



Government of India

Ministry of Human Resource Development

Department of School Education & Literacy



**मध्याह्न भोजन योजना
Mid Day Meal Scheme**

**Report of 10th Joint Review Mission on
Mid-Day Meal Scheme**

**Arunachal Pradesh
(14-21st December, 2017)**

Acknowledgment

Our team is grateful to the Ministry of HRD, Government of India for constituting this Joint Review Mission and giving us the opportunity to undertake this task in the State of Arunachal Pradesh. We thank the Education Department, (Government of Arunachal Pradesh) for hosting the Joint Review Mission (JRM) in State.

We are thankful to the officials of the Education Department (Government of Arunachal Pradesh) for the co-operation during the entire period of JRM.

A special word of thanks to the principals, teachers, particularly the MDM in-charges and the non-teaching staff of various schools visited by the mission for their co-operative interaction and providing the relevant information regarding the status of MDM in their respective schools.

Since nutrition is an important component of the current JRM, we thank the school children for the patient co-operation in the entire process of data collection, particularly the data on anthropometry.

Despite the various field level constraints, the team's constant, tireless dedication brought out an insight of the present on-going MDM Scheme at various schools. Jointly, it tried to cover various aspects relating to MDM which included regularity, infrastructure, fund allocation, monitoring, evaluation, Rashtriya Bal Swasthya Karyakram, meal service and delivery as well as anthropometric measurements of the school children which were indicated in the Terms of Reference of the JRM.

We hope that through our observations and data collection, we have been able to capture the entire array of discussions with the officials/stakeholders at various levels and that the concerned recommendations put forth by the mission in this report will prove helpful to the Government of Arunachal Pradesh in implementing the Mid-Day Meal Scheme in a more systematic and effective manner which will go a long way in promoting health and nutritional status of the children of this state.

JRM TEAM, Arunachal Pradesh: 21st December 2017

MID DAY MEAL SCHEME JOINT REVIEW MISSION

Arunachal Pradesh

CONTENTS

Chapter	Topic	Page No.
1.	Composition and Terms of Reference (TORs)	4-12
2.	Methodology	13
3.	Review of Performance: Physical and financial	13-19
4.	Observations from the Field as per the ToRs	20-46
5.	Nutritional aspects of Mid Day Meal	47-78
6.	Issues and Recommendations	79-83
	Annexures	84 onwards

CHAPTER 1

Composition and Terms of Reference (TORs)

Food is mainstay of human life. Adequate nutrition not only influences nutritional status positively, it is the most important basic need, being a major determinant of health, labour productivity and mental development. Better the nutritional status of the children, higher will be the nation's growth.

Inadequate nutrition leads to malnutrition. It is both the cause and effect of poverty and ill health and follows a vicious, inter-generational pattern of illness and undernutrition. It is linked with illiteracy, especially female illiteracy, lack of safe drinking water, sanitation, ignorance, lack of awareness and ill health. Malnutrition adversely affects Universalization of Elementary Education (UEE).

Undernourished children are not able to concentrate properly in learning activities in school which is a major reason of school drop outs, leading to poor human resource development.

Malnutrition affects the child's physical and cognitive growth and increases the susceptibility to infections while having an adverse impact on economic growth of the country indirectly.

Various studies suggest that absence of inadequate breakfast over extended period can affect both behavior 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.

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 9.78 crore children in 11.43 lakh primary and upper primary schools (Government, Government Aided and Local bodies), Education Guarantee Scheme (EGS) / Alternative Innovative Education (AIE) centres and Madarsa and Maqtabas supported under Sarva Shiksha Abhiyan (SSA) as well as National Child Labour Project (NCLP) schools. In drought-affected areas MDM is served during summer vacation also. Mid Day Meal (MDM) Program has been one of the earliest supplementary nutrition programs in the country. The program has nutritional as well as educational objectives.

A programme of scale and magnitude of Mid Day Meal Scheme 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 its all aspects through the Review Missions, which are also to provide suggestions for improvement.

1.1 Joint Review Mission – Team Members

1. *Dr Rita Singh Raghuvanshi*, Dean, Home Science, GBPUA & T, Pantnagar (Mission Leader).
2. *Shri Harish Kumar*, Director (MDM), MHRD, Govt. of India
3. *Dr. Mridula Saxena*, Professor & HOD, Home Science & Hospitality Management PSS Central Institute of Vocational Education (NCERT), Bhopal
4. *Shri Tapi Gao*, Director Education, Arunachal Pradesh,
5. *Shri Rajat Gupta*, Senior Consultant, TSG-MDM, MHRD, Govt. of India
6. *Shri Sunil Kumar Sinha*, Senior Consultant TSG-MDM, MHRD, Govt. of India

Dr. Monika Mittal (Assistant Professor), Dr. Dashrath Bhati (PDF), Ms Shivani Bhardwaj (SRF) & Ms Chetna Jantwal (SRF) were the research assistants for the Mission.

The Mission comprising of the above mentioned members visited 18 schools in district Papum Pare and 15 schools in the district of Lower Subansiri.

1.2 The Terms of Reference for the Review Mission were as under:

- 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.(Lok Sabha)
- 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

Terms of Reference for Nutritional aspects:

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

1.3 Food and Nutrition norms of 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 ruled that MDM is a legal entitlement for all children and that the government should provide a 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 .

In 2006, Department of Primary Education constituted an Expert Committee to review the content and quantity of ingredients to be provided through the MDM. The expert committee recommended that MDM should provide hot cooked meal containing 100g of cereals, 20g of pulses.

Food norms have been revised to ensure balanced and nutritious diet to children of upper primary group by increasing the quantity of pulses from 25 to 30 grams, vegetables from 65

to 75 grams and by decreasing the quantity of oil and fat from 10 grams to 7.5 grams. Micro nutrients namely iron, folic acid and vitamin-A are to be provided half of daily requirements.

1.4 Nutrition Content under MDMS: Presently

- 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 1: Quantity of Ingredients

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 g	7.5 g
5.	Salt & Condiments	As per need	As per need

1.5 Arunachal Pradesh: An Introduction

Arunachal Pradesh is the north eastern-most State of India. Arunachal Pradesh borders the states of Assam and Nagaland to the south and shares international borders with Bhutan in the west, Myanmar in the east and is separated from China in the north by the disputed McMahon Line. **Itanagar** is the capital of the State. Its total area is 83,743 km². Geographically, it is the largest of the North-eastern states known as the Seven Sister States.

Arunachal Pradesh is located between 26.28° N and 29.30° N latitude and 91.20° E and 97.30° E longitude and has an area of 83,743 km². The topography rapidly rises to 7000 m at its highest peak. Numerous river valleys dissect the precipitous terrain of Arunachal.

Some of the major rivers are Kameng, Subansiri, Siang, Dibang, Lohit and Noa-Dihing rivers. Either or both Dong Basti and Vijaynagar basti in Arunachal Pradesh receives the first morning sun rays in the entire country, as the easternmost village of the country. The

mountain ranges in Arunachal Pradesh are described as "the place where the sun rises" in historical Indian texts and named the Aruna Mountains.

The history of pre-modern Arunachal Pradesh is unclear. According to the Arunachal Pradesh government, the Hindu texts Kalika Purana and Mahabharata mention the region as the Prabhu Mountains of the Puranas, and where sage Parashuram washed away sins, the sage Vyasa meditated, King Bhismaka founded his kingdom, and Lord Krishna married his consort Rukmini. Recent excavations of ruins of Hindu temples, such as the 14th century Malinithan at the foot of the Siang hills in West Siang, indicate they were built during the Chutiya reign. Another notable heritage site, Bhismaknagar, has led to suggestions that the Idu (Mishmi) had an advanced culture and administration in prehistoric times. Again, however, no evidence directly associates Bhismaknagar with this or any other known culture but the Chutiya rulers held the areas around Bhismaknagar from the 12th to 16th century. The third heritage site, the 400-year-old Tawang Monastery in the extreme north-west of the state, provides some historical evidence of the Buddhist tribal people. The sixth Dalai Lama Tsangyang Gyatso was born in Tawang.



Population:

As per details from Census 2011, Arunachal Pradesh has population of 13.84 Lakhs, an increase from figure of 10.98 Lakh in 2001 census. Total population of Arunachal Pradesh as per 2011 census is 1,383,727 of which male and female are 713,912 and 669,815 respectively. In 2001, total population was 1,097,968 in which males were 579,941 while females were 518,027. The total population growth in this decade was 26.03 percent while in previous decade it was 26.21 percent. The population of Arunachal Pradesh forms 0.11 percent of India in 2011. In 2001, the figure was 0.11 percent.

Talking about population, in order to check out the population of Arunachal Pradesh in 2017, we need to have a look at the population of the past 5 years. They are as per the following:

- 2012 – 1.255 Million
- 2013 – 1.38 Million
- 2014 – 1.42 Million
- 2015 – 1.49 Million
- 2016 – 1.57 Million

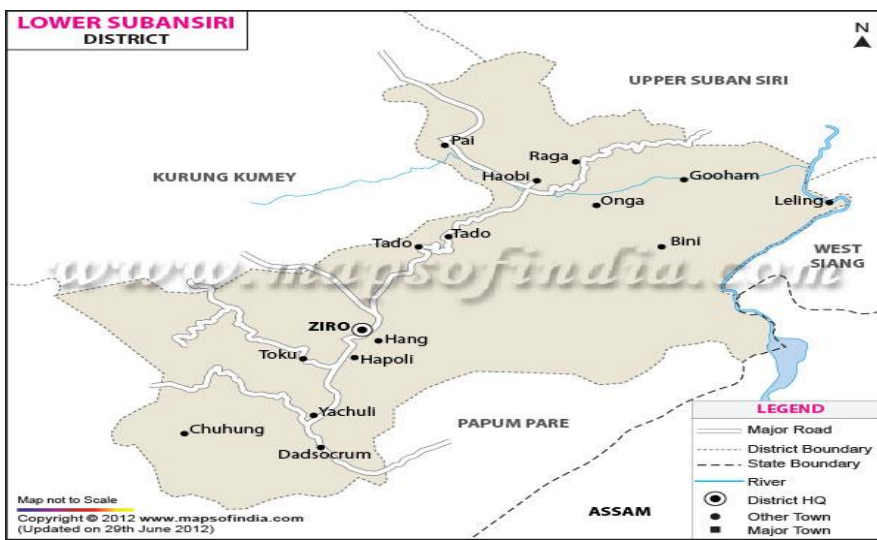
Taking a look at the population of Arunachal from the year 2012-16, it has been noticed that there has been an increase of 0.315 Million in the past 5 years. Therefore, it has been seen that every year the population increases by 0.063 Million. Hence, the population of Arunachal Pradesh in 2017 is forecasted to be 1.57 Million + 0.063 = 1.633 Million. So, the population of Arunachal Pradesh in the year 2017 as per estimated data = 1.633 Million.

Literacy:

According to the 2011 census, Arunachal Pradesh had a literacy rate of 66.95%. Male literacy rate in Arunachal Pradesh is 72.55 percent. Female literacy rate in Arunachal Pradesh is 57.70 percent. Total literates in Arunachal Pradesh are 766,005 people.

**District:
Subansiri**

The name District is from the River, a



Lower

of the derived Subansiri tributary

of Mighty Brahmaputra, that flows through Raga Circle of this District. **Lower Subansiri district** is one of the 17 administrative districts of the state of Arunachal Pradesh in northeastern India. The district was formed when Subansiri district was bifurcated into Upper and Lower Subansiri districts in 1987.

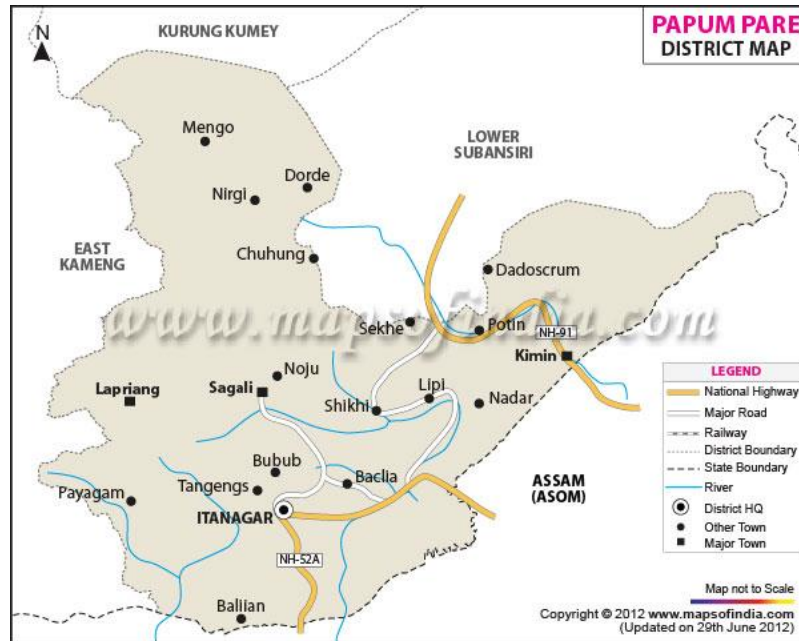
The entire Lower Subansiri District is divided into 3(three) Sub-Divisions viz: Ziro, Raga and Yachuli. Ziro Sub-Division comprised of 2(two) circle namely Ziro and Old Ziro. Raga Sub-Division comprised of 3 (three) circles viz. Raga, Kamporijo and Dollungmukh. Yachuli Sub-Division has got 3(three) circles viz. Yachuli, Pistana and Yazali. The district has 8(eight) circles comprising of 226 villages. The district has been covered by 3 (three) CD Blocks namely Ziro-I, Ziro-II and Tamen- Raga.

POPULATION

An official Census 2011 detail of Lower Subansiri, a district of Arunachal Pradesh has been released by Directorate of Census Operations in Arunachal Pradesh. Enumeration of key persons was also done by census officials in Lower Subansiri District of Arunachal Pradesh. In 2011, Lower Subansiri had population of 83,030 of which male and female were 41,843 and 41,187 respectively. In 2001 census, Lower Subansiri had a population of 55,726 of which males were 28,425 and remaining 27,301 were females. There was change of 49.00 percent in the population compared to population as per 2001. In the previous census of India 2001, Lower Subansiri District recorded increase of 29.15 percent to its population compared to 1991.

District: Papum Pare

According to the 2011 census Papum Pare district has a population of 176,385, roughly equal to the nation of Sao Tome and Principe. This gives it a ranking of 594th in India (out of a total of 640). The district has a population density of 51 inhabitants per square kilometre (130/sq mi) . Its population growth rate over the decade 2001–2011 was 44.57%. Papumpare has a sex ratio of 950 females for every 1000 males, and a literacy rate of 82.14%. Papum Pare is inhabited by members of the Nyishi, who are traditionally followers of Donyi-Polo. Some members of the Nyishi tribe are followers of Christianity.



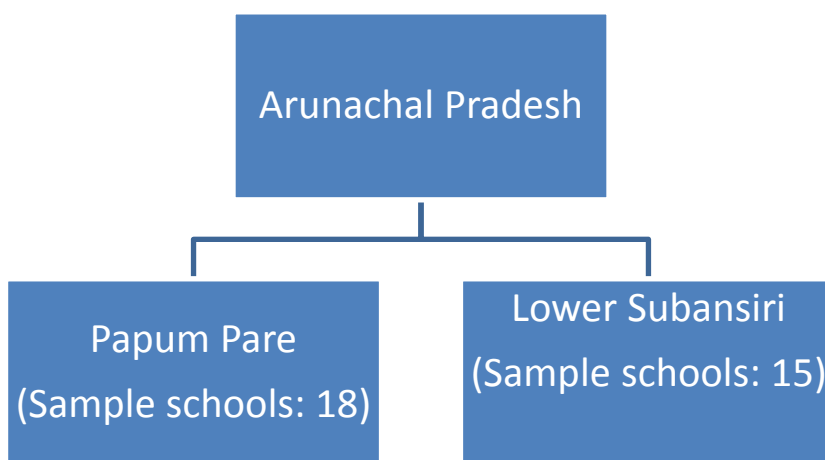
POPULATION

In 2011, Papumpare had population of 176,573 of which male and female were 89,182 and 87,391 respectively. In 2001 census, Papumpare had a population of 122,003 of which males were 64,184 and remaining 57,819 were females. There was change of 44.73 percent in the population compared to population as per 2001. In the previous census of India 2001, Papumpare District recorded increase of 67.56 percent to its population compared to 1991.

CHAPTER 2

Methodology

As per the ToRs for the Review Mission, out of the two districts covered, one of the districts namely Papum Pare has been selected by Govt. of India whereas the other district namely Lower Subansiri has been selected by the State. Random sampling was used for selection of schools in the selected districts. The Review Mission captured the intricacies in the implementation of the programme. The review mission visited 33 schools in two districts and emphasized for a greater in depth study to see the details in their entirety.



School Head Masters, MDM Incharge, cooks and teachers were contacted to know the operational functioning of MDM. Nutritional Status Assessment and dietary details are described in relevant chapters.

CHAPTER 3

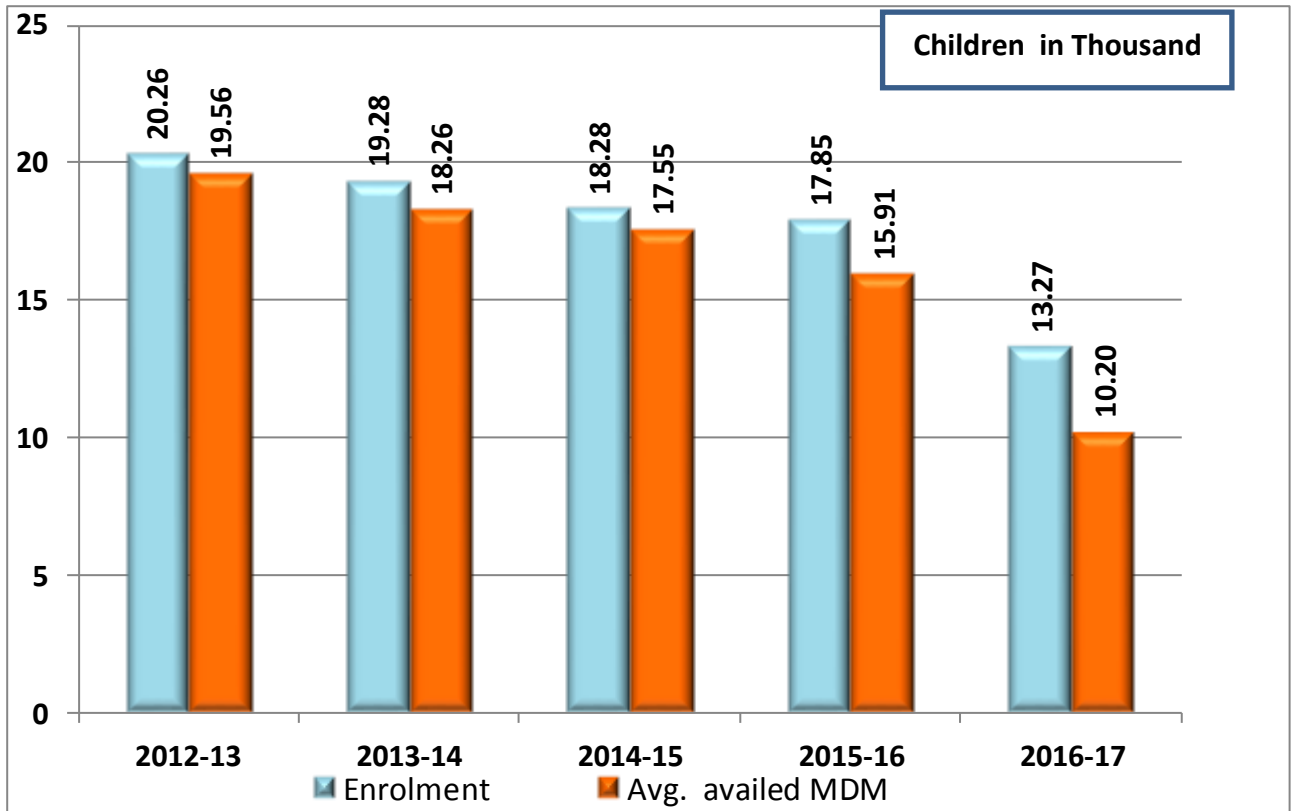
Review of Performance: Physical and financial (2012-13 to 2016-17)

3.1 Coverage of children: Primary

A perusal of the figures given in the table below shows a constant decreasing trend of enrolment i.e. enrolment has been reduced by almost 69.92 Lakh children in the primary sections during the last 5 years.

