



Government of India

Ministry of Human Resource Development

Department of School Education & Literacy



**मध्याह्न भोजन योजना
Mid Day Meal Scheme**

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

Himachal Pradesh

(18th- 24th December, 2018)

Acknowledgment

The Mid- Day Meal (MDM) Scheme is a flagship programme of the Government of India addressed for enhancing enrollment, retention and attendance and simultaneously improving nutritional level among the School children. The Govt. of India Review Mission on MDMs was created in 2010 to review this program since then Review Missions is regularly reviewing the MDM Scheme in various States of India.

Our team comprised of experts from the field of nutrition, Consultants of TSG MDM & State Govt. Officials. The 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 Himachal Pradesh. We thank the Department of Education (Government of Himachal Pradesh) for hosting the Joint Review Mission (JRM) in Himachal Pradesh. We are thankful to the officials of the Department of Education (Himachal Pradesh) for 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 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 of Himachal Pradesh. Jointly, it tried to cover various aspects relating to MDM which included 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 / stake holders at various levels and that the concerned recommendations put forth by the mission in this report will prove helpful to the Government of Himachal 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,

Himachal Pradesh: December 2018

MID DAY MEAL SCHEME JOINT REVIEW MISSION

Himachal Pradesh

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CHAPTER 1

Composition and Terms of Reference (TOR)

The Mid Day Meal Scheme is a School meal programme of the Govt. of India designed to improve nutritional status of School Children nationwide.

Nutrition is directly linked to human resource development, productivity and ultimately to the nation's growth. Malnutrition on the other hand is a complex phenomenon. It is both the cause and effect of poverty and ill health: and follows a cyclical, inter-generational pattern. Malnutrition adversely affects Universalization of Elementary Education (UEE). Even if a malnourished child does attend school, he/she finds it difficult to concentrate on and participate in the learning activities in school. Unable to cope, the child would very often drop out of school.

Various studies suggests that absence of an adequate 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. Catering to nutritional needs of children help them to grow into healthy and capable adults.

Mid Day Meal Scheme is right based Scheme to support the nutritional aspects of Children in School based learning. 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 Maqtab 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.

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

1.1 Joint Review Mission – Team Members

1. **Dr. Asha Kawatra**, Professor, Food & Nutrition, Dean, Postgraduate Studies CCS HAU Hissar, Haryana (Mission Leader).
2. **Dr. Sangita Sood**, Professor & HOD, Food Science, Nutrition & Technology, CSK HP AU Palampur, HP
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5. **Dr. Mridula Sircar**, Senior Consultant, TSG-MDM, EdCIL

Dr. Mamta, Ms. Priyanka Rani, Ms. Meenu Sirohi, Ms. Anju were the research assistants for the Mission.

The Mission comprising of the above mentioned members visited 21 schools in the district of Sirmour and 18 schools in district of Mandi.

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

Review the fund flow from State to Schools/implementing agencies.

(As per informed by State Govt. regarding release of funds to the school through passing various levels.)

Centre Share : The GOI releases its share directly to the State, for which, the Administrative Approval / Administrative Expenditure Sanction is accorded by the State Government. Only after that the State Nodal Agency i.e. Department of Elementary Education, releases the budget to the Drawing & Disbursing officers i.e. Block Elementary Education Officers (BEEOs). The Department has given full powers to the Drawing & Disbursing officers (BEEOs) for the purposes of Mid Day Meal Scheme. At the school level the expenditure is incurred by the School Management Committee. The state makes requisite budget provision for both the Centre and State share in the State Budget.

State Share : The State makes provision in the State Budget in respect of state share and placed at the disposal of Director Elementary Education. The Director Elementary Education releases full State share to the Block Elementary Education Officer's (BEEOs) in the financial year before the receipt of Adhoc central assistance from GOI in order to implement the MDM Scheme un-interruptedly. The BEEOs further release funds to the concerned school / SMC. The budget is being distributed through internet (e-vitran, web application developed by the State). The field offices receive the budget within a day. This process saves time and manpower considerably. This also ensures the transparency in allocating the funds.

