space



Plate 6: utensils and hand washing



Plate 7: toilets



रसोईया के कर्तव्य

- भोजन बनाने से पूर्व हाथों पर साबुन लगाई एवं दात आदि की धोकर व धोकर सफाई करें।
- भोजन बनाने में ताकत धरने का ही प्रयोजन करें।
- विषट्कण के उपचारण सफाई करें।
- खाना बनाने से पूर्व रसोईया तथा धोये एवं काले धोये रने।
- केवल एगमार्के मसालों एवं आयोगादेश नमक का ही प्रयोग करें।
- घम ही एम में प्रयुक्त जन्नेड मसाले तेल वमक आदि को एयरटाइट टिन्नों में रखें।
- भोजन को तद्वैक टक कर फण्डे तक टक कर ही रने।
- रसोईघर से कीड़े-मकड़ों एवं बिगुल तो आदि की बाहर निकालकर ही भोजन रने।
- रसोई सम्बन्धित उपकरणों की नियमित सफाई की।
- रसोई में प्रयोग के उपरान्त ताला तब दे।
- भोजन मसू के अनुसार गुणवत्तापूर्ण सखल भोजन बनाने।



मध्याह्न भोजन योजना
Mid Day Meal Scheme

मिड डे मील योजना साप्ताहिक आहार तालिका

दिन	सोपीन मसू	भयजन का प्रकार	100 बच्चों हेतु आहार सखल
सोमवार	रोटी-सोयाबीन/दात की बड़ी कुल सखी	रोटी की रोटी एवं दात/सोयाबीन की बड़ी कुल सखी सखी में सोयाबीन सखी का प्रयोग	आटा 15 किग्रा, सोयाबीन सखल 15 किग्रा, तेल/घी 7.5 किग्रा, तेल/घी 7.5 किग्रा
मंगलवार	चावल-दात	चावल एवं सखी (सोयाबीन मिश्रित दात/अरहर की दात)	दात 15 किग्रा, चावल 15 किग्रा, सखी 7.5 किग्रा तेल/घी 7.5 किग्रा
बुधवार	तहरी एवं 200 मिली दूध (आमलकर गुरुसिध)	चावल, सोयाबी सखी एवं 200 मिली उबालकर गरम किया गया दूध	चावल 15 किग्रा, सोयाबी सखी 7.5 किग्रा तेल/घी 7.5 किग्रा 200 लीटर दूध
गुरुवार	रोटी-दात	रोटी की रोटी एवं दात (दात में सोयाबी सखी का स्वद उमृकर मिश्रण)	आटा 15 किग्रा, सखी मिश्रित दात 15 किग्रा, तेल/घी 7.5 किग्रा
शुक्रवार	तहरी जिसमें सोयाबीन की बड़ी का प्रयोग	चावल एवं सखी (आलू, लोयाबीन एवं मसले पर उपलब्ध मौसमी सब्जियों)	चावल 15 किग्रा, सखी 7.5 किग्रा, सोयाबीन की बड़ी 15 किग्रा तेल/घी 7.5 किग्रा
शनिवार	चावल-सोयाबीन कुल सखी	चावल एवं सोयाबीन तथा मसले एवं सखी सखी	चावल 15 किग्रा, सखी 7.5 किग्रा, सोयाबीन 15 किग्रा तेल/घी 7.5 किग्रा

नोट-जहाँ पर सोयाबीन का प्रयोग हो वहाँ पर 100 छात्रों हेतु 1.5 किलो सोयाबीन का प्रयोग करें।
• बुधवार को छात्रों को भोजन के साथ अनिवार्यत उबला हुआ गरम दूध उपलब्ध कराया जाय।



मध्याह्न भोजन योजना

दिन	मेन्यू	ऊर्जा प्रोटीन	ऊर्जा	जैरीन	दर
सोमवार	रोटी-सोयाबीन/दात की बड़ी कुल सखी/दल	ऊर्जा-450 कि. कैलोरी प्रोटीन-12 ग्र.	468	10.3	3.09
मंगलवार	चावल-दात	"	467-485	14-16	3.15
बुधवार	तहरी एवं दूध (दूध का पि. हेव-150 मि. ली.)	"	599	14.5	3.99
बृहस्पतिवार	रोटी-दात	"	463-481	14-20	3.15
शुक्रवार	तहरी	"	472	12.3	3.09
शनिवार	चावल-सोयाबीन कुल सखी	"	476	12.3	3.09

Plate 9: grain storage and quality



Plate 10: Discussion with school officials



Plate 11: Visited schools



Plate 12: tasting of food.



Plate 13: fuel used