Year	Enrolment	PAB approval	Avg. availed MDM	% availed vs. Enrollment	% availed vs PAB approval
2012-13	202620	197000	195621	97%	99%
2013-14	192846	196967	182666	95%	93%
2014-15	182813	189060	175512	96%	93%
2015-16	178599	168079	159173	89%	95%
2016-17	132702	168079	102045	77%	61%

Graph : Decreasing trends of enrolment and Average number of children availing MDM (in lakh): Primary

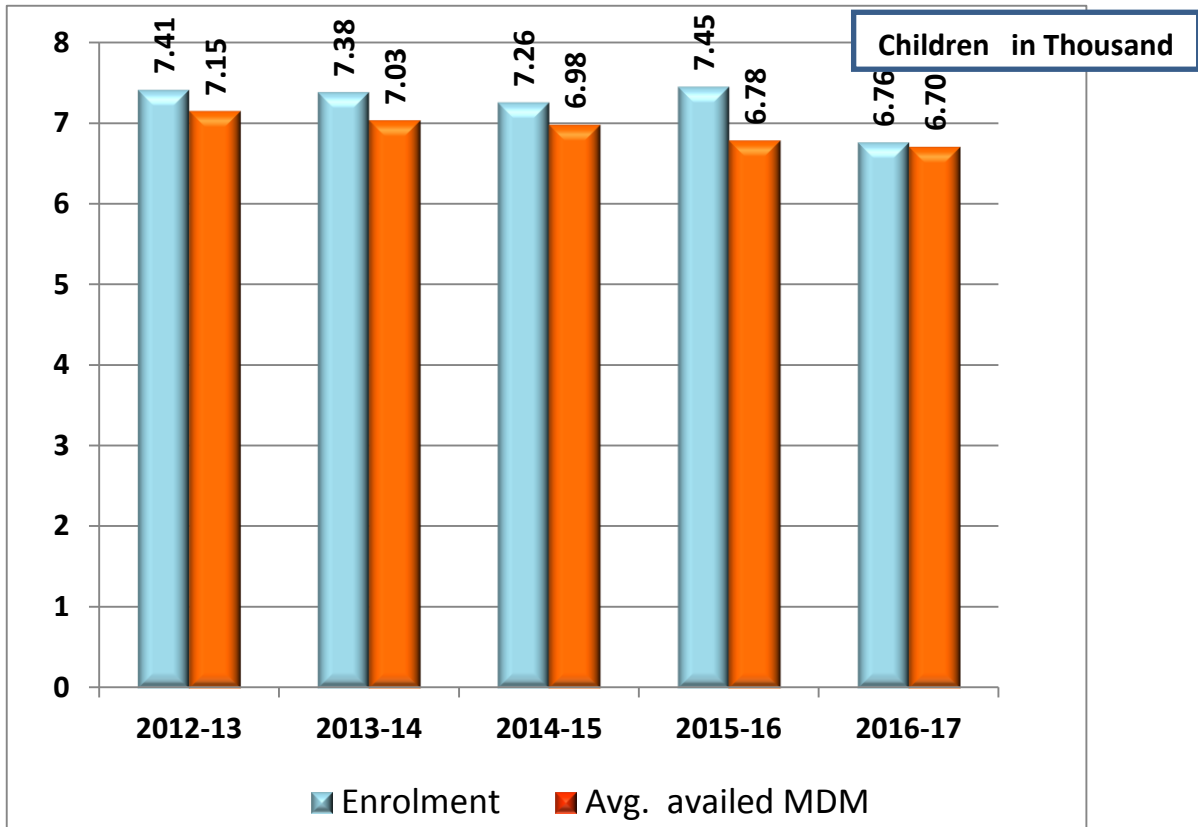


3.2 Coverage of children: Upper Primary

Unlike Primary the decline in enrolment is not as much in upper primary stage, but at the same time the decline in coverage of children under MDMS is quite sharp, as only 95% of the enrolled children have availed mid day meal on an average basis during 2016-17, whereas the coverage during 2014-15 was 98%.

Year	Enrolment	PAB approval	Avg. availed MDM	% availed vs. Enrollment	% availed vs PAB approval
2012-13	74111	69000	71472	96%	104%
2013-14	73825	69447	70314	95%	101%
2014-15	72562	71463	69779	96%	98%
2015-16	74476	70602	67813	91%	96%
2016-17	67586	70602	67047	99%	95%

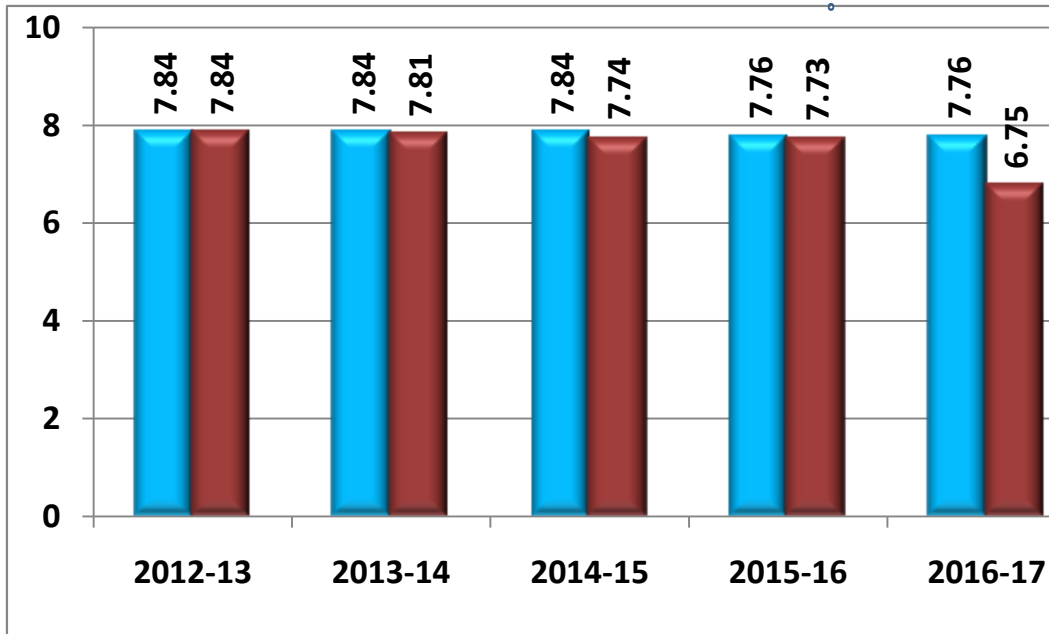
Graph : Trends of enrolment and Average number of children availing MDM (in lakh) : Upper Primary



3.3 Engagement of Cook-cum-helpers (CCHs)

The State Government has engaged 2,32,183 Cook-cum-helpers (CCHs) against the PAB-SMDM approval of 2,42,365

Year	PAB approval	Engaged	% Engaged
2012-13	7842	7842	100%
2013-14	7842	7809	100%
2014-15	7842	7736	99%
2015-16	7762	7729	100%
2016-17	7762	6749	87%



3. Details of Allocation of funds and Expenditure against Central Assistance

(Rs. in Lakh)

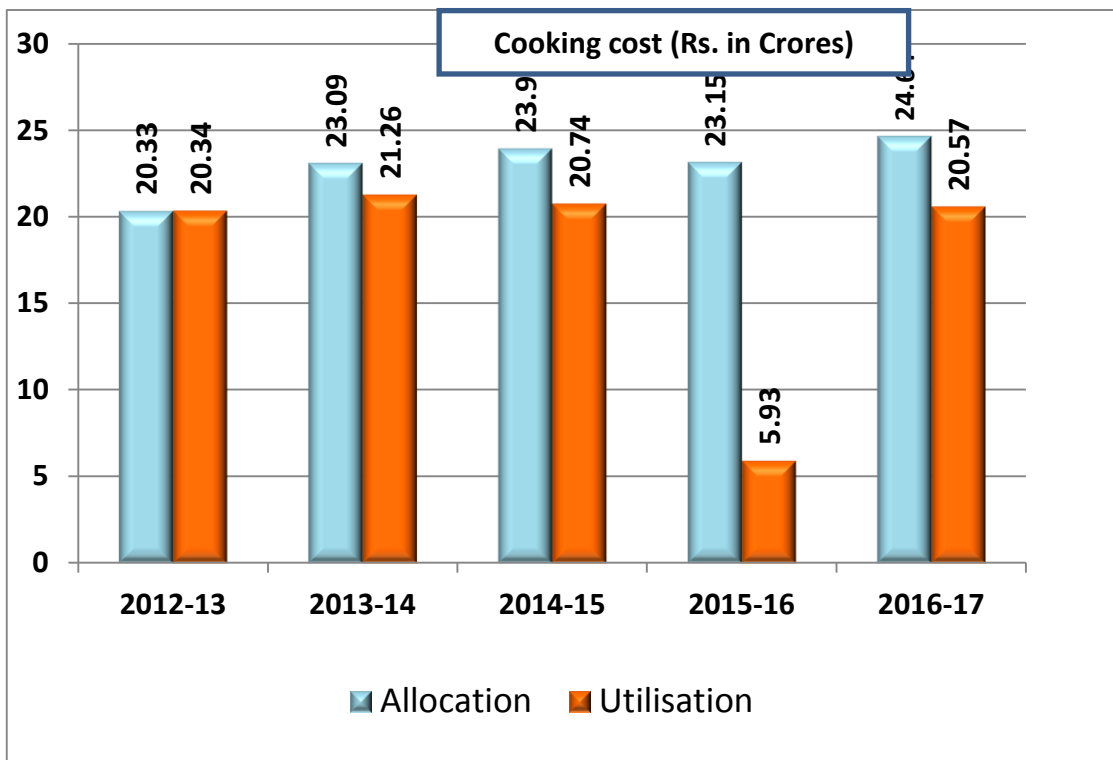
Year	Cooking Cost		TA		Hon. to CCH		MME	
	Allocation	Utilisation	Allocation	Utilisation	Allocation	Utilisation	Allocation	Utilisation
2012-13	2032.81	2033.95	171.89	256.16	705.78	564.62	55.47	56.48
2013-14	2308.82	2125.50	172.25	171.58	705.78	704.89	58.40	57.92
2014-15	2392.51	2074.12	169.46	151.88	705.78	700.85	59.85	66.26
2015-16	2315.19	592.58	156.72	37.51	776.20	232.08	60.42	9.80
2016-17	2464.25	2057.42	156.72	156.57	698.58	461.67	58.17	48.08

3.4 Component wise Details of Allocation and Expenditure of funds against Central Assistance

Utilisation of Cooking Cost

(Rs in lakh)

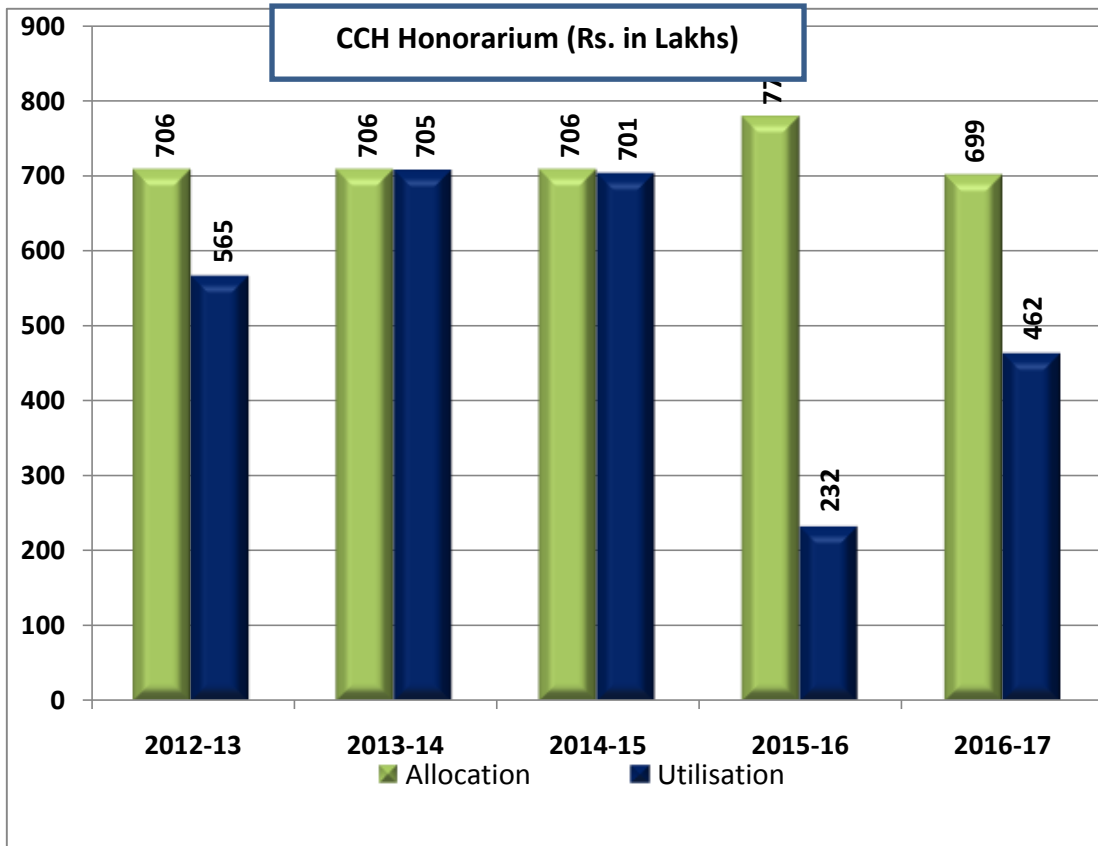
Cooking Cost	2012-13	2013-14	2014-15	2015-16	2016-17
Allocation of Funds	2032.81	2308.82	2392.51	2315.19	2464.248
Expenditure	2033.95	2125.5	2074.12	592.58	2057.42



Utilisation of Honorarium to Cook-cum-helpers

(Rs in lakh)

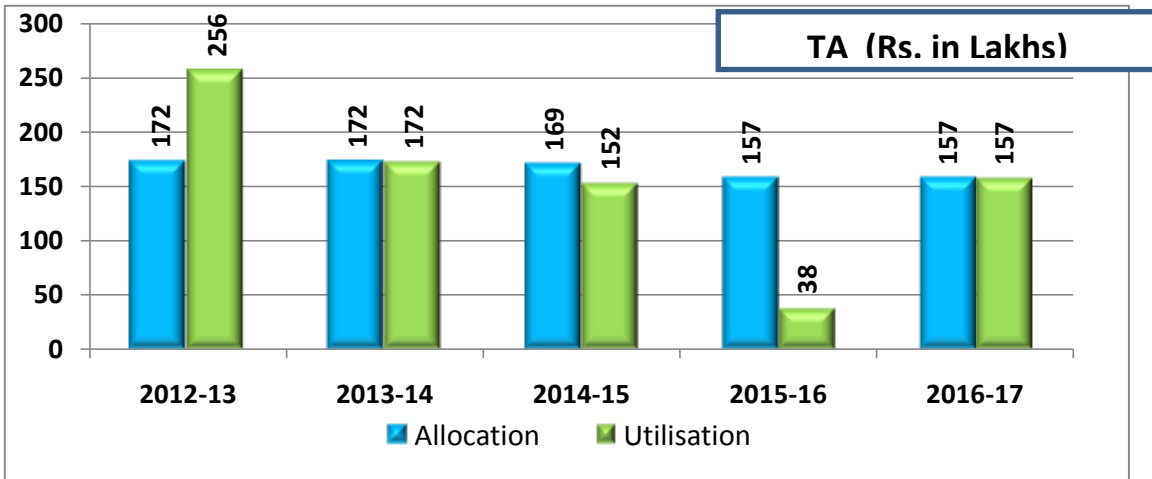
Hon. to CCH	2012-13	2013-14	2014-15	2015-16	2016-17
Allocation of Funds	705.78	705.78	705.78	776.20	698.58
Expenditure	564.62	704.89	700.85	232.08	461.67



Utilisation of Transportation Assistance

Transportation Asst.	2012-13	2013-14	2014-15	2015-16	2016-17
Allocation of Funds	171.89	172.25	169.46	156.72	156.72
Expenditure	256.16	171.58	151.88	37.51	156.57

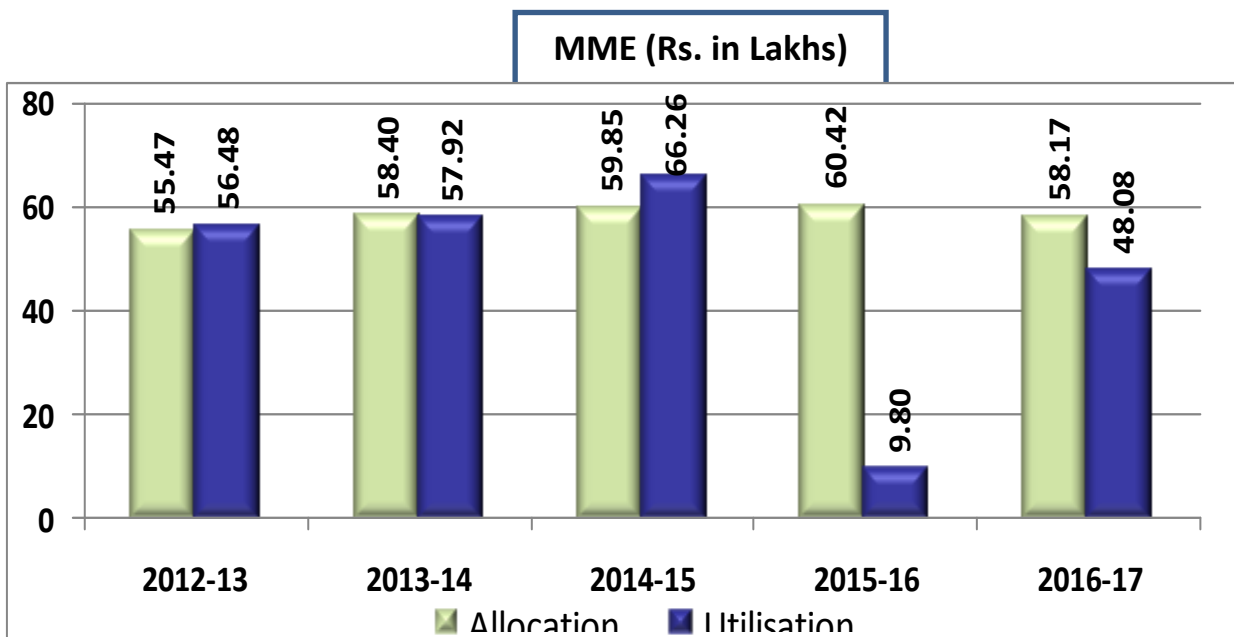
(Rs. in lakh)