Review Mission observed that Director Elementary Education, Govt. of Himachal Pradesh releases the Budget in treasury mode to the Block Elementary Education Officers (BEEO) through e-vitran. After receipt of the budget from State Govt., BEEOs further release funds to the concerned

school / SMC account. In all the visited schools it was observed that on quarterly/ monthly basis funds are received in the school account. In case unspent balance lying with school, then School inform the BEEO and accordingly funds are released after adjusting unspent balance. The cash book were found maintained in almost all the schools.

The mission noticed that in Mandi district, Teachers first purchase the cooking items from local market and submit the receipts to the BEEO office for verification. After verification Funds are released to the schools. After receiving the funds Teachers withdraw the money and clears the bills. This infers that there is no advance release of funds in Mandi District. Where as in Sirmour district Funds are released to schools in advance and teachers withdraw money as per requirements.

In most of the visited schools the team members inquired from SMC President and SMC members about the availability of funds for daily preparation of the MDM and they were satisfied with the availability of funds in the schools. In all the visited schools it was observed there was sufficient funds available except some schools where it was very little funds as reported in the pass books and the pass books have also been not updated.

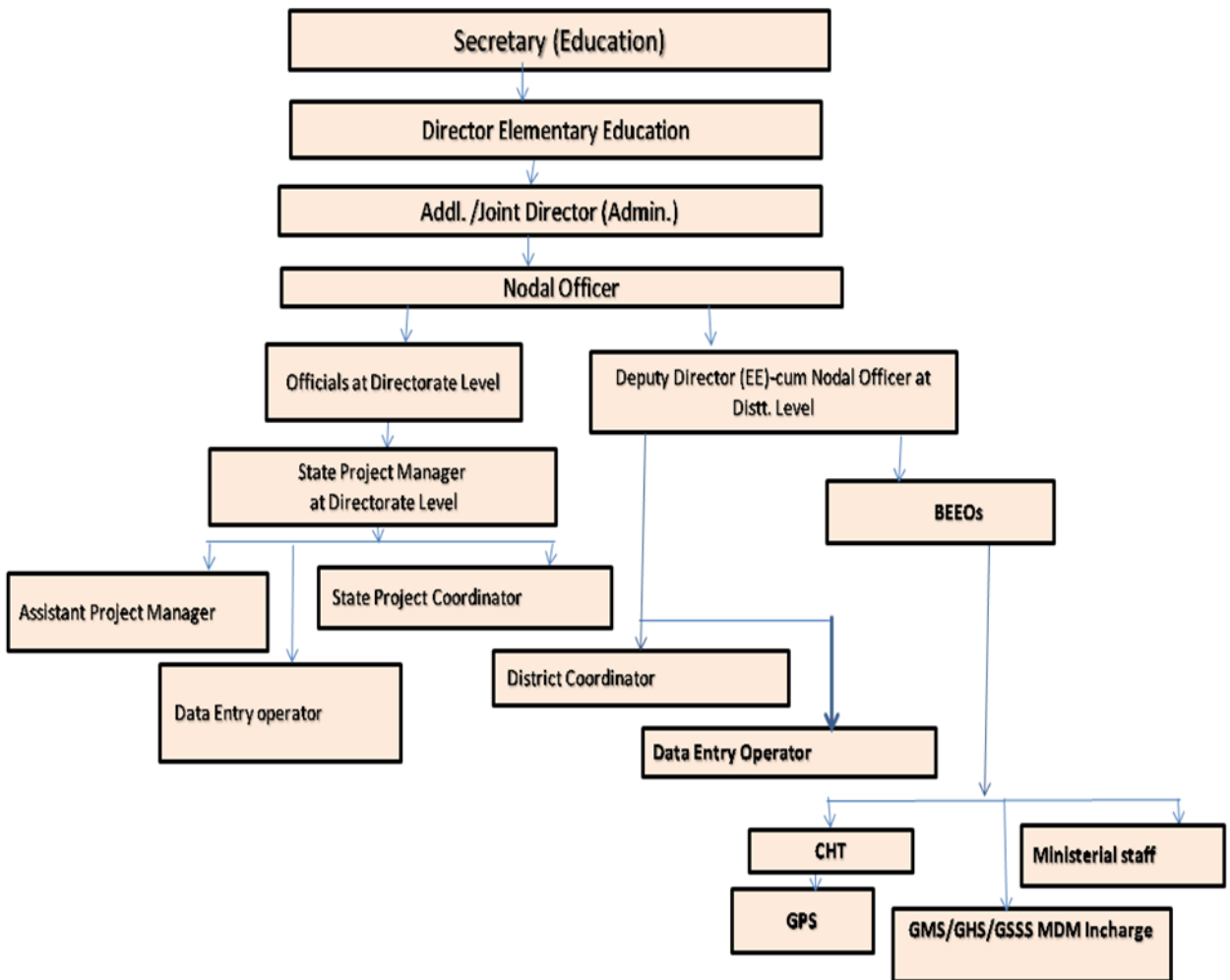
i. Review the coverage of the Scheme.