Utilisation of Management Monitoring and Evaluation (MME)

(Rs. in lakh)

MME	2012-13	2013-14	2014-15	2015-16	2016-17
Allocation of Funds	55.47	58.40	59.85	60.42	58.17
Expenditure	56.48	57.92	66.26	9.80	48.08

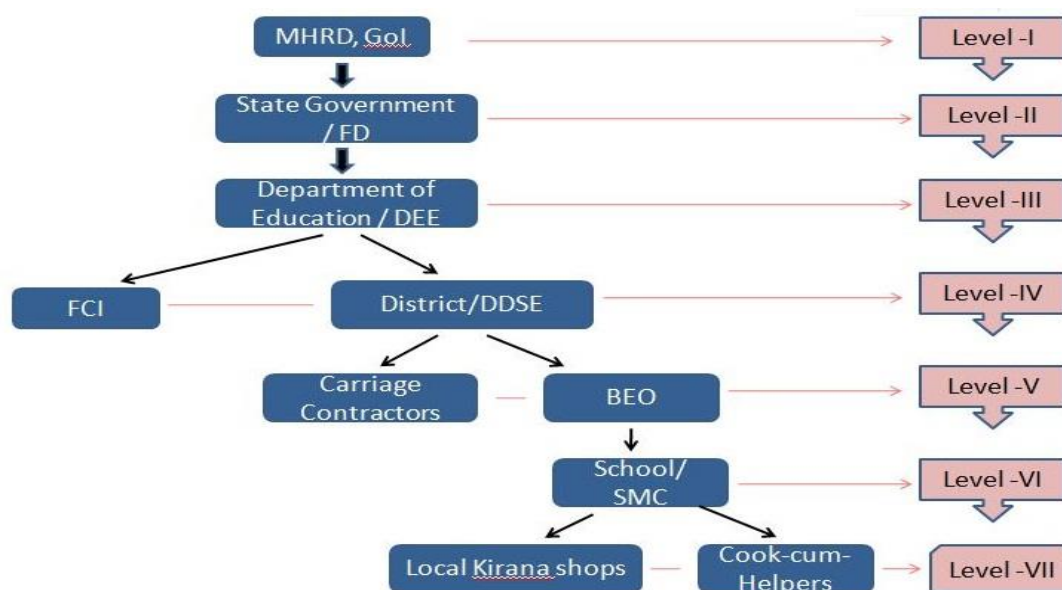


CHAPTER: 4

Observations from the Field as per the ToR

4.1 Fund flow Mechanism from State Government to Schools/cooking agency and the time taken in this process.

The existing mechanism for release of funds upto school/implementing agency level is shown below.



The mode of release of fund under Mid Day Meal Scheme is through Government Treasury mode. State Government receives the fund through e-transfer from GoI. From State Government, fund is sub-allocated to the districts through Government Treasury mode. At District, after passage of bill through Treasury mode, fund is credited into the Govt. accounts of District Education Officer (Dy. Director of School Education). From District, fund is transferred to Block/Schools by cheque or account transfer. For remote schools where there is non-availability of banking facilities, fund is released to schools by Acquaintance Roll through Block Education Officers.

From current financial year onwards, the State Government has directed all the Departments to release fund through Public Financial Management System (PFMS) under Direct Benefit Transfer (DBT) Cell.

Date of releasing of funds

Govt. of India released ad-hoc installment to the State on 03.05.2017 and balance of 1st installment on 17.07.2017. It is pertinent to mention that the State Finance Department has released only ad-hoc installment to the State Education department. The State Govt. has not yet released the ad-hoc installment to the districts. As far as balance of 1st installment is concerned, the same has not been received by the State from State Finance Department. The details of funds released from State level till school level is given as follows:

Adhoc Installment for FY 2017-18

Component	Date of Fund received by State	Date of Funds released to		Date of Funds received by
		District	Block	Schools
Cost of FG	20/05/17	Not yet	Not yet	Not yet
Cooking cost	20/05/17	Not yet	Not yet	Not yet
Hon. to CCH	20/05/17	Not yet	Not yet	Not yet
Transportation Asst.	20/05/17	Not yet	Not yet	Not yet
MME	20/05/17	Not yet	Not yet	Not yet

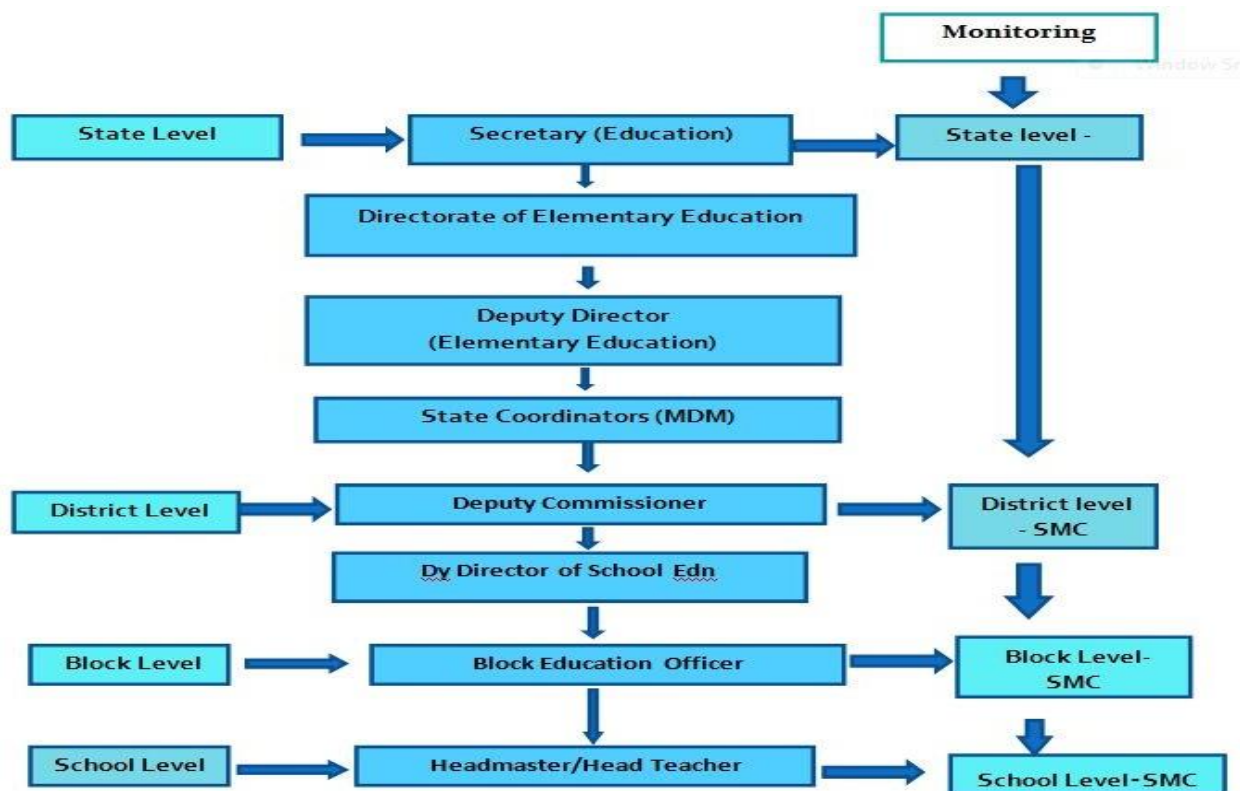
It was observed that in none of the visited schools, fund was received at the school level for the FY 2017-18. It was informed to the JRM team by the school teachers that the ration is being taken from the nearby shops on credit basis and also teachers have to spend the cost for the same from their own pockets. Due to non-availability of funds, the regularity in serving of meals is also hampered. On enquiring the reasons for the same from the State and district level officials it was informed that the State Finance Department has directed all the Departments to release the fund through Public Financial Management System (PFMS) under Direct Benefit Transfer (DBT) Cell. The State Education Department is still under process to register all the implementing agencies, like, schools, cook-cum-helpers, vendors, etc. under PFMS system.

It is recommended that PFMS be implemented on priority basis in a month time. Further, till the time the proposed fund flow through PFMS is fully operationalized, the existing fund flow mechanism should be followed so that schools get the funds immediately.

JRM also recommends that State Govt. should make a provision for Corpus Fund to be used as and when fund is awaited from the State Finance Department for smooth implementation of Mid Day Meal Schemes .

4.2 Availability of Management Structure at State, District, Block level

The complete management structure is illustrated below:



Sanctioned, filled and vacant posts at State level

S. No	Post	Sanctioned post	Filled Post	Vacant Post	Remark
	Director of Elementary Education	1	1	0	
	Dy. Director of Elementary Education (MDM)	1	1	0	
	State Program Coordinators (MDM)	2	2	0	
	Data Entry Operator	1	1	0	
	Office Attendant	1	1	0	
	Total	6	6	0	

Papum Pare District :

S. No	Post	Sanctioned post	Filled Post	Vacant Post	Remark
1	Dy. Director of School Education	1	1	0	
2	District Programme Coordinator (MDM)	1	1	0	
3	BEOs	5	5	0	
4	Data Entry Operator	1	1	0	
	Total	8	8	0	

Lower Subansiri District :

S.No	Post	Sanctioned post	Filled Post	Vacant Post	Remark
1	Dy. Director of School Education	1	1	0	
2	District Programme	1	1	0	

	Coordinator (MDM)				
3	BEOs	3	3	0	
4	Data Entry Operator	1	1	0	
	Total	6	6	0	

The above mentioned structure and posts signify that the State has staff for MDMS at State as well as at district level. However, it was observed that the inspection and monitoring of the MDMS in the schools is very poor. Though a large number of schools maintained the inspection registers and block and district level officers monitor the schools atleast once in six months, but none of the inspected officers had mentioned any remarks on implementation of MDMS inspection/visit registers. On enquiry from children, cook-cum-helpers and teachers it was informed that the meals were not cooked in the schools on regular basis however in the records it was reported that the meals are served in the schools on all working days.

It is recommended that:

One of the teacher (apart from Head Master) should be designated as MDM in-charge of the school

MDM attendance register should clearly reflect that on which days MDM was not cooked and the reason for the same.

Roles and responsibilities of District Programme Coordinator (MDM) and BEOs should be clearly defined with respect to MDMS.

District and block level officers should visit a fixed number of schools at a predefined frequency for monitoring the MDMS.

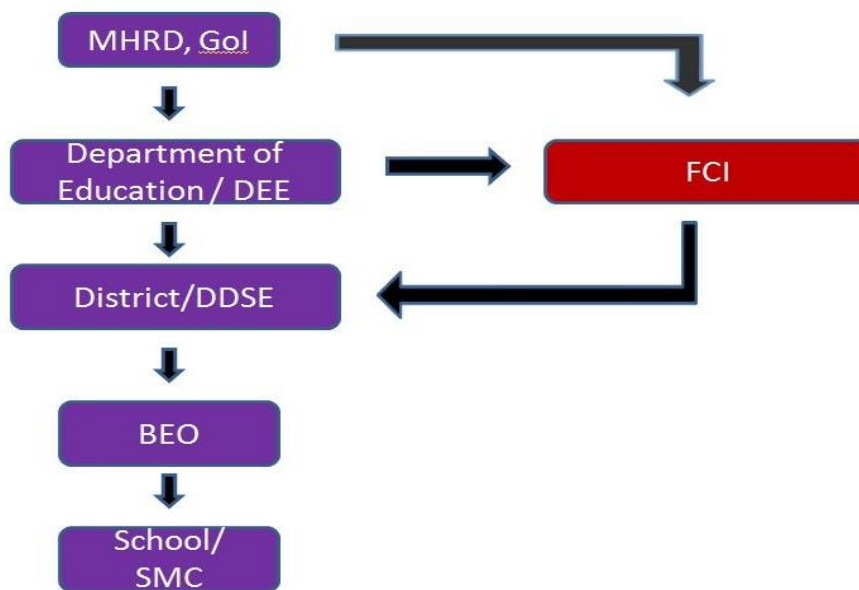
A wholesome training of district and block officials on monitoring of MDMS should be carried out.

Teachers/MDM incharges should be trained on record keeping of MDMS.

All the records relating to MDM should be audited right from the school level till the State level.

4.3 Food grain management

Foodgrains are procured from FCI. The District Administration/Deputy Commissioner floats quotation for engagement of a carriage contractor/transporter for lifting, transportation and delivery of foodgrains (rice) from FCI designated depot to schools under proper monitoring and supervision of the Deputy Director of School Education and Block Education Officer at district and block level. Delivery Mechanism of food grains flow to schools is shown below:



The District Administration/Deputy Commissioner constitutes joint inspection team comprising representatives from district education department, district civil supply department, FCI to carry out joint inspections for ensuring lifting of FAQ foodgrains under Mid Day Meal in respective districts.

It was informed that the food grain are delivered at school doorstep in all the visited schools. The supply of foodgrains was found to be regular in almost all schools in Papum Pare however the same was irregular in 11 out of 15 schools visited in Lower Subansiri district. The buffer stock of foodgrains was not maintained in most of the schools in Lower Subansiri. As a result, some of the schools had to take food grain on credit basis from the nearby fair price shops. It was also observed that false record is being maintained for consumption of foodgrains in most of the schools in Lower Subansiri.

System of Storage food grains and other ingredients:

During visit to various schools, it was observed that at most places food grains were stored in gunny bags. Bags of rice were generally stored in the store room of the school. At most places gunny bags were placed on floors which makes them susceptible to infestation with moisture, rodents and other insects. Few schools had made arrangements of wooden planks to keep gunny bags. Bags once opened were not properly packed. Storage of other food items like pulses, oil and spices was not upto the mark.

Recommendation:

Proper container to keep spices, salt, dals etc. should be made available in kitchen-cum-stores.

Metal containers to keep rice be procured to protect rice from collecting moisture and infestation.

It is also recommended that food grain should be made available timely in all the schools. Since the food is not being cooked regularly, the stock registers of the food grains should be audited and the surplus food grains should be surrendered to Government of India.

4.4 Implementation of the Scheme with particular reference to Interruptions:

The team inspected the MDM attendance register in the schools. As per the records, it was reported that the meals were served regularly without any interruptions. However when the team interacted with the children, cook-cum-helpers, community members and teachers, it was informed that food is being cooked for only 2-3 days a week. In some of schools namely Govt. Secondary School, Banderdewa in Papum Pare (food was not cooked continuously from 1st to 21st September, 2017 due to non-availability of cooking cost); Govt. Middle School, Papunallah in Papum Pare (food not cooked in last 3 months due to non-availability of potable drinking water), Govt. Gandhi Secondary School, Hapoli, Lower Subansiri (food was cooked for only 2 days in last 10 days), Govt. Secondary School, Yachuli, Lower Subansiri (food was being cooked only for 2 days in a week due to non-availability of potable water), Govt. Middle School, C-Sector, Itanagar (meals were not served in FY 2017-18 due to non-availability of potable water), Govt. Middle School, Doimukh, Papum Pare (meals were served only 2 days in week due to water problem), Govt. Secondary School Tajang, Lower Subansiri (MDM not served during 2017-18 due to absence of CCH and non-availability of cooking cost) etc.

It was enquired by the team from the teacher/MDM incharge as to why the MDM attendance registers did not record the irregularity in serving of meals. It was informed that the same is done as per the directions of higher authorities.

**DAILY ATTENDANCE OF STUDENTS AVAILING MID DAY MEAL
PRIMARY STAGE (CLASS: I - V)**

FOR THE MONTH OF December 2017

Date	Enrolment						No. of students availing for MDM						Average No. of children
	I	II	III	IV	V	Total	I	II	III	IV	V	Total	
(1)	Food cooked						Empty						
2	19	21	21	27	37	125	8	16	11	16	14	66	13
(3)	S						a						
4	19	21	21	27	37	125	18	14	17	25	26	100	20
5	19	21	21	27	37	125	18	18	12	19	27	110	22
6	19	21	21	27	37	125	16	19	14	21	23	93	18.6
7	19	21	21	27	37	125	17	18	18	25	26	104	20.8
8	19	21	21	27	37	125	11	17	15	23	27	93	18.6
(9)	Sec cond						Saturs						
(10)	S						a						
11	19	21	21	27	37	125	13	16	16	18	27	89	17.8
12	19	21	21	27	37	125	5	14	9	13	26	67	13.4
13	19	21	21	27	37	125	10	13	14	18	22	82	16.4
14	19	21	21	27	37	125	17	20	16	19	21	93	18.6
15	19	21	21	27	37	125	14	18	17	22	26	107	21.4
16	19	21	21	27	37	125	10	18	11	22	26	97	19.4
(17)	S						a						
18	19	21	21	27	37	125	12	19	19	16	17	82	16.4
19	19	21	21	27	37	125							
20	19	21	21	27	37	125							
21	19	21	21	27	37	125							
22	19	21	21	27	37	125							
23	19	21	21	27	37	125							
(24)	S						a						
(25)	Christina						a						
26	19	21	21	27	37	125							
27	19	21	21	27	37	125							
28	19	21	21	27	37	125							
29	19	21	21	27	37	125							
30	19	21	21	27	37	125							
(31)	S						a						
Total													

Enrolment (Class: I - V) :
 Total :
 Boys :
 Girls :
 Total No. of Meals Served :
 Average No. of children availing for MDM :
 No. of Cook-cum-Helper Engaged :

Signature
 Teacher (MDM)
 Date:

Signature
 Chairman VEC/SMC

Signature
 Head of the School
 (Seal)

Midday
Meal
was
cooked
on the
following
days
4, 6, 8
11, 14, 1
19. a
other

MDM attendance register shows food is cooked daily, however food cooked only 7 out of 13 days

It is recommended that:

a) the MDM records (right from the school level till State level) should be audited and the surplus cooking cost should be surrendered to the GOI.

b) a follow up visit after 3 months should be made to assess the implementation of the scheme in the State.

4.5 Engagement of Cook-cum-Helpers (CCHs) and payment of honorarium:

As per record of the State Government, 6749 cooks have been engaged (against PAB approval of 674) for cooking and serving of MDM across the State.