The Review Mission observed that in all the visited schools as per the register there was good attendance in all the schools. The data reported of the last 10 days in the schools also reflect that 80% of the enrolled children are availing MDM on an average basis. The details of last 10 days attendance in the visited schools in both the districts is **attached at Annexure-I & II**. The efforts of the State Government are appreciated.

ii. Review the availability of Management Structure at State, District, Block level

The MDM scheme is being implemented by the Department of Elementary Education in the State as the Nodal Department.

- The Secretary Education, Government of Himachal Pradesh is the Administrative Head at Government level and Director Elementary Education at Department level.
- The Deputy Directors (Elementary Education) are the Nodal Officers at District level and Block Elementary Education Officers (BEEOs) at Education Block level .There are total number of 128 Elementary Educational Blocks in the State.

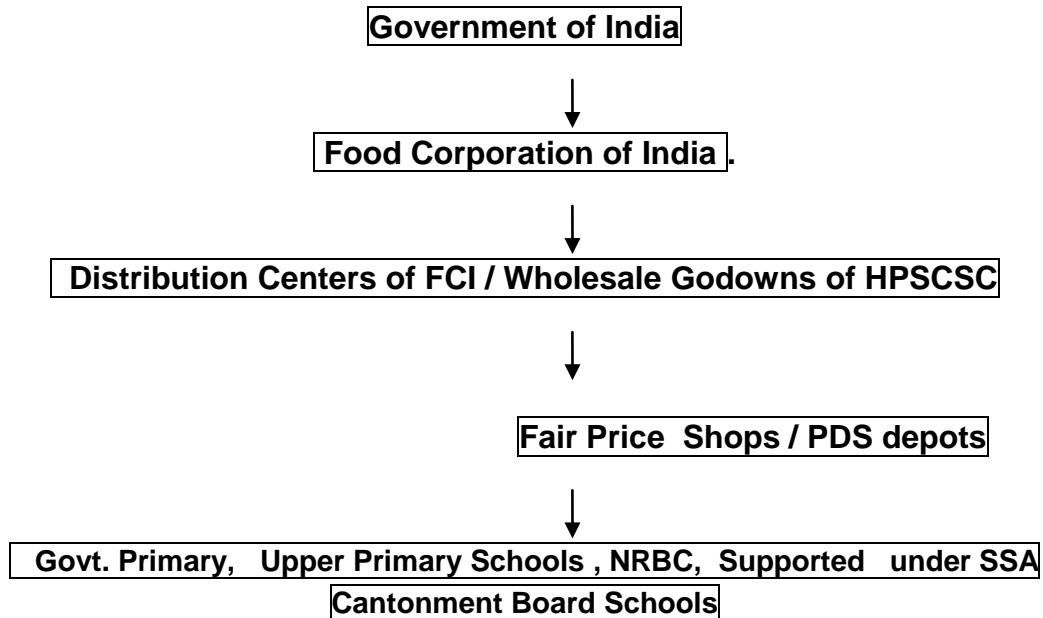


iii. Review the delivery mechanism of food grains from State to Schools.

(As per information provided by State Govt. on the delivery mechanism of Food grains) :

The GOI provides foodgrains (rice) at the FCI distribution Centre. Thereafter the Foodgrains (rice) is lifted by the Nodal Transport Agency of the state i.e. Himachal Pradesh State Civil Supplies Corporation (HPSCSC) from FCI distribution Centers and made available at the PDS depot/ FPS , on the authorization from the respective Deputy Commissioners of concerned districts. However, the Foodgrains (rice) is lifted by SMCs of the school from the PDS Depot /FPS for which transportation charges are paid to them and this system of lifting of Foodgrains (rice) from PDS Depot /FPS to the schools by SMC is smoothly working in the state.

❖ **Food-grains flow chart in the state is as under :-**



The review mission observed that in all visited schools the teachers (and Cook-cum-helpers only in few schools) have to lift the Food grains from the near by FPS shop and have to either use their own resources and arrange vehicle to carry the food grains up to schools on monthly basis or quarterly basis.

The review mission also noticed that in some of the visited schools registers, the Teachers are booking the expenditure for lifting of food grains i. e Transportation charges for PDS shop to School from the cooking cost component. On inquiry all teachers informed that No transportation charges are being given to them for the same and therefore they have to draw the same from the cooking cost component.

It is pertinent to mention that from the cooking cost component the expenses of LPG and Transport charges are met, hence it came to the notice of the Review Mission that in this case the quality of Meal is compromised. It was observed that in the daily Menu twice Vegetables are mentioned but only potatoes are being provided. There is an inadequate provision of Green & leafy vegetables in the diet on daily basis.

It was noticed that there was proper record maintenance about the availability and utilization of the foodgrains. All the visited schools has adequate storage facility for proper upkeep of the rice.

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

The Review Mission observed that in the visited schools in both the districts Food is cooked every day and is served hot to children. There was no case of Interruption in any visited school. It is appreciated that Teachers are very well supervising and ensuring that food is cooked every day for children even in the case of Cook cum Helpers (CCH) is absent then they, make an alternate arrangement.

JRM Team observed that in Mandi district in G.P.S.Kanaid School there was no rice and the Teacher was purchasing rice from open market. On inquiry, it was informed that since last 20 days the Fair price shop was closed. The Principal informed that she has already

informed several times to FPS shop about the shortage of rice but the school was not given rice.

The JRM Team visited the nearby FPS shop to understand the problem and it was informed by the local residents that it is closed since November 2018 and they are also facing the shortage and hence to buy from the local market.

The Team suggested the Teacher that she should be informed to the BEEO in writing so that the problem could be addressed immediately. Head Teacher should use the toll free helpline to bring to the notice of the District Governance.

In another school in Sirmour district in Govt. Sr. Sec school Kamand, the SMC president mentioned that earlier there was deficient supply of food grains. With the result, Schools had purchased food grain from open market in the month of September/ October 2018 in order to keep the programme functioning and the registers also showed the negative balance of rice. It was also informed that they have received the rice and will adjust from book of accounts. It was suggested to Teacher in-charge that they have received the surplus rice so maintenance of Book of Accounts would be made properly. It is advisable that Toll free no must be used to inform the District level authorities on time. It was strongly felt that Head Teachers / MDM In-charge must be oriented towards Operationalisations and record keeping for MDM. Proper inspection by the Block level or district level officers regularly.

v. Review the Creation of Capital Assets

The GOI, MHRD has sanctioned 14,959 kitchen –cum- Stores upto 2015-16 to H.P. state. Besides, 88 kitchen –cum- Stores have been constructed with convergence of SSA. The construction work of kitchen –cum- Stores has been assigned to the civil wing of SSA in the State. Out of 14,959 sanctioned kitchen –cum-stores, 14,772 kitchen –cum- Stores have been constructed, 28 are in progress and 159 have not been started due to non availability of land or schools are running in rented or rent-free

accommodation or separate rooms are being used as kitchen –cum- Stores in the available accommodation of the schools. However, efforts are being made by State Govt. to complete the construction work of 159 not started kitchen-cum-Stores. Apart from this kitchen gardens have also been developed in schools under Mid Day Meal Scheme in the State.