State Level:

Number of CCH approved	No. of CCH engaged as per State's record
6749	6749

Papum Pare:

Number of CCH approved	No. of CCH engaged as per State's record
755	755

Lower Subansiri:

Number of CCH approved	No. of CCH engaged as per State's record
530	530

However, the Review Mission observed that in 17 out of 33 visited schools cook-cum-helpers have not been engaged as per norms.

Payment of honorarium to cook-cum-helpers :

The team observed that there is huge delay of more than 8 months in payment of honorarium to CCH. It was informed that the honorarium had been paid only till March, 2017. No honorarium was paid to the CCHs during FY 2017-18. On enquiring for such non-payment, it was informed that CCH are yet to be registered under PFMS so that the fund can be transferred to their through PFMS.

It was also informed that instead of Rs. 1000 per month, only Rs. 900 is being paid to CCHs. The team enquired about the reason for the same. It was informed by the State officials that there is delay in release of State share (10%) by the State Finance Department.

As far as bank accounts are concerned 77% of CCHs (as per information provided by the State Govt.) in the State have bank accounts. In district Papum Pare, 68% CCHs have bank accounts. In district Lower Subansiri, 75% CCHs have bank accounts and their honorarium is transferred into their accounts. The team observed that still in lot of visited schools honorarium is paid in cash only. Also, no training has been provided to CCHs regarding safety and hygiene during cooking process.

It is recommended that till the time all the CCHs are registered under PFMS (and their bank accounts are opened), the supplementary system of payment to CCHs should be worked out. It is also recommended that regular training/orientation of CCHs on related subjects should be provided to enhance quality of MDM prepared.

4.6 Review of payment of cost of food grain to FCI

The issue of payment of cost of food grains by the State to the FCI was reviewed in consultation with the General Manager (Region), FCI Regional Office, Itanagar. As confirmed by the regional office, there are no outstanding MDM bills upto March, 2017. However for the year 2017-18 (upto November'2017) 116 bills amounting to Rs 91.11 lakh (approx) for 30,370.80 quintals of food grains lifted was raised by FCI and no payment has been made by the State Govt. against these bills. In this regard the State Government has informed that payment against these bills has been delayed due to introduction of Public Financial Management System (PFMS) mode of release of fund. As per the State Government, Agency registration under PFMS mode is going on and the pending FCI bills are likely to be cleared by the end of December,2017.

This JRM recommends that the State Government should ensure clearance of pending FCI bills as early as possible as well as timely payment to FCI in future.

4.7 Convergence with Rashtriya Bal Swasthaya Karyakram

The MDMS guidelines envisage that necessary interventions like regular health checkups, provision for de-worming tablets and supplementation of micronutrients like Vitamin ‘A’ dosage and IFA tablets are to be provided in convergence with the Rashtriya Bal Swasthaya Karyakram (RBSK) of Ministry of Health & Family Welfare. RBSK is the only public sector programme specifically focused on school age children. Successful implementation of RBSK may ensure better educational outcomes, improved social equity and improved capabilities to handle the adult world. However, Mission Team has found that there is an urgent need to strengthen the convergence with RBSK for the effective implementation of School Health Program in both districts. Essential micronutrients were not provided to children in most of the schools. Only deworming tablets were provided in almost all the schools. It was also found that health checks up was done only once in a year that too in a very few schools. IFA tablets were not in any of the schools. Health cards were available in only one of the visited schools. Height and weight measurement tools were also not available in most of the schools.

The Joint Review Mission recommends that the BMI of the children should be taken regularly on annual basis and the malnourished children should be identified and necessary corrective action be taken.

The mission further recommends that urgent action be taken for a greater convergence and effective implementation of the RBSK, so that children could receive vitamin A supplementation as well as IFA as per schedule and their periodic health check-ups, necessary referrals and timely corrective measures are also required to be taken to improve nutrition and health status of our school children.

4.8 Review the involvement of NGO’s/Trust/Centralized kitchens in the Scheme

There are no NGO’s/Trust/Centralized kitchens engaged for cooking of MDMS in the State.

4.9 Meeting of District level Committee

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 only 1 meeting of this committee has taken place in district Papum Pare and 1 in Lower Subansiri from April to December, 2017.

It is recommended that meeting of District level committee should be held at least once in a quarter and issues related to MDMS implementation should be discussed in the same.

4.10 Tasting of MDM by Teacher, Parents and Community

Instructions have been issued for the meal to be tasted by teachers, CCH and community members before serving to the children. They also expected to give their suggestions and record observations on the quality of meal taste of meals by the parents, community, Headmaster/Nodal teacher in every school before it is served to students. The Mission found tasting register is being maintained in all the visited schools. However, the parents and community members do not come to the schools for tasting of meals.

It is recommended that in addition to teachers the CCH, parents and community members should be encouraged to taste the meals before serving the same to children.

4.11 Review of creation of Capital assets

There is a mix of pucca kitchens and make-shift kitchen in various schools visited. In some schools a vacant hostel room, a vacant residential quarter or any other vacant room of the school is used for cooking MDM. However, in some school, cooking is done in make-shift kitchen in open area. In one of the schools visited cooking is done under open sky. In some cases cooking of MDM is done in a house away from the school because of non-availability of kitchen or water in the school. The rooms being used for storing raw materials etc are normally pucca rooms.



Kuccha kitchen-cum-store used for cooking

The State Government must ensure that all the schools covered under MDM Scheme have proper pucca kitchen–cum-stores as per the provisions of the scheme.

It is also recommended that the kitchen sheds may be repaired using maintenance grants under Sarva Shiksha Abhiyan

As far as fuel for cooking of MDM is concerned, most of the schools were using firewood which results into a lot of smoke in the kitchen. LPG is being used as a mode of cooking in only 3 out of 33 visited schools.



Firewood used in kitchen

It is recommended that the State may procure the gas connections for the schools so that LPG may be used for cooking of MDM.

The State may also explore the possibility of construction of smokeless chulhas in kitchens wherever possible.

Utensils for cooking MDM are generally available in the schools visited. As regards eating plates some schools have sufficient number of stainless steel plates. In a school MDM is served in plastic plates and in another in melmoware plates. Children also eat in shared plates/bucket cover.



Children eating food in lid of bucket

The schools where eating plates are not available in sufficient number or there are no such plates, the children are asked to bring eating plate or empty tiffin box from their home for having MDM. In such cases the children, who do not bring eating plate or empty tiffin box, are given disposable eating plate or katori to have MDM.



Children are using 'ruler' and 'protractor' as spoon



Disposable plates used as eating utensil

Spoons and glasses are not available in most of the schools. The State Government may ensure availability of sufficient number of stainless steel eating plates, spoons and glasses in the all the schools covered under MDM Scheme.

In some schools MDM is served in dining halls or in a vacant room used for dining purposes. However, there are schools where children have the MDM in their classroom or in varanda or in open area. In a school children were seen eating the MDM while sitting in a scattered manner.

The JRM recommends that the State Government may explore the possibility of construction of dining halls with adequate furniture in the schools covered under MDM Scheme in convergence with MPLAD Scheme.

While water availability is there in most of the schools visited of Lower Subansri district, some schools of Papum Pare district are facing acute shortage of water. Some schools of the districts are not having water availability at all resulting in non-cooking of MDM. Some schools have water availability, but the water is not suitable for drinking. Hence the children are asked to bring drinking water from home.

Separate toilet facility for boys and girls is generally available in the schools. However, in some schools these toilets are dysfunctional because of shortage of water supply or no water

supply. Also in a large number of schools the toilets were highly unhygienic and not in usable condition.



It is recommended that the State Government should ensure water supply for drinking/cooking MDM and for toilets in a time-bound manner.

Further, fire extinguisher was either not available or expired in all the visited schools.

4.12 Community Participation in MDM:

Community participation is an essential tool for effective and better implementation of a social scheme like MDM Scheme. In the schools visited School Management Committee (SMC) generally exists and its meetings are held at different intervals in different schools viz. monthly, quarterly, thrice or twice in a year etc. Minutes of these meetings were however not available in most of the schools due to one reason or the other. In one school it was informed that verbal meetings of the SMC are held. Hence written minutes are not available. MDM is generally not discussed in the SMC meetings. In some schools SMC members also taste the MDM occasionally.

The Mission therefore recommends that the State Government may ensure that SMC meetings are held at uniform interval on regular basis and MDM is an agenda of such meeting.

It also needs to be ensured that minutes of SMC meetings are properly maintained by the schools.

4.13 Contingency Plan/Emergency Medical Plan

As per information provided by the State Govt. a contingency plan has been put in place to prevent happenings of untoward incidents like food poisoning, emergency medical case, etc. in convergence with the health department. Instructions have been issued from time to time to all Deputy Commissioners/District Education Officers to ensure compliance with guidelines on dos and don'ts to avoid mid-day meal mishap at any time across the state. The detailed emergency medical plan as per State is mentioned below

Monitoring

More pro-active in monitoring and supervision, holding of quarterly District Vigilance & Monitoring Committee meeting, monthly review meeting, regular school visits and checking of the mid day meals by authorities will ensure quality of mid day meal as well as make everybody aware and alert.

More active community participation of parents, PRI members, etc through School Management Committee will ensure safety, quality and regularity aspects.

Health and Hygiene

Maintaining individual hygiene and cleanliness and practices of hand wash by children; and

Supplementation of Iron Folic Acid for anemia control measures will ensure to safeguard children's health and life.

Emergency Help Lines

It is mandatory to display the telephone numbers of important officers in every school visible to all to use at emergency situations at all levels:

The important contact/telephone numbers of Deputy Commissioner, Additional Deputy Commissioner, superintendent of Police, Deputy Director of School Education, District Medical Officer, District Civil Hospital, Ambulance Services and Director of Elementary Education are to be displayed on the wall of the District Education Offices/Deputy Director of School Education office.

The important contact/telephone numbers of Deputy Commissioner, Additional Deputy Commissioner, Superintendent of Police, Deputy Director of School Education, District Medical Officer, District Civil Hospital, Ambulance Services, Sub-Divisional Office, Block Education office, Public Health Centers are to be displayed on the wall of the Block Education Office.

The important contact/telephone numbers of Deputy Commissioner, Additional Deputy Commissioner, superintendent of Police, Deputy Director of School Education, District Medical Officer, District Civil Hospital, Ambulance Services, Sub-Divisional Office, Circle Officer, Block Education office, Public Health Centers, Headmaster, and Chairman School Management Committee are to be displayed on the wall of concerned school.

The team observed that there is no communication of any contingency/emergency medical plan at the school level. The schools are not prepared for any untoward incident if it happens.

It is recommended that the contingency/emergency medical plan should be implemented properly at the school level and the school staff should be made aware of the same. The important contact numbers should be painted on the walls of the school for easy access in case of any untoward incident.

4.14 Dissemination of Food Safety Guidelines up to District, Block and School

As per information provided by the State Govt., guidelines on food safety and hygiene under Mid Day Meal Scheme was widely circulated to the District, Block and Schools. The State Govt. conducted a training during the month of May, 2017 for orientation on guidelines on food safety and hygiene under Mid Day Meal Scheme. However as observed during the visit, it was clearly evident that the guidelines were neither available nor followed in any of the schools.

4.15 Operationalization of Mid-Day Meal Rules, 2015

It was informed that the MDM rules, 2015 have been widely circulated to the Deputy Commissioners and Deputy Directors of School Education in the Districts for strict compliance while implementing the MDM scheme in the schools. However, it was observed that MDM Rules were being fully implemented in the schools as in a lot of schools food was not cooked on regular basis and no Food Security Allowance have been paid to children.

It is recommended that the MDM Rules, 2015 should be implemented in all the schools with immediate effect.

4.16 Awareness of the Scheme

In most of the schools visited MDM logo is not there. MDM menu is also displayed in a few schools only. It has also been observed that in most of the schools, the Head Teacher/ MDM In-Charge/Cook-cum-helpers are not aware of the entitlements of the children under MDM Scheme. Monitoring of MDM quantity being served may get affected in such a scenario. Teachers are also not aware of such entitlements.

This JRM therefore recommends that the State Government needs to ensure that proper MDM logo and MDM menu are prominently displayed in all schools covered under MDM Scheme. Requisite awareness about entitlements of children under this scheme also needs to be created among the teachers, MDM In-charge and cook cum helpers of the schools.

4.17 Management Information System

MDM-MIS portal was launched in June, 2012 by Ministry of HRD, GOI for online monitoring of the scheme. States/UTs have to enter Annual and monthly data into the portal with regard to critical indicators of MDMS.

Annual Data Entry :

School Annual Data Entry Status Report

Financial Year-2017-18

S. No.	District	Total Schools	Completed(Saved)	Pending	% Completed
1	CHANGLANG	289	0	289	0%
2	PAPUM PARE	309	2	307	1%
3	EAST KAMENG	282	57	225	20%
4	EAST SIANG	203	61	142	30%
5	ANJAW	89	81	8	91%
6	LOWER SUBANSIRI	276	261	15	95%
7	DIBANG VALLEY	44	44	0	100%
8	KURUNG KUMEY	324	324	0	100%
9	LOHIT	286	286	0	100%
10	LOWER DIBANG VALLEY	97	97	0	100%
11	TAWANG	116	116	0	100%
12	TIRAP	218	218	0	100%
13	UPPER SIANG	100	100	0	100%
14	UPPER SUBANSIRI	239	239	0	100%
15	WEST KAMENG	215	215	0	100%
16	WEST SIANG	318	318	0	100%
	Total	3405	2419	986	71%
Source: www.trgmdm.nic.in as on 18 December'17 till 04:27 p.m.					

School Monthly Data Entry Status Report

S. No	District	Total Schools	Freeze Schools	April	May	June	July	Aug	Sept	Oct	Nov	Average till Nov '17
1	ANJAW	89	81	15%	15%	15%	0%	0%	0%	0%	0%	5%
2	CHANGLANG	289	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	DIBANG VALLEY	44	44	57%	57%	57%	57%	57%	57%	9%	9%	45%
4	EAST KAMENG	282	57	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	EAST SIANG	203	61	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	KURUNG KUMEY	324	324	74%	74%	68%	0%	0%	0%	0%	0%	27%
7	LOHIT	286	286	100%	100%	100%	71%	71%	71%	71%	71%	82%
8	LOWER DIBANG VALLEY	97	97	97%	94%	39%	1%	0%	0%	0%	0%	29%
9	LOWER SUBANSIRI	276	261	95%	95%	95%	95%	95%	95%	0%	0%	71%
10	PAPUM PARE	309	2	0%	0%	0%	0%	0%	0%	0%	0%	0%
11	TAWANG	116	116	0%	0%	0%	0%	0%	0%	0%	0%	0%
12	TIRAP	218	218	39%	39%	25%	0%	0%	0%	0%	0%	13%
13	UPPER SIANG	100	100	100%	100%	100%	0%	0%	0%	0%	0%	38%
14	UPPER SUBANSIRI	239	239	100%	100%	100%	86%	86%	82%	82%	82%	90%
15	WEST KAMENG	215	215	93%	93%	93%	83%	67%	49%	15%	0%	62%
16	WEST SIANG	318	318	83%	82%	78%	0%	0%	0%	0%	0%	30%
	Total	340	241	53%	53%	50%	26%	25%	23%	13%	12%	32%
		5	9	53%	53%	50%	26%	25%	%	%	%	%

Source: www.trgmdm.nic.in

as on 18 December'17 till 04:30 p.m.

Monthly Data Entry :

As shown in the tables above, Annual Data Entry into MDM-MIS has been made for only 71% schools. As far as Monthly Data Entry is concerned, data has been entered for only 32% (April-Nov, 2017) for FY-2017-18.

Monthly Data Entry for the District of : Papum Pare

Financial Year-2017-18

S. No.	Block	Total Schools	Freeze Schools	April	May	June	July	Aug	Sept	Oct	Nov	Average till Nov'17
1	BALIJAN	70	2	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	BORUM CAPITAL COMPLEX ITA	75	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	DOIMUKH	41	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	KIMIN	23	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	MENGIO	31	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	SAGALEE	69	0	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	309	2	0%	0%	0%	0%	0%	0%	0%	0%	0%

Source: www.trgmdm.nic.in as on 18 December'17 till 04:46 p.m.

Monthly Data Entry for the District of : Lower Subansiri

Financial Year-2017-18

S. No.	Block	Total Schools	Freeze Schools	April	May	June	July	Aug	Sept	Oct	Nov	Average till Nov'17
1	TAMEN - RAGA C.D. BLOCK	94	88	94%	94%	94%	94%	94%	94%	0%	0%	70%
2	ZIRO - I C.D. BLOCK	75	72	96%	96%	96%	96%	96%	96%	0%	0%	72%
3	ZIRO - II C.D. BLOCK	107	101	94%	94%	94%	94%	94%	94%	0%	0%	71%
	Total	276	261	95%	95%	95%	95%	95%	95%	0%	0%	71%

Source: www.trgmdm.nic.in as on 18 December'17 till 04:50 p.m.

Further, both the visited districts i.e. Papum Pare & Lower Subhansiri have not yet completed their Annual & Monthly Data Entry in to MDM MIS for FY 2016-17. It is also been identified that in Papum Pare district, no Monthly data entry has been started for FY-2017-18

whereas in Lower Subansiri district 71% Schools' Monthly Data Entry has been completed into MDM MIS.

It is recommended that the State Govt. should focus on time bound Annual & Monthly Data Entry into MDM MIS.

4.18 Automated Monitoring System (AMS)

Automated monitoring system was operationlized by Ministry of HRD, Government of India in the year 2016 for real time monitoring of the MDMS. Under this system, the HM/MDM incharge send daily data through their mobile number (with no cost to HM/MDM incharge) of children availed MDM and the reasons of meals not served.

District-Wise reported schools and meals served on : 19 Dec 2017								
State :- ARUNACHAL PRADESH								
S. No.	District	Total Schools	Reported Schools	Reported Schools %age	Total Enrolment	Reported Schools Enrolment	Meals Served	Meals Served %age
1	ANJAW	89	2	2%	3687	186	138	74.19%
2	CHANGLANG	287	32	11%	25119	5226	3742	71.60%
3	DIBANG VALLEY	41	4	10%	1079	304	203	66.78%
4	EAST SIANG	142	7	5%	12988	1246	1072	86.04%
5	LOHIT	97	5	5%	8486	479	340	70.98%
6	NAMSAI	219	2	1%	15517	333	209	62.76%
7	TAWANG	109	22	20%	4546	1023	771	75.37%
8	TIRAP	124	8	6%	7951	987	755	76.49%
9	UPPER SIANG	94	6	6%	5497	529	466	88.09%
10	WEST KAMENG	196	37	19%	9564	3257	4811	147.71%
	Total	1398	125	9%	94434	13570	12507	92.17%

As on 19th December, 2017, in 10 districts, only 9% schools have reported daily data on Automated Monitoring System. Further out of 13570 children enrolled, 12507 (92%) children availed MDM.

The team observed that there is no communication to schools regarding sending daily data for AMS. Further, there is no separate cell for monitoring of daily data reported through AMS at any level i.e. Block/ District/State.

It is recommended that :

a) the State Govt. should make sure that 100% schools are covered under AMS

b) the State Govt. should immediately constitute a team at each level i.e. Block / District / State to closely monitor the Daily AMS data to take corrective measures on the same day in case MDM not served due to non-availability of food grains/cooking cost/ cook-cum-helpers at school level and the same should be reported to competent authority for smooth functioning of MDMS.

4.19 Role of Teacher

Teachers are expected to play vital role in the implementation of Mid-Day-Meal Scheme. Teacher must guide the cook-cum-helpers for health, hygiene and safety measures while cooking MDM for the students. The teachers should guide the students for washing their hands before and after eating the meals. They should also taste the food every day before MDM is served to the children.

It has been observed that during the inspection of schools of Papum Pare and Lower Subansiri districts, in a very few schools, the teachers play active role in helping and supervising the MDM activities in the school. Most of the schools do not properly use the measuring cups for cooking ingredients of meals. So it is expected that children may avail less quantity of calories etc. The District authorities have not imparted training to all the teachers of their respective schools. Imparting training is critical for effective implementation of the scheme.

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

It was informed by the State Government that AADHAR enrolment of 146232 (75%) children out of 196267 enrolled children has been carried out. As far as cook-cum-helpers are concerned, AADHAR enrolment of 1566 (23%) CCH out of 6749 engaged CCH has been carried out.

The State has adopted following strategy for completion of AADHAR enrolment of children and CCH:

MAIN ACTION POINTS IN STRATEGY FOR ACHIEVING 100% AADHAAR ENROLMENT	TIME LINES	NOTE ON ACTION TAKEN TILL DATE	<u>Remarks</u> PROPOSED STRATEGY/ACTION PLAN
i) Setting up of Aadhar enrolment facility in District Education Office	1st - 15th June, 17	i) All the District Education Officers have been directed to give wide publicity for Aadhaar enrolment of school children	i) Aadhar enrolment drive to be conducted in District and Block level with renewed zeal from 10th Dec., 2017
ii) Aadhar enrolment drive at District	15th - 31st July, 17		
iii) Aadhar enrolment drive in Blocks	1st - 31st August, 17	ii) The District Education Officer are also directed to set up Aadhaar enrollment facility with consultation with District Administration	ii) In the month of February 2018, Aadhar enrolment drive to be conducted at School level. iii) Aadhar enrolment facility to be set up in schools where ever there is network coverage
iv) Aadhar enrolment drive in schools	1st September - 30th November, 17		
v) Special Drive for left out children	1st - 15th December, 17		
vi) Final Drive for 100% enrolment drive	15th - 31st December, 17		
		iii) The District Education Officer are also directed to set up Aadhar enrolment facility with consultation with District Administration	iii) Mobile Aadhar Unit has also been rolled to cover schools located in interior areas.

It is recommended that the State Government should ensure 100% enrolment of children and CCH under AADHAR till 31st December, 2017.

4.21 Status of testing of food samples by reputed institute

As per the guidelines issued on 22 July, 2013 by Govt. of India, it was suggested that the State Government may consider engaging CSIR institutes/National Accreditation Board of Laboratories to collect the samples from fields on random basis and test the samples on the parameters such as microbiological presence or absence of e-coli, chemical parameters such as moisture content, fats, proteins and calorific value of the meal. The same would ensure quality meal to the children. Quality tests for nutritional value and hygienic standards of the food served under MDMS in schools have not been conducted. It is due to non-availability of proper food testing labs.

Recommendation: Food samples can be dried and sent to Guwahati and Central Agriculture University, Imphal at Home Science College, Tura for analysis.

CHAPTER: 5

Nutritional aspects of mid day meal

Nutritional aspects of mid day meal

Introduction

The seeds of MDM as a programme were sown way back in 1925, Slowly and steadily seeds grew and since 2004 it has taken a shape of big tree, with the name of MDMS providing many benefits throughout the country. The MDM scheme envisages provision of cooked, nutritious MDM to primary and secondary school children. Today, with more than 11 crore children covered, India's mid-day meal programme is by far the largest nutrition programme in the world. MDM programme is marching, though slowly, on its right path, as far as its objectives are concerned.

Nutritional support is the brighter side of MDM. Mid day meal acts as a regular source of "supplementary nutrition" for children, which facilitates their healthy growth. Nutritional status of school children has started improving. There are children belonging to such poor socio-economic background that they do not get enough meal in a whole day. So, with this scheme, at least these underprivileged children get hot cooked meals for at least once a day.

The primary school children (1-5 standard) should get at least 450 Kcal of energy and 10-12g of protein, while upper primary school children should get at least 700 Kcal of energy and 20g of protein from the MDM meal and required micronutrients like iron, vitamin A, calcium, thiamine, riboflavin, niacin, folic acid etc., should get half of the daily requirement through locally available fruits and vegetables. To ensure programme is running properly, its monitoring and evaluation is being done with the following objectives.

Objectives

To assess the anthropometric measurements of a sample of children availing MDM

Height ii. Weight iii. Mid arm Circumference

To Calculate the Body Mass Index (BMI) on the basis of measurement of height and weight.

To identify the children who are undernourished and over nourished.

To review the quality and quantity of the served MDM.

To review the satisfaction of the children, parents and community on the served meal under MDM in respect of quality and quantity.

To suggest some nutritionally balanced region specific recipes.

Methodology

Sample selection

Nutritional status assessment survey was conducted in government and government aided primary and upper primary schools availing MDM in Arunachal Pradesh. Two districts namely Papum Pare and Lower Subansiri were selected. The multistage stratified random sampling was used for selection of schools in the selected districts. A total of 33 schools were visited. Considering old reports of Arunachal Pradesh(JRM, 2013 Arunachal pradesh) where in 7 percent prevalence of malnutrition is observed. Taking 10 per cent expected prevalence and 95 per cent confidence, a minimum of 138 sample size is required as per formula.

In both the districts more than 138 sample size was selected. MDMS is a national programme therefore considering national prevalence of 40 percent a minimum of 400 samples are required for adequate precision. To ensure larger coverage a total of 557 children were surveyed. In Papum Pare district a total of 337 children were selected and in lower Subansiri district a total of 220 children were selected.

Data collection

Following procedures were adopted for assessing nutritional status of children

Anthropometric measurements of height, weight, mid upper arm circumference of a sample of 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 vitamin and mineral 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).

Classification of Children according to WHO SD classification 2007 Height for Age

Normal	Median -2SD to +1SD
Stunted	Median < -2SD to > -3SD
Severely stunted	Median-3SD

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. Knowledge, practices and opinions of parents of the selected children from all the schools was also accounted. 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 followed or not.. Additionally, weighment diet survey of cooked food 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. The nutrient intakes per serving were also calculated.

Plate 1: Anthropometric Measurements & Dietary Assessment



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):

$$\text{BMI} = \text{Weight} / \text{Height}^2$$

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

Results

Nutritional Anthropometry

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 more than girls. Weight of boys and girls was almost similar by the age of 9. There is slight increase in weight of girls from 10 to 14years. Adolescence is a period of rapid growth and the growth for this 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.

Table 1 (A). Nutritional Anthropometry as per Age and Gender (District Papum Pare)

Age years	N		Height (Cm)		Weight(kg)		MUAC(cm)	
	Male	Female	Male	Female	Male	Female	Male	Female
5	1	1	116.5	114.5	19.4	19.4	15.5	15.5
6	2	1	116±5.6	139	22±2.97	32.4	18.50	19.5
7	6	4	121.33±3.64	122±2.04	21.70±2.09	22.75±1.89	16.00±1.61	17.75±0.87
8	7	6	128.87±7.33	125.53±6.25	26.30±3.23	23.85±3.91	17.83±0.92	17.42±1.59
9	12	10	129.46±6.31	133±7.14	25.93±3.51	28.94±6.74	18.23±1.50	18.78±2.23
10	22	28	132.09±4.06	135.26±7.65	29.22±3.57	29.56±6.40	19.13±1.38	18.84±2.08
11	35	28	139.67±5.19	140.56±5.88	33.55±5.12	33.97±7.13	20.12±1.91	19.90±2.59
12	24	24	141.75±6.60	145.33±5.41	33.47±4.72	36.70±5.13	19.78±1.62	19.72±1.74
13	39	40	149.07±7.91	149.50±5.77	39.23±8.13	42.00±8.21	21.04±2.57	22.13±3.14
14	24	13	159.61±6.46	149.50±7.40	47.30±5.83	42.35±6.25	23.15±2.24	21.81±1.43
15	6	4	160.15±2.35	150.38±3.68	46.43±4.43	43.75±5.42	22.92±1.72	22.88±2.10

Table 1 (B). Nutritional Anthropometry as per Age and Gender (District Lower Subansiri)

Age years	N		Height (Cm)		Weight(kg)		MUAC(cm)	
	Male	Female	Male	Female	Male	Female	Male	Female
6	1	1	120.00	111.50	22.90	19.50	15.90	15.69
7	1	4	112.50	118.88 ±4.91	21.70	20.78 ±1.49	17.15	14.70 ± 0.63
8	12	7	123.54 ±6.88	130.64 ± 9.02	22.34 ±3.62	27.60 ± 6.02	14.64 ± 1.90	15.97 ± 1.87
9	6	11	132.65 ±9.91	137.45 ± 4.92	30.17 ±8.28	31.23 ± 5.73	16.86 ±2.41	16.45 ± 2.19
10	12	21	134.38 ±6.02	137.35 ± 7.36	29.13 ±2.87	31.80 ± 7.47	16.12 ± 1.12	16.65 ± 2.45
11	13	12	142.36 ± 7.56	143.38 ± 6.20	34.83 ± 4.04	35.58 ± 7.24	17.19 ± 1.56	17.19 ± 2.55
12	14	20	146.64 ± 10.25	149.93 ± 5.23	36.47 ± 7.86	42.13 ± 5.64	16.77 ± 1.87	18.71 ± 2.04
13	21	18	155.92 ± 7.33	149.22 ± 11.26	44.17 ± 7.68	44.66 ± 7.49	18.08 ± 2.36	18.42 ± 5.14
14	21	16	158.48 ± 5.81	147.53 ± 7.94	45.44 ± 6.65	45.47 ± 8.19	18.01 ± 1.54	20.91 ± 3.56
15	12	7	162.17 ± 9.32	152.64 ± 7.70	47.74 ± 10.09	49.74 ± 7.26	18.09 ± 3.16	21.24 ± 1.52

Table 1 (C). Nutritional Anthropometry as per Age and Gender (Arunachal Pradesh)

Age years	N		Height (Cm)		Weight(kg)		MUAC(cm)	
	Male	Female	Male	Female	Male	Female	Male	Female
5	1	1	116.5	114.5	19.4	19.4	16.5	15.5
6	3	2	117.33±2.8	125.25±19.4	22.30±2.16	25.95	18.33±0.28	17.5±2.47
7	7	8	116.92±1.82	120.44±3.86	21.70±2.08	21.77±1.69	16.14±1.65	17.31±1.25
8	19	13	126.21±7.10	128.28±8.00	23.80±3.99	25.73±4.97	17.62±1.28	18.65±2.15
9	18	21	131.10±8.11	135.33±6.34	27.33±5.68	30.09±6.24	18.46±1.78	19.15±2.33
10	34	49	133.24±5.04	136.31±7.51	29.18±3.29	30.68±6.94	19.49±1.65	19.45±2.10
11	48	40	141.01±6.37	141.97±6.04	33.89±4.84	34.78±7.19	20.35±1.97	20.12±2.32
12	38	44	144.20±8.42	147.63±5.32	34.57±6.14	39.42±5.39	20.05±1.71	20.35±1.80
13	60	58	152.50±7.62	149.36±8.52	40.96±8.25	43.33±7.85	21.35±2.40	22.00±2.77
14	45	29	159.05±6.13	148.52±7.67	46.43±6.22	43.91±7.22	22.91±1.94	22.23±1.69
15	18	11	161.49±7.66	151.51±5.69	47.30±8.49	46.75±6.34	22.94±2.43	22.95±1.67

BMI: BMI and MUAC has shown continuous increasing trend which is normal and expected. (table 2A,B,C). Using BMI Z score prevalence of under nutrition among school children was assessed and is presented in Table 3(a,b,c) and Fig . Nearly 87 per cent boys and 83 per cent girls had normal nutritional status (TABLE3A,B,C). Only 2 per cent boys were severely undernourished. Upto 6.52 per cent boys and 5.43 per cent girls suffered from moderate undernutrition. Also 4.46 per cent boys and 11.59 per cent girls were overweight. Few boys were observed to be obese too. (Fig. 1)

Table 2(A). Calculated BMI of school children (District Papum Pare)

Age years	N		BMI(Kg/m ²)			
	Male	Female	Male	WHO Median (Male)	Female	WHO Median(Female)
5	1	1	14.29	15.3	14.79	15.2
6	2	1	16.30±0.62	15.4	16.76	15.3
7	6	4	14.74±1.33	15.6	15.27±0.83	15.5
8	7	6	15.84±1.56	15.9	15.08±1.67	15.9
9	12	10	15.43±1.39	16.2	16.18±2.15	16.3
10	22	28	16.73±1.67	16.7	15.99±2.05	16.9
11	35	28	17.15±1.99	17.2	17.04±2.53	17.6
12	24	24	16.59±1.61	17.9	17.35±2.01	18.4
13	39	40	17.51±2.47	18.6	18.77±3.23	19.2
14	24	13	18.54±1.85	19.4	18.87±1.82	19.9
15	6	4	18.12±1.88	20.1	19.40±2.88	20.5

Table 2(B). Calculated BMI of school children (District Lower Subansiri)

Age years	N		BMI(Kg/m ²)			
	Male	Female	Male	WHO Median (Male)	Female	WHO Median(Female)
6	1	1	15.90	15.4	15.69	15.3
7	1	4	17.15	15.6	14.70± 0.63	15.5
8	12	7	14.64 ±1.90	15.9	15.97 ± 1.87	15.9
9	6	11	16.86 ±2.41	16.2	16.45 ± 2.19	16.3
10	12	21	16.12 ± 1.12	16.7	16.65 ± 2.45	16.9
11	13	12	17.19 ± 1.56	17.2	17.19 ± 2.55	17.6
12	14	20	16.77 ± 1.87	17.9	18.71 ± 2.04	18.4
13	21	18	18.08 ± 2.36	18.6	18.42 ± 5.14	19.2
14	21	16	18.01 ± 1.54	19.4	20.91 ± 3.56	19.9
15	12	7	18.09 ± 3.16	20.1	21.24 ± 1.52	20.5

Table 2(C) Calculated BMI of school children (Arunachal Pradesh)

Age years	N		BMI(Kg/m ²)			
	Male	Female	Male	WHO Median (Male)	Female	WHO Median(Female)
5	1	1	14.29	15.3	14.79	15.2
6	3	2	16.16±0.49	15.4	16.23±0.77	15.3
7	7	8	15.08±1.61	15.6	14.98±0.74	15.5
8	19	13	15.08±1.83	15.9	15.56±1.77	15.9
9	18	21	15.90±1.85	16.2	16.32±2.12	16.3
10	34	49	16.51±1.51	16.7	16.27±2.22	16.9
11	48	40	17.15±1.86	17.2	17.08±2.47	17.6
12	38	44	16.65±1.68	17.9	17.97±2.11	18.4
13	60	58	17.71±2.42	18.6	19.22±3.52	19.2
14	45	29	18.29±1.71	19.4	19.99±3.06	19.9
15	18	11	18.09±2.73	20.1	20.56±2.07	20.5

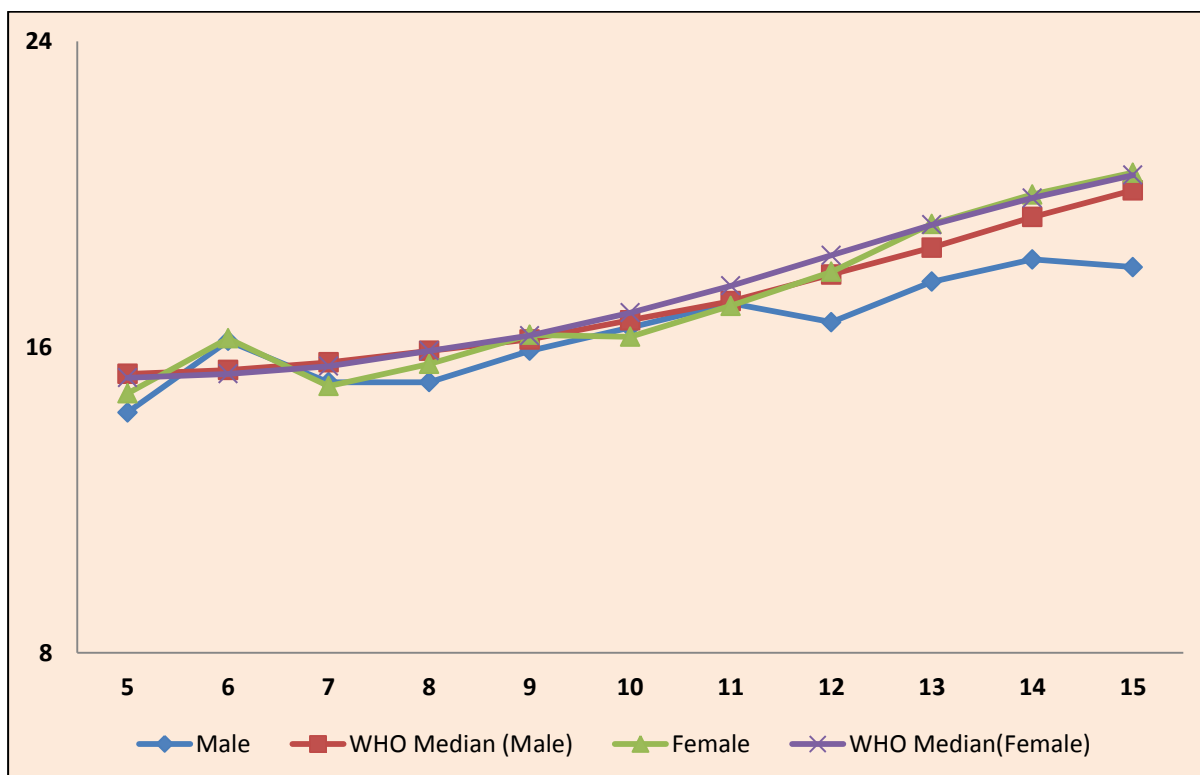


Fig1. Comparison of BMI with WHO standards

Table 3(A). BMI (Z scores) of school children as per Gender (District papum pare)

Age years	N		Normal		Moderate Undernutrition		Overweight		Obesity	
	Male	Female	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
5	1	1	01(100)	01(100)	-	-	-	-	-	-
6	2	1	02(100)	01(100)	-	-	-	-	-	-
7	6	4	05(83.33)	04(100)	01(16.66)	-	-	-	-	-
8	7	6	07(100)	05(83.33)	-	01(16.66)	-	-	-	-
9	12	10	11(91.66)	08(80.00)	01(8.33)	01(10.00)	-	01(10.00)	-	-
10	22	28	19(86.36)	22(78.57)	-	04(14.28)	03(13.63)	02(7.14)	-	-
11	35	28	30(85.71)	23(82.14)	01(2.85)	02(7.14)	03(8.57)	03(10.71)	01(2.85)	-
12	24	24	20(83.33)	21(87.5)	04(16.66)	02(8.33)	-	01(4.16)	-	-
13	39	40	30(76.92)	35(87.50)	07(17.94)	01(2.5)	02(5.12)	04(10.00)	-	-
14	24	13	22(91.66)	13(100)	01(4.16)	-	01(4.16)	-	-	-
15	6	4	06(100)	04(100)	-	-	-	-	-	-
Total	178	159	153 (85.95)	137(86.16)	15(8.42)	11(6.91)	9(5.05)	11(6.91)	1(0.56)	-

Table 3(B). BMI (Z scores) of school children as per Gender (District Lower Subansiri)

Age (years)	N		Normal		Severe Undernutrition		Moderate Undernutrition		overweight	
	Male	Female	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
6	1	1	1(100)	1(100)	-	-	-	-	-	-
7	1	4	1(100)	4(100)	-	-	-	-	-	-
8	12	7	10(83.33)	5(71.42)	1(8.33)	-	1(8.33)	1(14.28)	-	1(14.28)
9	6	11	4(66.66)	10(90.90)	-	-	2(33.33)	1(9.09)	-	-
10	12	21	11(91.66)	16(76.19)	-	-	-	1(4.76)	1(8.33)	4(19.04)
11	13	12	12(92.30)	10(83.33)	-	-	-	1(8.33)	1(7.69)	1(8.33)
12	14	20	12(85.71)	16(80)	1(7.14)	-	1(7.14)	-	-	4(20)
13	21	18	18(85.71)	13(72.22)	2(9.52)	-	-	-	1(4.76)	5(27.77)
14	21	16	20(95.23)	10(62.5)	-	-	1(4.76)	1(6.25)	1(4.76)	5(93.75)
15	12	7	9(75)	7(100)	2(16.66)	-	1(8.33)	-	-	-
Total	113	117	98(86.72)	92(78.63)	6(5.30)	-	6(5.30)	5(4.27)	4(3.53)	20(17.09)

Table 3(C). BMI (Z scores) of school children as per Gender (Arunachal Pradesh)

Age (years)	N		Normal		Severe Undernutrition		Moderate Undernutrition		Overweight		Obesity	
	Male	Female	Male n (%)	Female n (%)	Male n (%)	Female n (%)	Male n (%)	Female n (%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
5	1	1	1(100)	1(100)	-	-	-	-	-	-	-	-
6	3	2	3(100)	2(100)	-	-	-	-	-	-	-	-
7	7	8	6(85.71)	8(100)	-	-	1(14.28)	-	-	-	-	-
8	19	13	17(89.47)	10(76.92)	1(5.26)	-	1(5.26)	2(15.38)	-	1(7.69)	-	-
9	18	21	15(83.33)	18(85.71)	-	-	1(5.55)	1(4.76)	1(5.55)	2(9.52)	-	-
10	34	49	30(88.23)	38(77.55)	-	-	-	5(10.20)	4(11.76)	6(12.24)	-	-
11	48	40	42(87.5)	33(82.5)	-	-	1(2.08)	3(7.5)	4(8.33)	4(10)	1(2.08)	-
12	38	44	32(84.21)	37(84.09)	1(2.63)	-	5(13.15)	2(4.54)	-	5(11.36)	-	-
13	60	58	48(80)	48(82.75)	2(3.33)	-	7(11.66)	1(1.72)	3(5.00)	9(15.51)	-	-
14	45	29	42(93.33)	23(79.31)	-	-	2(4.44)	1(3.44)	1(2.22)	5(17.24)	-	-
15	18	11	15(83.33)	11(100)	2(11.11)	-	1(5.55)	-	-	-	-	-
Total	291	276	251(86.25)	229(82.97)	6(2.06)	-	19(6.52)	15(5.43)	13(4.46)	32(11.59)	1(0.34)	-

As per gender BMI has been shown in fig.2 and it was observed that obesity was less than one percent.

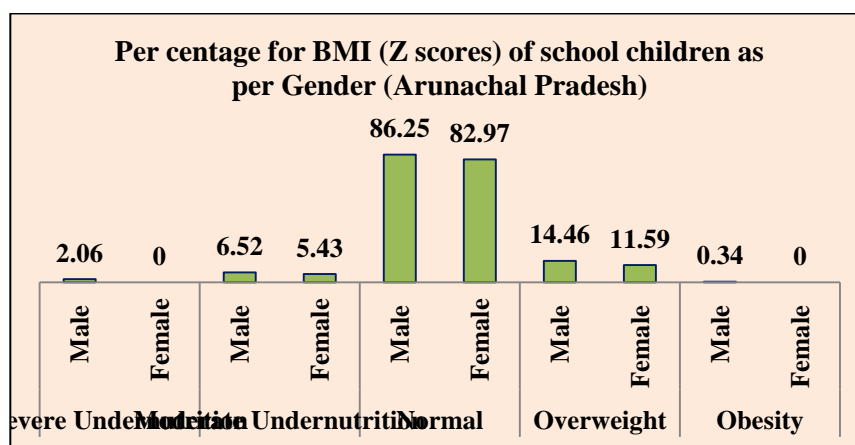


Fig 2. Per centage for BMI (Z scores) of school children as per Gender (Arunachal Pradesh)

Height for Age scores (table 4 A,B,C) reveal that nearly 86 per cent boys and 83 per cent girls have normal height for age. Nearly 12 per cent boys and 14 per cent girls were stunted i.e. these children did not achieve normal height as per their age. Also two per cent boys and three per cent girls were severely stunted. It indicates chronic undernutrition (58)

Or previous undernutrition. It is possible for a stunted or severely stunted child to become overweight or obese.

Table 4(A) Height for Age (Z scores) of schools children as per gender (Districts Papum pare)

Age (years)	N		Normal		Stunted		Severely Stunted	
	Male	Female	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
5	1	1	1(100)	(1)100	0(0)	0(0)	0(0)	0(0)
6	2	1	2(100)	1(100)	0(0)	0(0)	0(0)	0(0)
7	6	4	6(100)	4(100)	0(0)	0(0)	0(0)	0(0)
8	7	6	7(100)	5(83.33)	0(0)	1(16.66)	0(0)	0(0)
9	12	10	9(75)	10(100)	3(25)	0(0)	0(0)	0(0)
10	22	28	20(90.91)	25(29.29)	2(8.33)	2(7.14)	0(0)	1(3.57)
11	35	28	33(95.29)	22(78.57)	2(5.71)	5(17.86)	0(0)	1(3.57)
12	24	24	17(70.83)	19(79.17)	6(25)	5(20.83)	1(4.17)	0(0)
13	39	40	29(74.36)	31(77.50)	7(17.95)	9(22.5)	3(7.69)	0(0)
14	24	13	22(91.67)	9(69.23)	2(8.33)	3(23.07)	0(0)	1(7.69)
15	6	4	6(100)	3(75)	0(0)	1(25)	0(0)	0(0)
Total	178	159	152(85.39)	130(81.76)	22(12.36)	26(16.35)	4(2.25)	3(8.89)

Table 4(B) Height for Age (Z scores) of school children as per gender (District lower Subansiri)

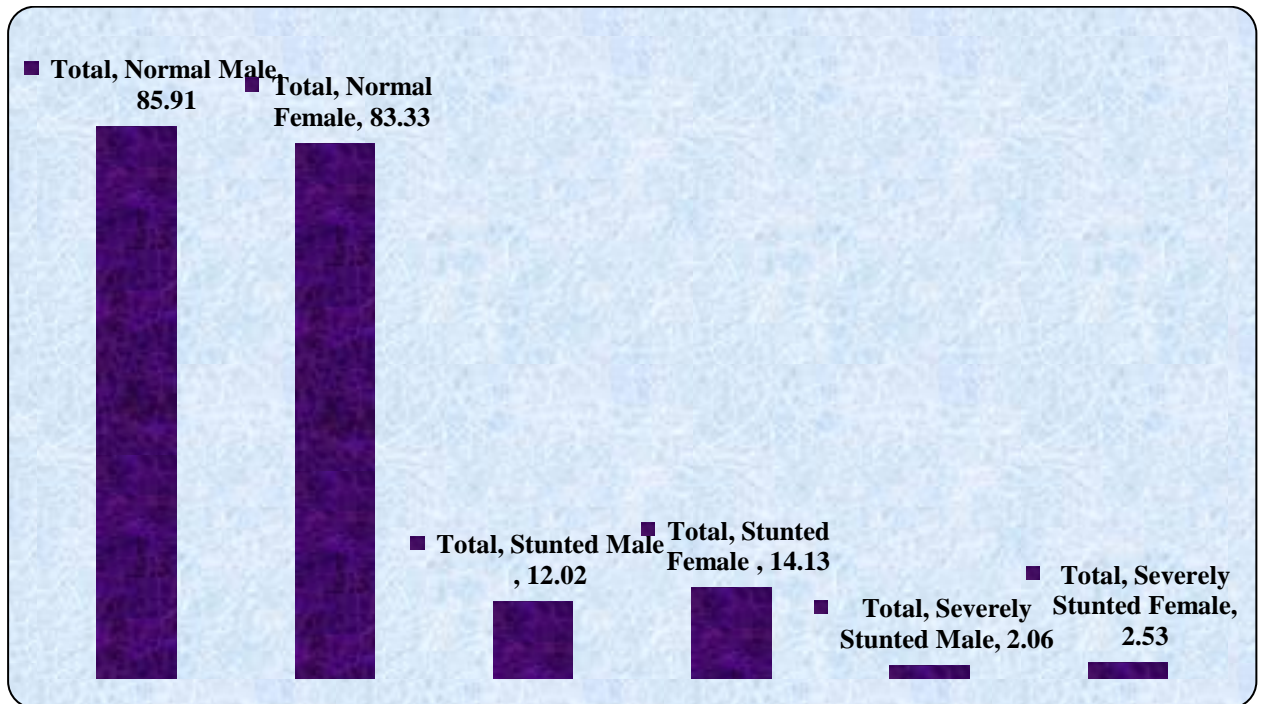
Age (years)	N		Normal		Stunted		Severely Stunted	
	Male	Female	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
6	1	1	1 (100)	1 (100)	-	-	-	-
7	1	4	-	4 (100)	1 (100)	-	-	-
8	12	7	10(83.33)	7 (100)	2(16.67)	-	-	-
9	6	11	5(83.33)	11(100)	1(16.67)	-	-	-

Age (years)	N		Normal		Stunted		Severely Stunted	
10	12	21	10(83.33)	17(80.95)	2(16.67)	4(19.05)	-	-
11	13	12	11(84.62)	12(100)	2(15.38)	-	-	-
12	14	20	11(78.57)	20(100)	2(14.28)	-	1(7.14)	
13	21	18	20(95.24)	14(77.78)	1(4.76)	2(11.11)	-	2(11.11)
14	21	16	20(95.24)	10(62.5)	1(4.76)	4(25.00)	-	2(12.50)
15	12	7	10(83.33)	4(57.14)	1(8.33)	3(4.29)	1(8.33)	-
Total	113	117	98(86.72)	100(85.47)	13(11.50)	13(11.11)	2(1.71)	4(3.42)

Table 4(C) Height for Age (Z scores) of school children as per gender (Arunachal Pradesh)

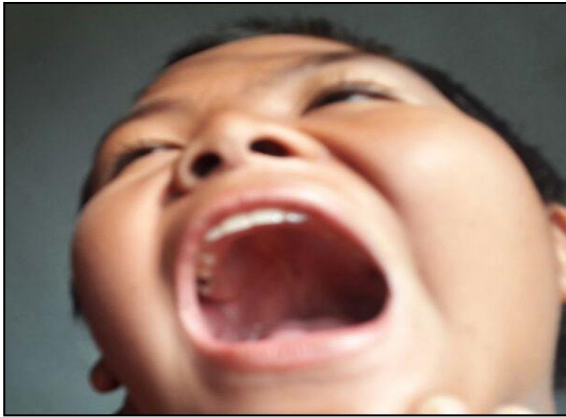
Age (years)	N		Normal		Stunted		Severely Stunted	
	Male	Female	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
5	1	1	1(100)	1(100)	0	0	0	0
6	3	2	3(100)	2(100)	0	0	0	0
7	7	8	6(85.71)	8(100)	1(14.28)	0	0	0
8	19	13	17(89.47)	12(92.30)	2(10.52)	1(7.69)	0	0
9	18	21	14(77.77)	21(100)	4(22.22)	0	0	0
10	34	49	30(88.23)	42(85.71)	4(11.76)	6(12.24)	0	1(2.04)
11	48	40	44(91.66)	34(85.00)	4(8.33)	5(12.5)	0	1(2.50)
12	38	44	28(73.68)	39(88.63)	8(21.05)	5(11.36)	2(5.26)	0
13	60	58	49(81.67)	45(77.59)	8(13.33)	11(18.97)	3(5.00)	2(3.45)
14	45	29	42(93.33)	19(65.52)	3(6.67)	7(24.14)	0	3(10.34)
15	18	11	16(88.89)	7(63.64)	1(5.56)	4(36.36)	1(5.56)	0
Total	291	276	250(85.91)	230(83.33)	35(12.02)	39(14.13)	6(2.06)	7(2.53)

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



Clinical signs and symptoms

The Table 5(A,B,C) shows high incidences of dental cavity, swollen bleeding gums emphasizing poor oral hygiene followed by children and vitamin C deficiency. High incidences of Mottled teeth indicate towards flourine and calcium imbalance. B vitamin deficiency symptoms like tongue atrophy, magenta tongue and angular stomatitis have also been observed in few children. Skin pallor and pale conjunctiva has been observed in nearly 11 per cent children indicating iron deficiency. Good number of children also had skin lesions on face, which is probably due to intestinal worms. Few children have shown discoloured hairs indicating protein deficiency. (Plate 2)



1. Dental Cavity



2. Mottled teeth



3. Angular Stomatitis



4. Magenta tongue



5. Bitot Spot

Plate 2: Clinical Signs and symptoms of nutritional deficiencies

1 & 2 Calcium fluorine imbalance, 3 & 4 vitamin B complex deficiency and 5 Vitamin A deficiency

Table 5(A). Clinical signs of nutritional deficiencies in school Children (District Papum Pare)

Clinical signs	Female(159)		Male (178)		Total(337)	
	N	%	n	%	n	%
Mottled teeth	27	16.98	35	19.66	62	18.40
cavity	129	81.13	71	39.89	200	59.35
Swollen gums	11	6.92	17	9.55	28	8.31
Bleeding gums	33	20.75	43	24.16	76	22.55
Lesions at the angle of mouth/angular stomatitis	8	5.03	18	10.11	26	7.7
Magenta tongue	2	1.28	4	2.25	6	1.8
Palor/Pale conjunctiva	26	16.35	30	16.85	56	16.62
Scaly dry skin	2	1.28	7	3.93	9	2.7
Patchy skin of face	19	11.95	12	6.74	31	22.56

Table 5(B). Clinical signs of nutritional deficiencies in school Children (District Lower Subansiri)

Clinical signs	Female (117)		Male(113)		Total (220)	
	N	%	n	%	n	%
Mottled teeth	12	10.25	4	3.54	16	7.27
cavity	57	48.72	52	46.01	109	49.55
Swollen gums	19	16.24	12	10.62	31	14.09
Bleeding gums	41	35.04	44	38.94	85	38.63
Lesions at the angle of mouth/angular stomatitis	6	5.19	6	5.31	12	5.45
Magenta tongue	0	0	2	1.62	2	0.90
Palor/Pale conjunctiva	1	0.85	4	3.54	5	2.27
Bitot Spot	0	0	1	0.88	1	0.45
Scaly dry skin	4	3.49	8	7.08	12	5.45
Patchy skin of face	4	3.49	4	3.54	8	3.63

Table 5(C). Clinical signs of nutritional deficiencies in school Children (Arunachal Pradesh)

Clinical signs	Female (276)		Male (291)		Total (567)	
	n	%	n	%	n	%
Mottled teeth	39	14.13	39	13.40	78	13.75
cavity	186	67.39	123	42.26	309	54.49
Swollen gums	30	10.86	29	9.96	59	63.31
Bleeding gums	74	28.81	87	29.89	161	28.39
Lesions at the angle of mouth/angular stomatitis	14	5.07	24	8.24	38	6.70
Magenta tongue	2	0.72	6	2.06	8	1.41
Palor/Pale conjunctiva	27	9.78	34	11.68	61	10.75
Bitot Spot	0	0	1	0.34	1	0.17
Scaly dry skin	6	2.17	15	5.15	21	3.70
Patchy skin of face	23	8.33	16	5.49	39	6.87

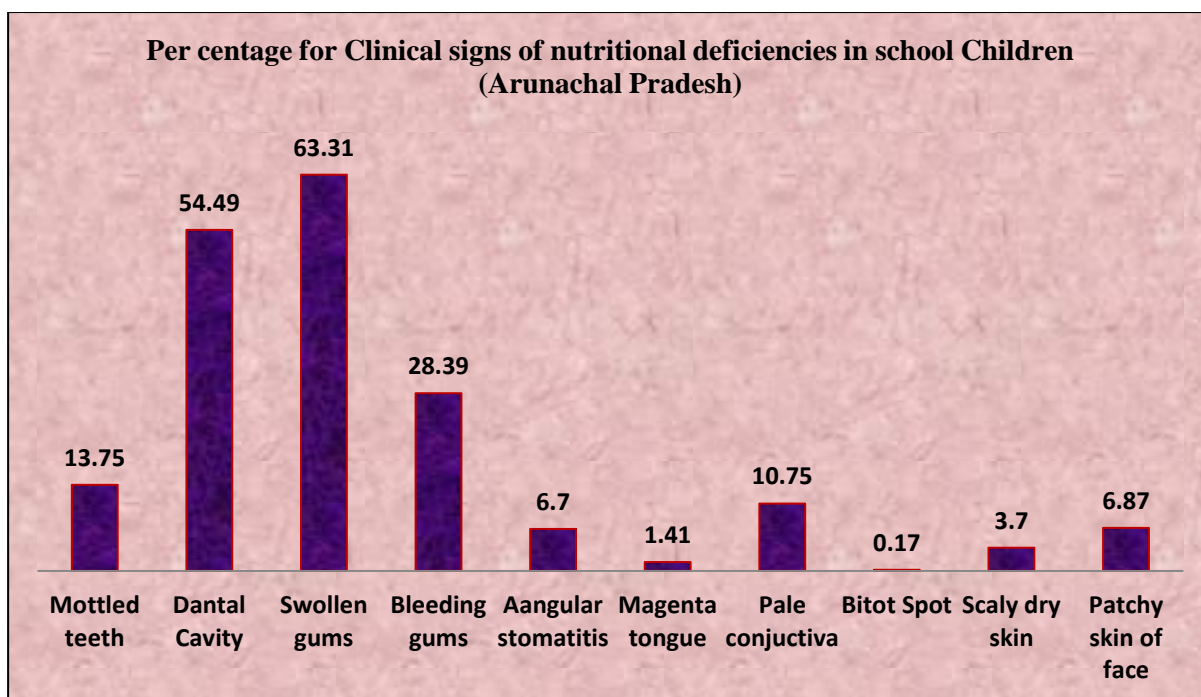


Fig 3 Percentage for Clinical signs of nutritional deficiencies in school Children (Arunachal Pradesh)

QUANTITY AND QUALITY OF MID DAY MEAL

In Papum Pare district the quality of rice received by the schools is good. Raw material kept in kitchens is of good quality. Iodised salt is used. Nutrella, pulses and vegetables are also used but in very less quantity. Proper measuring equipments to measure exact portion size of raw material were found lacking in almost all kitchens. The serving size is low which is not enough to meet the recommended energy and protein requirements as per norms. Also the prescribed mid day meal menu is not followed, only khichri is served. A good number of students (nearly 80 percent) do not take mid day meal for different reasons. The major reason being non liking of khichri, very thin consistency of khichri, plates not clean, unavailability of plates and spoons, unavailability of potable water etc.

Neither the cook nor the mid day meal incharge were measuring the raw food ingredients in a standard way. Since weight of all raw ingredients reported was based on gross approximation, per child intake in one of the school (D- Sector, Middle School, Naharlagon, Block- Boram, Dist. Papum Pare) was 300 gm rice per day which is physically not possible to be consumed. For oil used every school informed that one liter

of oil is used for three days cooking. Since the number of children in schools ranged between 60 to 350 children, the range of oil used would be 1ml to 15ml per child per day, which also is unreasonable. Mostly the schools were having enrolment of 200-350 children hence average fat intake was 2gm per child per day. The school records could not show the amount of oil purchased per month. Record keeping was very poor for raw ingredients purchased. As per information provided by MDM incharge average per day intake is given in Table 6 The data clearly shows that calorie intake of upper primary children is 50% of recommended and protein 35- 40% of recommended in MDM Scheme.(plate 3,4,5)

Table 6: Calculated nutrient composition for per child per day in Mid Day Meal provided by school.

Class	Raw Amount		Nutrient Composition		MDM Norms	
	Rice/ Child (g)	Dal/ Child (g)	Energy (Kcal)	Protein (g)	Energy (Kcal)	Protein (g)
Primary	86.38 ± 38.89	16.09 ± 11.17	371.2 ± 161.97	9.91 ± 4.96	450	12
Upper Primary	69.42 ± 21.37	17.39 ± 3.67	317.17 ± 61.63	8.39 ± 0.73	700	20

Recommendations:

The schools should maintain monthly purchase list as, quantity expenditure and total no. of students partaking the mid day meal.

Adequate amount of grains should be cooked.

Weighing balance for kitchen and measuring cups should be provided in the school throughout the state for right measurements to maintain adequacy.

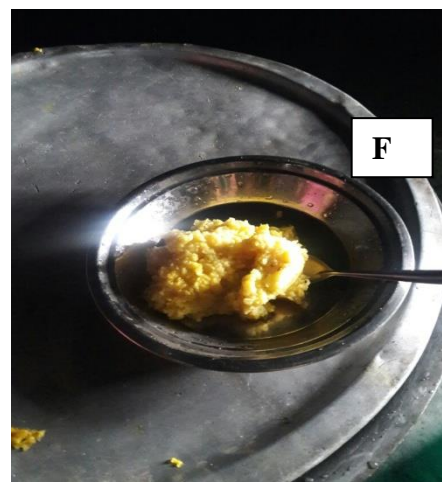
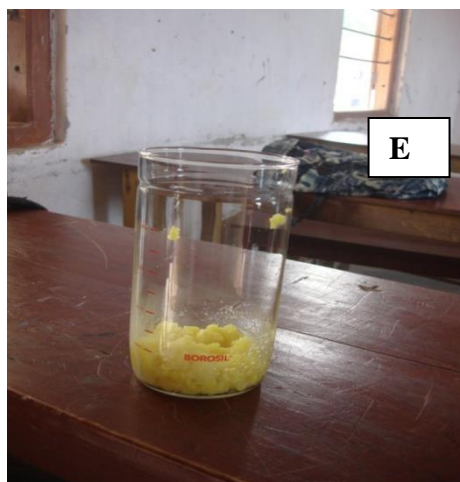
Food Consumption Pattern: The meal pattern was recorded by 24 Hour Recall method.

It was observed that rice is the main part of all meals. It was recorded that the children follow three meal pattern. Mostly all the food is boiled in very low amount of salt.

Generally no spices are used except chillies, herbs like ginger, garlic and onions are used commonly. Use of oil was very minimal. It was also observed that almost 95 per cent of the population was non vegetarian however, the quantity of flesh food intake per day was very less. Also it was not being consumed regularly due to various reasons. Milk intake of the children is very low. Occasionally milk is consumed either in the form of Kheer or sweet. Egg, meat are consumed on the regular basis. Almost 30% of the children consume instant noodles in breakfast. Commonly consumed vegetables are: lai patta, poto,oyik, potato, tomato, cauliflower, brinjal cabbage etc. Consumption of dal/ pulses was very low. Dals and pulses are available in this area however its consumption is not

regular and adequate. Commonly available pulses are Bengal gram, peas and lentil. Other pulses like soyabean, perin/shakpu are available but consumed occasionally.

Plate 3: Raw and Cooked Material of MDM at Schools



(A & B). Raw material for MDM, (C). Quality of cooked meal (D). Cooked MDM (E & F) Serving size and serving Spoon for MDM

Plate 4: Serving and washing area



Plate 5: Good Practices



Recommendations:

The schools should maintain monthly purchase list, quantity expenditure and total no. of students partaking the mid day meal.

Adequate amount of grains should be cooked.

Weighing balance for kitchen and measuring cups should be provided in the school throughout the state for right measurements to maintain adequacy.

Locally available food and recipes should be included in menu.

There should be variety in mid day meal menu.

Beans and pulses should be used in more amounts to balance the protein demands.

Cooks should be trained to cook locally acceptable and available foods in place of kichri

Standard weights and measuring equipments should be made available in all kitchens across state to weigh the exact amount of raw ingredients to be cooked.

There should be standard equipments for serving food to primary and upper primary children.

Cooks and school teachers should know, as to how much 100g/150g cooked rice measures. eg how many servings

Cooks should be informed and advised to be clean and provided with proper apron and head cover to be used while cooking.

Children should be taught and trained to follow regular hygienic practices like washing hands before meals, cleaning nails, bathing daily, brushing teeth twice daily etc.

An effective training programme could be conducted to impart training to cooks.

Nutritionists can be appointed to keep watch on its implementation at district/block levels.

Mothers of children studying in schools can help supervise the preparation and serving of meals to children.

General awareness about mid day meal should be created in public using MDM Logo and menu in schools, tv, radio, news paper etc. Every body should know about the programme and its functioning for more transparency.

Suggested Recipes for Mid Day Meal, Arunachal Pradesh

Bamboo Shoot Rice

Ingredients	Amount
Rice	100 g
Bamboo Shoot	20g
Soya sauce	1tsp
Nutrela	20g
Salt	to taste
Oil	2 tsp
Sesame seeds/Nandum/Naam	1tsp

Procedure

Wash Rice thoroughly.

Cut bamboo shoots into small chunks.

Heat oil in a Pot, add sesame seeds and let them splutter.

Add bamboo shoots, Nutrela and soya sauce and stir fry for a few minutes.

Add Rice and salt and stir well.

Add water as required to cook rice.

Cover the pot and cook on medium Heat till rice is done.

Sprinkle Sesame seeds and serve hot.

Stir Fried Bamboo Shoots

Ingredients	Amount
Bamboo shoots	100g
Green onions	02
Boiled and sliced egg/ Fermented soyabean Miso	50g
Green chilli	01
Garlic	02 cloves
Lime Leaves	02
Soy sauce	to taste
Oil	2 tsp
Salt	to taste

Procedure

Wash and cut bamboo shoots into 1” strips.

Boil bamboo shoots in salted water for 1-2 hrs.

Devein lime leaves and slice thinly.

Chop garlic finely

Heat oil in a wok.

Add garlic and chillies and cook till garlic is golden brown

Add Boiled and sliced egg/ Fermented soyabean Miso, bamboo shoots and sauces and cook till done.

Add lime leaves and onions and stir fry for a few minutes.

Serve with rice.

Nutritive Dal

Ingredients	Amount
Soyabean	20g
Chana dal (Bengal Dal)	50g
Local Beans	20g
Kaddu (Penna, Pumpkin)	50g
Squash	20g
Tomato	50g
Onion	20g
Oil	5 g
Salt	To taste

Procedure:

Heat oil in the pan

Add all daal and vegetables

Stir fry for a few minutes

Add salt to taste and sufficient water to cook the ingredients

Cook till soft

Chana /Matar Chaat

Ingredients	Amount
Boiled chana/Dried Matar (Chick Pea/ Peas)	100g
Boiled Potato	50g
Carrot	50g
Tomato	50g
Cucumber	50g

Lettus Leaves	10g
Onion	50g
Oil	10g
Lemon	1
Salt	To taste

Procedure:

Soak and boil Bengal gram or peas in salted water till soft.

Boil potato, skin and cut into small cubes

Cut all other vegetables into small pieces

Heat oil in the pan and stir fry the vegetables

Chop lettuce leaves into small portions

Mix all ingredients together

Add little salt and green chillies

Serve with lemon

Saaja

Ingredients	Amount
Finger Millet Flour	50g
Ground Perin/Shakpu Pulse powder	10g
Ginger	5g
Garlic	5g
Green Chillies	to taste
Oil	10g
Salt	to taste
Coriander leaves	for garnishing

Procedure

Thoroughly wash Ginger, Garlic and Green Chillies and grind together into a fine paste.

Heat oil in a kadai, add above paste to it and fry till golden brown.

Add the flour and Pulse powder to above masala and mix well.

Add water to make a thin Kadhi soup -like mix. Add salt to taste.

Keep stirring continuously till the mixture thickens into a desired consistency.

Garnish with washed, thinly cut coriander leaves.

Miri – Laapsi (Salted/ Sweet)

Ingredients	Amount
Finger Millet/Ragi/Sarsen flour	50g
Ginger, Garlic, Green Chillies	10g
Salt or sugar/ jaggery	To taste
Ghee/oil	5g

Procedure

Put ghee in a pan to heat. Add flour and stir for a few minutes.

Add water to make a liquid mixture.

Add salt and spices for salty lapsi and sugar or jaggery for sweet lapsi.

Keep stirring on low heat till a thick kadhi soup like consistency is reached.

Mix Veg Khichadi

Ingredients	Amount
Rice	30g
Masoor dal	10g
Seasonal vegetables	20g
Salt	to taste
Onion	10g
Ginger	5g
Garlic	5g
Oil	5g

Procedure

Wash Rice and dals thoroughly.

Chop seasonal vegetables.

Heat oil in a pan or pressure cooker.

Add finely chopped onion, ginger and garlic and fry till golden brown.

Add washed rice and dals along with vegetables and salt.

Add water, cover and let cook till done.

Lai Patta /Sarson ka Saag

Ingredients	Amount
Lai Patta/Sarson Leaves	100g
Besan/Dal Powder	20g
Oil	1tsp
Ginger	5g
Garlic	2 cloves
Salt	To taste

Procedure:

Wash the leaves thoroughly and cut them

Keep them to boil with ginger and garlic

Drain the leaves and grind to a fine paste

Heat oil in a pan and add the ground leaves to it

Bring to a boil

Add besan/daal powder while stirring continuously

Cook till thick consistency reached

Add salt to taste

Serve with boiled rice

Poha

Ingredients	Amount
Poha (Rice flakes)	250g
Potato	10g
Carrot	10g
Cabbage	10g
Peanuts	20 g
Sesame seeds	½ tsp
Lemon	1
Oil	10g
Salt	To taste

Procedure:

Take poha in a sieve and wash well with water, keep aside

Lightly roast peanuts deskin and coarsely ground them

Cut potato into small cubes

Cut carrots and cabbage into shreds

Heat oil in a pan and add sesame seeds so that they splutter

Add potato pieces and pinch of salt and stir fry till soft

Add the carrot, cabbage and peanuts and stir for a few minutes

Add poha and mix well

Add salt to taste and stir fry for 2 to 5 minutes

Serve with lemon

Peanut Chikky

Ingredients	Amount
Peanuts	100 g
Jaggery	50 g
Oil	2tsp

Procedure

Roast Peanuts and De-husk them.

Lightly pound the peanuts.

Make a 2- thread syrup of Jaggery.

Add oil and peanuts to the syrup and mix well.

Remove from fire and spread evenly on a greased Thali or tray.

Let it cool.

Remove with a spatula when completely cooled.

CHAPTER: 6

Issues and Recommendations

Issues:

1. Huge number of interruptions in serving of meals.
2. False reporting of number of days MDM served and utilization of cooking cost and food grains.
3. Huge delay in release of funds from the State to the school. No funds received at school level for FY 2017-18.
4. Toilets were in highly unhygienic condition and not usable in most of the schools.
5. No medical emergency plan in schools in case of any untoward incident.
6. Poor convergence with NRHM for Rashtriya Bal Swasthya Karyakram.
7. Highly irregular payment of honorarium to CCHs.
 - 7.1 No payment during FY 2017-18
 - 7.2 Corresponding State share w.r.t. to honorarium to CCHs not paid timely.
8. Data for AMS is being reported from only 9% schools.
9. Very poor inspection of schools by District and Block officials w.r.t. MDM
10. Irregular supply of food grains in Lower Subansiri district.
11. CCH not engaged as per norms in a large number of schools.
12. No payment made to FCI against the bills raised during FY 2017-18.
13. Kitchen sheds are either damaged or not usable or kuccha in most of the schools.
14. Lack of community participation and awareness of MDMS among parents and community.
15. Locally available nutritious foods are not included in mid day meal.
16. Prescribed Menu not followed. Only kichri is prepared as mid day meal.
17. Cooked amount as per number of children is less and serving size is also less
18. Lack of measuring equipment in schools and ignorance of entitlements of the children by the cook.
19. Lack of water availability for cooking, drinking and cleaning of utensils and kitchen area in most of the schools. It hampers the regularity in serving the meals.

The Review Mission would like to make following recommendations keeping in mind the TOR for the review –

- i). State Govt. may make a provision for Corpus Fund to be used as and when fund is awaited from the State Finance Department for smooth implementation of Mid Day Meal Scheme.
- ii). PFMS to be implemented on priority basis in a month time. Further, till the time the proposed fund flow through PFMS is fully operationalized, alternate arrangement to ensure timely funds released to schools to be worked out so that schools get the funds timely.
- iii). One of the teacher (apart from Head Master) should be designated as MDM in-charge of the school
- iv). MDM attendance register should clearly reflect that on which days MDM was not cooked and the reason for the same.
- v). Roles and responsibilities of District Programme Coordinator (MDM) and BEOs should be clearly defined with respect to MDMS.
- vi). District and Block level officers should visit a fixed number of schools at a predefined frequency for monitoring the MDMS.
- vii). Remuneration of Data Entry Operators at district level may be marginally increased and they may be assigned the task of implementation and monitoring of MDMS as well.
- viii). A wholesome training of district and block officials on monitoring of MDMS should be carried out.
- ix). Teachers/MDM incharge should be trained on record keeping of MDMS.
- x). It is recommended that food grain should be made available timely in all the schools.
- xi). Since, the food is not being cooked regularly, the stock registers of the food grains should be audited and the surplus food grains should be surrendered to GOI.
- xii). Since, the food is not being cooked regularly, the MDM records (right from the school level till State level) should be audited and the surplus cooking cost and food grains should be surrendered to the Government of India.

- xiii). A follow up visit after 3 months should be made to assess the implementation of the scheme in the State.
- xiv). It is recommended that till the time all the CCHs are registered under PFMS (and their bank accounts are opened), the supplementary system of payment to CCHs should be worked out. It is also recommended that regular training/orientation of CCHs on related subjects should be provided to enhance quality of MDM prepared.
- xv). State Government should ensure clearance of pending FCI bills as early as possible as well as workout a mechanism for timely payment to FCI in future (before closing of next month).
- xvi). BMI of the children should be taken regularly on annual basis and the malnourished children should be identified and necessary corrective action be taken.
- xvii). Urgent action be taken for a greater convergence and effective implementation of the RBSK, so that children could receive vitamin A supplementation as well as IFA as per schedule and their periodic health check-ups, necessary referrals and timely corrective measures are also required to be taken to improve nutrition and health status of our school children.
- xviii). Meeting of District level Committee should be held at least once in a quarter and issues related to MDMS implementation should be discussed in the same.
- xix). In addition to teachers the CCHs, parents and community members should be encouraged to taste the MDM before the same is served to children.
- xx). The kitchen sheds may be repaired in convergence with MNREGA, MPLAD Schemes, maintenance grants under Sarva Shiksha Abhiyan and community participation.
- xxi). The State may procure the gas connections for the schools so that LPG may be used for cooking of MDM.
- xxii). The State may explore the possibility of construction of smokeless chulhas in kitchens wherever possible.
- xxiii). The State Government may explore the possibility of construction of dining halls with adequate furniture in the schools covered under MDMS in convergence with MPLAD Scheme.


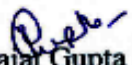


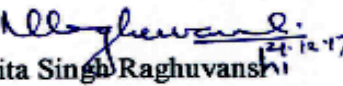
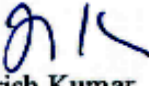
- xxiv). The State Government should ensure water supply for drinking/cooking MDM and for toilets in a time-bound manner.
- xxv). The State Government may ensure that SMC meetings are held at uniform interval on regular basis and MDM is an agenda of such meeting. It also needs to be ensured that minutes of SMC meetings are maintained properly by the schools.
- xxvi). The Contingency/emergency medical plan should be implemented properly at the school level and the school staff should be made aware of the same. The important contact numbers should be painted on the walls of the school for easy access in case of any untoward incident.
- xxvii). The MDM rules, 2015 should be implemented in all the schools with immediate effect.
- xxviii). The State Government needs to ensure that proper MDM logo and MDM menu are prominently displayed in all schools covered under MDM scheme. Requisite awareness about entitlements of children under this scheme also needs to be created among the teachers, MDM In-charge and cook-cum-helpers of the schools.
- xxix). The State Govt. should make ensure that 100% schools should be covered under AMS.
- xxx). A team should be constituted immediately at each level i.e. Block/District/State to closely monitor the Daily AMS data to take a corrective measures on the same day in case MDM is not served due to non-availability of food grains/cooking cost/ cook-cum-helpers at school level and the same should be reported to competent authority for smooth functioning of MDMS.
- xxxi). The State Government should ensure 100% enrolment of children and CCH under AADHAR by 31st December, 2017.
- xxxii). Food samples can be dried and sent to Guwahati and Central Agriculture University, Imphal at Home Science College, Tura for analysis.

Nutritional Recommendations:

1. The schools should maintain monthly purchase list, quantity expenditure and total no. of students partaking the mid day meal.
2. Adequate amount of grains should be cooked.
3. Weighing balance for kitchen and measuring cups should be provided in the school throughout the state for right measurements to maintain adequacy.

4. Locally available food and recopies should be included in menu.
5. There should be variety in mid day meal menu.
6. Beans and pulses should be used in more amounts to balance the protein demands.
7. Cooks should be trained to cook locally acceptable and available foods in place of khichri
8. Standard weights and measuring equipments should be made available in all kitchens across state to weigh the exact amount of raw ingredients to be cooked.
9. There should be standard equipments for serving food to primary and upper primary children.
10. Cooks and school teachers should know, as to how much 100g/150g cooked rice measures. eg how many servings
11. Cooks should be informed and advised to be clean and provided with proper apron and head cover to be used while cooking.
12. Children should be taught and trained to follow regular hygienic practices like washing hands before meals, cleaning nails, bathing daily, brushing teeth twice daily etc.
13. An effective training programme could be conducted to impart training to cooks.
14. Nutritionists can be appointed to keep watch on its implementation at district/block levels.
15. Mothers of children studying in schools can help supervise the preparation and serving of meals to children.
16. General awareness about mid day meal should be created in public using MDM Logo and menu in schools, tv, radio, news paper etc. Every body should know about the programme and its functioning for more transparency.

(The above recommendations may be implemented within a period of three months with a compliance report.)

 Sunil Kumar Sinha	 Rajat Gupta	 Tapi Gao
 Dr. Mridula Saxena	 Dr Rita Singh Raghuvanshi	 Harish Kumar

ANNEXURE I

School wise details of Attendance and Avg. children availed MDM during last ten days

S No.	District Name	Block Name	Name of the school	Enrolment	Average Attendance in last 10 days	Avg. no. of children availed MDM in last 10 days	% of children availed to enrollment	% of children availed to attendance
1	Papum Pare	Doimukh	GMS Karsingsa	360	343	343	95	100
2	Papum Pare	Doimukh	GMS Dobam	182	171.3	86.2	94	50
3	Papum Pare	Doimukh	GSS Banderdewa	114	109	109	96	100
4	Papum Pare	Doimukh	GMS Pichola	106	96	96	91	100
5	Papum Pare	Borum	GMS Papu Nallah	376	361	0	0	0
6	Papum Pare	Borum	GMS Barapani	200	144	101	72	70
7	Papum Pare	Borum	GMS D-Sector, Naharlagun	733	729	729	99	100
8	Papum Pare	Borum	GSS Nirjuli	679	600	600	88	100
9	Papum Pare	Daimukh	Govt. Sec. School, Chimpu, Itanagar	354	315	315	89	As per School records.

10	Papum Pare	Borum	V K V Itanagar	1255	1155	1155	92	<u>attendance was again repeated in Actual No. of Children availed MDM. However It was not confirmed by the student and also by the teachers and cooks. School record need to be rectify for the days MDM was cooked and actual No. of children availed MDM. As per conversations with School children, MDM was cooked in a highly irregular manner and never more than 3 days in a week.</u>
11	Papum Pare	Daimukh	Govt. Middle School, Jollang, Itanagar	184	149	149	81	
12	Papum Pare	Daimukh	Govt. Middle School, ECS, Itanagar	637	391	391	73	
13	Papum Pare	C-Sector	Govt. Middle School, C-Sector, Itanagar	350	333	333	95	
14	Papum Pare	Daimukh	Govt. Middle School, NitiVihar, Itanagar	420	345	345	82	
15	Papum Pare	Daimukh	B. K. Mission School, Midya, Daimukh	226	226	226	100	
16	Papum Pare	Daimukh	Govt. Sec. School, Main	124	67	67	54	
17	Papum Pare	Daimukh	Govt. Primary School, Rono	217	182	182	84	
18	Papum Pare	Daimukh	Govt. Middle School, Daimukh	152	84	84	55	

19.	Lower Subansiri	Ziro-I	GUPS Lal Bahadur Shastri Hapoli	365		167	46	
20	Lower Subansiri	Ziro-I	GSS Gandhi Hapoli			22		
21	Lower Subansiri	Ziro-I	GSS Hong	44	41	41	94	100
22	Lower Subansiri	Ziro-I	GSS Hill Top	140		47	34	
23	Lower Subansiri	Ziro-I	GSS Hapoli	246	154	154	63	100
24	Lower Subansiri	Ziro-II	GSS Toram Yachuli	21	15	11	71	73
25	Lower Subansiri	Ziro-II	GPS Jath	56	31	31	56	100
26	Lower Subansiri	Ziro-II	GSS Yachuli	125	91	45	73	49
27	Lower Subansiri	Old Ziro	Govt. Sec. School, Tajang,	70	69	69 **	98	<u>As per School records, attendance was again repeated in Actual No. of Children availed MDM. However It was not confirmed by the student and also by the teachers and cooks.</u>
28	Lower Subansiri	Old Ziro	Govt. Middle School, Bulla	23	23	23	100	
29	Lower Subansiri	Old Ziro	Govt. Sec. School, Hari	24	23	23 **	97	
30	Lower Subansiri	Old Ziro	Govt. Middle School, Datta	54	51	51 **	94	
31	Lower Subansiri	Old Ziro	Govt. Sec. School, TPD	19	18	18 **	95	

								<u>School record need to be rectify for the days MDM was cooked and actual No. of children availed MDM. As per conversation s with School children, MDM was cooked in a highly irregular manner and never more than 3 days in a week.</u>
32	Lower Subansiri	Ziro-II	Govt. M.E. School, C-Sector,,	353	229	229 **	65	100
33	Lower Subansiri	Ziro-II	Govt. Sec. School, Yazali	195	165	165 **	85 As per Information Provided by Student and Teachers of School, MDM Served 3-4 days in a week due to Serving	100

							of MDM to class 9-10 also within the existing & limited resources.	
--	--	--	--	--	--	--	--	--

**** On the Day of JRM Visit at School : Huge variations in Actual head count and No. of MDM beneficiaries reported in records**

S No.	District Name	Block Name	Name of the school	Enrolment	Average Attendance in last 10 days	Avg. no. of children availed MDM in last 10 days (As per Record)	Head Count on the day of Visit
27	Lower Subansiri	Old Ziro	Govt. Sec. School, Tajang,	70	69	69 **	52
28	Lower Subansiri	Old Ziro	Govt. Middle School, Bulla	23	23	23	17
30	Lower Subansiri	Old Ziro	Govt. Middle School, Datta	54	51	51 **	6
32	Lower Subansiri	Ziro-II	Govt. M.E. School, C-Sector,,	353	229	229 **	192
33	Lower Subansiri	Ziro-II	Govt. Sec. School, Yazali	195	165	165 **	60

Annexure-II

School wise details of Infrastructure facilities, CCH details, health check-up etc.

S No.	District Name	Block Name	Name of the school	Display Menu	MDM Logo	Availability of Kitchen (Pucca /Kaccha/No)	Fuel used	Availability of KD	Fire Extinguisher	Availability of eating plates	CCH engaged as per norms (Yes /No)	Regularity of Payment to CCH	Drinking Water (Yes/No)	Toilet Facility (Yes/ Yes but Common for both/ No)	Availability of Health card	Distribution of Micronutrients and deworming	Emergency plan	Tasting of meals
1	Papum Pare	Doimukh	GMS Karsingsa	Yes	Yes	Kaccha	Firewood	Yes	No	Insufficient	Yes	Not paid in FY 2017-18	Tube well	Yes* (Very Unhygienic)	No	Only deworming	No	Yes
2	Papum Pare	Doimukh	GMS Dobam	No	No	Kaccha	LPG	Yes	No	Insufficient	No	Not paid in FY 2017-18	No	No	No	Only deworming	No	Yes
3	Papum Pare	Doimukh	GSS Banderdewa	Yes	Yes	Pucca	Firewood	Yes	No	Yes	Yes	Not paid in FY	Bore-well	Common for both	No	Only deworming	No	Yes

												2017-18		(Very Unhygienic)				
4	Papum Pare	Doimukh	GMS Pichola	No	No	Kaccha	Firewood	Yes	No	Insufficient	No	Not paid in FY 2017-18	No	Yes* (Very Unhygienic)	No	Only deworming	No	Yes
5	Papum Pare	Borum	GMS Papu Nallah	No	No	Kaccha	Firewood	Yes	No	Insufficient	Yes	Not paid in FY 2017-18	Tap/Water Tank	Yes* (Very Unhygienic)	Yes	Only deworming	No	Yes
6	Papum Pare	Borum	GMS Barapani	No	No	No	Firewood	Yes	Yes	Yes	No	Not paid in FY 2017-18	Tap	Yes* (Very Unhygienic)	No	Only deworming	No	Yes
7	Papum Pare	Borum	GMS D-Sector, Naharlagun	No	No	Pucca	Firewood	Yes	No	Insufficient	Yes	Not paid in FY 2017-	No	Yes* (Very Unhygienic)	No	Only deworming	No	Yes

												18		nic)				
8	Papum Pare	Borum	GSS Nirjuli	No	No	Pucca	LPG	Yes	No	Insuff icient	Yes	Not paid in FY 2017- 18	No	Yes* (Very Unhygie nic)	No	Only dewor ming	No	Yes
9	Papum Pare	Daimuk h	Govt. Sec. School, Chimpu, Itanagar	No	No	No &	Fire Woo d	Yes	No	Yes But Insuff icient	No	Not paid in FY 2017- 18	Yes	Yes (Commo n)	No Only Dew ormin g Tab. Distri buted No Healt h chec k-up unde r RBS K	No	No	

10	Papum Pare	Borum	V K V Itanagar	No	No	Yes #	LPG	Yes#	Yes #	Yes #	No	Not paid in FY 2017-18	Yes	Yes	--Do-	No	No	
11	Papum Pare	Daimuk h	Govt. Middle School, Jollang, Itanagar	No	No	No	Fire Wood	Yes	No	Yes But Insufficient	Yes	Not paid in FY 2017-18	Yes	Yes But Common	--Do-	No	No	
12	Papum Pare	Daimuk h	Govt. Middle School, ECS, Itanagar	No	No	No	Fire Wood	Yes	No	--Do-	No	Not paid in FY 2017-18	Yes	Yes But Common	--Do-	No	No	
13	Papum Pare	C-Sector	Govt. Middle School, C-Sector, Itanagar	No	No	No	Fire Wood	Yes	No	--Do-	No	Not paid in FY 2017-18	No	<u>Yes but not in use due to No Water Availability in School.</u>	--Do-	No	No	
14	Papum Pare	Daimuk h	Govt. Middle School, Niti Vihar, Itanagar	No	No	Yes	Fire Wood	Yes	No	--Do-	No	Not paid in FY 2017-18	No	<u>Yes but not in use due to No Water Availability</u>	--Do-	No	No	

														<u>lity in School.</u>				
15	Papum Pare	Daimukh	B. K. Mission School, Midya, Daimukh	No	No	No	Paddy Waste used in Smokeless Chulha for cooking MDM	Yes	No	--Do--	Yes	Not paid in FY 2017-18	Yes	Yes But Common	--Do--	No	No	
16	Papum Pare	Daimukh	Govt. Sec. School, Main	No	No	No	Fire Wood	Yes	No	--Do--	No	Not paid in FY 2017-18	Yes	Yes But Common	--Do--	No	No	
17	Papum Pare	Daimukh	Govt. Primary School, Rono	No	No	No	Fire Wood	Yes	No	--Do--	Yes	Not paid in FY 2017-18	Yes	Yes But Common	--Do--	No	No	
18	Papum Pare	Daimukh	Govt. Middle	No	No	Yes	Fire Wood	Yes	No	--Do--	No	Not paid in	Yes	Yes	--Do--	No	No	

			School, Daimukh			School Buildi ng was dilapit ed condit ion, but SMC Chair man has constr ucted KS in <u>Rs.</u> <u>17000</u> ₹ during FY- 2006- 07	d			-		FY 2017- 18	By Ring Well	Separat e for Boys & Girls	-			
19	Lower Subansi ri	Ziro-I	GUPS Lal Bahadur Shastri Hapoli	No	No	Kacch a	Firew ood	Yes	No	Insuff icient	No	Not paid in FY- 2017-	No	Yes* (Very Unhygie	No	No	No	Yes

												18		nic)				
20	Lower Subansiri	Ziro-I	GSS Gandhi Hapoli	No	No	Kaccha	Firewood	Yes	No	No	Yes	Not paid in FY 2017-18	Tap	Yes	Yes	Only deworming	No	Yes
21	Lower Subansiri	Ziro-I	GSS Hong	No	No	Kaccha	Firewood	Yes	No	Insufficient	No	Not paid in FY 2017-18	Tap	Yes	No	Only deworming	No	Yes
22	Lower Subansiri	Ziro-I	GSS Hill Top	No	No	Kaccha	Firewood	Yes	No	Insufficient	Yes	Not paid in FY 2017-18	Tap	Yes	No	Only deworming	No	Yes
23	Lower Subansiri	Ziro-I	GSS Hapoli	No	No	Kaccha	Firewood	Yes	No	Insufficient	Yes	Not paid in FY 2017-18	Tap	Yes* (Very Unhygienic)	No	Only deworming	No	Yes
24	Lower Subansiri	Ziro-II	GSS Toram Yachuli	No	No	No	Firewood	Yes	No	Yes	No	Not paid in FY 2017-18	Tap	Yes	No	Only deworming	No	Yes

25	Lower Subansiri	Ziro-II	GPS Jath	No	No	Kaccha	Firewood	Yes	No	Yes	No	Not paid in FY 2017-18	Tap	Not used	No	Only deworming	No	Yes
26	Lower Subansiri	Ziro-II	GSS Yachuli	No	No	Kaccha	Firewood	Yes	No	Insufficient	No	Not paid in FY 2017-18	Tap	Yes	No	Only deworming	No	Yes
27.	Lower Subansiri	Old Ziro	Govt. Sec. School, Tajang,	No	No	No	Fire Wood	Yes	No	--Do--	Yes	Not paid in FY 2017-18	Yes	--Do--	--Do--	No	No	--Do--
28	Lower Subansiri	Old Ziro	Govt. Middle School, Bulla	No	No	No	Fire Wood	Yes	No	--Do--	Yes	Not paid in FY 2017-18	Yes	--Do--	--Do--	No	No	--Do--
29	Lower Subansiri	Old Ziro	Govt. Sec. School, Hari	No	No	No	Fire Wood	Yes	No	--Do--	Yes	Not paid in FY 2017-18	Yes	--Do--	--Do--	No	No	--Do--
30	Lower Subansiri	Old Ziro	Govt. Middle School, Datta	No	No	No	Fire Woo	Yes	No	--Do--	Yes	Not paid in FY	Yes	--Do--	--Do--	No	No	--Do--

							d					2017-18						
31	Lower Subansiri	Old Ziro	Govt. Middle School, TPD	No	No	No	Fire Wood	Yes	No	--Do-- -	Yes	Not paid in FY 2017-18	Yes	--Do--	--Do-- -	No	No	--Do--
32	Lower Subansiri	Ziro-II	Govt. M.E. School, C-Sector,,	No	No	No	Fire Wood	Yes	No	--Do-- -	No	Not paid in FY 2017	Yes	--Do--	--Do-- -	No	No	--Do--
33	Lower Subansiri	Ziro-II	Govt. Sec. School, Yazali	No	No	No	Fire Wood	Yes	No	--Do-- -	No	Not paid in FY 2017	Yes	--Do--	--Do-- -	No	No	--Do--

Regularity of Fund Flow & Food grains flow at the school level

Annexure III

S.No	District Name	Name of the Block	Name of School	Regularity in fund flow	Regularity in supply of food grains
1	Papum Pare	Doimukh	GMS Karsingsa	Fund not received at School in FY 2017-18	Regular
2	Papum Pare	Doimukh	GMS Dobam	Fund not received at School in FY 2017	No record
3	Papum Pare	Doimukh	GSS Banderdewa	Fund not received at School in FY 2017	Regular
4	Papum Pare	Doimukh	GMS Pichola	Fund not received at School in FY 2017	Regular
5	Papum Pare	Borum	GMS Papu Nallah	Fund not received at School in FY 2017	Regular
6	Papum Pare	Borum	GMS Barapani	Fund not received at School in FY 2017	Regular
7	Papum Pare	Borum	GMS D-Sector, Naharlagun	Fund not received at School in FY 2017	Regular
8	Papum Pare	Borum	GSS Nirjuli	Fund not received at School in FY 2017	Regular
9	Papum Pare	Daimukh	Govt. Sec. School, Chimpu, Itanagar	<u>No</u> (Fund Not received at School Level during FY 2017-18)	Regular
10	Papum Pare	Borum	V K V Itanagar	--Do--	Regular

11	Papum Pare	Daimukh	Govt. Middle School, Jollang, Itanagar	--Do--	Regular
12	Papum Pare	Daimukh	Govt. Middle School, ECS, Itanagar	--Do--	Regular
13	Papum Pare	C-Sector	Govt. Middle School, C-Sector, Itanagar	--Do--	Regular
14	Papum Pare	Daimukh	Govt. Middle School, NitiVihar, Itanagar	--Do— (No Charge handover by Ex-HM)	Regular
15	Papum Pare	Daimukh	B. K. Mission School, Midya, Daimukh	--Do--	Regular
16	Papum Pare	Daimukh	Govt. Sec. School, Main	--Do--	Regular
17	Papum Pare	Daimukh	Govt. Primary School, Rono	--Do--	Regular
18	Papum Pare	Daimukh	Govt. Middle School, Daimukh	--Do--	Regular
19	Lower Subansiri	Ziro-I	GUPS Lal Bahadur Shastri Hapoli	Fund not received at School in FY 2017	Regular
20	Lower Subansiri	Ziro-I	GSS Gandhi Hapoli	Fund not received at School in FY 2017	Irregular
21	Lower Subansiri	Ziro-I	GSS Hong	Fund not received at School in FY 2017	Regular
22	Lower Subansiri	Ziro-I	GSS Hill Top	Fund not received at School in FY 2017	Irregular
23	Lower Subansiri	Ziro-I	GSS Hapoli	Fund not received at School in FY 2017	Irregular
24	Lower Subansiri	Ziro-II	GSS Toram Yachuli	Fund not received at School in FY 2017	Irregular

25	Lower Subansiri	Ziro-II	GPS Jath	Fund not received at School in FY 2017	Regular
26	Lower Subansiri	Ziro-II	GSS Yachuli	Fund not received at School in FY 2017	Irregular
27	Lower Subansiri	Old Ziro	Govt. Sec. School, Tajang,	--Do--	Irregular
28	Lower Subansiri	Old Ziro	Govt. Middle School, Bulla	--Do--	Irregular (FG supplied irregular i.e once in FY 2017-18 i.e. on 13-12-2017)
29	Lower Subansiri	Old Ziro	Govt. Sec. School, Hari	--Do--	Irregular (FG supplied irregular i.e once in FY 2017-18 i.e. on 13-12-2017)
30	Lower Subansiri	Old Ziro	Govt. Middle School, Datta	--Do--	No Stock was Available at School. <i>False record for Consumption of Food Grains in register.</i>
31	Lower Subansiri	Old Ziro	Govt. Middle School, TPD	--Do--	No Stock was Available at School. <i>False record for Consumption of Food Grains in register.</i>

32	Lower Subansiri	Ziro-II	Govt. M.E. School, C-Sector,,	--Do--	Regular <i>False record for Consumption of Food Grains in register.</i>
33	Lower Subansiri	Old Ziro	Govt. Middle School, Bulla	--Do--	Regular <i>False record for Consumption of Food Grains in register.</i>