JRM Team observed that adequate number of kitchen devices were also available in all the visited schools. Eating plates were not provided by most of the schools. Children bring plates to schools every day. LPG is being used as fuel in all the visited school. *The Mission appreciates the provision of LPG for the schools for preparation of MDM*

vi. Construction of Kitchen-cum-stores.

The JRM Team noticed that in all the visited schools Pucca kitchen sheds have been constructed. In some of the visited schools, it was noticed that there was no electricity connection and with the result Cook-cum-helper was seen cooking MDM in the dark. The name of the schools with no electricity connection are Govt Senior Secondary schools Boys Mandi, G.P.S. Balamandi, Sadar-1 Mandi, G.P.S. Dudhama Matiana Rajgarh Sirmour, Rajkiya Middle school NauroraRajgarh, sirmour, G.P.S. KangerBanonaNarag, sirmour, H.S.DudhamaMatiana , Sirmour etc. It was suggested that it is necessary to keep the kitchen illuminated, so the safe cooking could encourage.

vii. Procurement/Replacement of Kitchen Devices

Govt. of Himachal Pradesh has informed that they have directed to all the School Management Committees have been authorized to purchase the kitchen devices as per the requirement of the concerned school in a decentralized manner after observing and completing all administrative formalities. Amount of @ Rs.5000/ per schools is being provided to the schools for the procurement of Kitchen Devices for new school and

replacement of kitchen after 5 years. During the current financial year GOI sanctioned amounting to Rs.377.85 lakhs for procurement of kitchen Devices in 1089 new school and for replacement of kitchen Devices in 7557 schools. The case to accord AA/ES has been submitted to State Government.

viii. Review the involvement of NGO's/Trust/Centralized kitchens in the Scheme

State Govt. informed that there was no NGO /Trust/ Centralized kitchens involved in the implementation of the mid day meal scheme. However, the scheme is being implemented through School Management Committees (SMC).

ix. Review the payment of Cost of Food grains to Food Corporation of India

AS per information provided by Himachal Pradesh Govt., there was No claim pertaining to the previous year (i.e 2017-18) lying pending with Department. The State has cleared all the bills raised by FCI up to November, 2018. An amount of ₹ 219.77 lakhs has been released for lifting 7325.53 MTs of Foodgrains (rice) during 2018-19.

x. Review the convening the meetings of District Level Committee under Chairpersonship of senior most Member of Parliament.(Lok Sabha)

The Secretary (Education) of the State has directed all the Deputy Commissioner to convene the meetings of District Level Committee regularly to review the scheme at district level from time to time.

JRM Team observed that State Govt. should issue regular direction to all the District Collector of Districts to convene the regular meeting on monthly

basis by calling District Officials of FCI, Health Department, LPG Agencies, Rural department, Panchayati Raj etc. to monitor the progress on implementations of the scheme.

xi. Review the Management Information System (MIS)

(A) Annual Data Entry Status : District wise

School Annual Status Report

| | | |
|----------------|------------------|--|
| Financial Year | 2018-2019 | |
| State | Himachal Pradesh | |

| S. No. | District | Total Schools | Completed (Saved) | Pending |
|--------|-----------------------------------|---------------|-------------------|-----------|
| 1 | BILASPUR | 848 | 848 | 0 |
| 2 | CHAMBA | 1623 | 1621 | 2 |
| 3 | HAMIRPUR | 756 | 756 | 0 |
| 4 | KANGRA | 2522 | 2504 | 18 |
| 5 | KINNAUR | 270 | 270 | 0 |
| 6 | KULLU | 1036 | 1033 | 3 |
| 7 | LAHUL & SPITI | 267 | 256 | 11 |
| 8 | MANDI | 2466 | 2466 | 0 |
| 9 | SHIMLA | 2327 | 2327 | 0 |
| 10 | SIRMAUR | 1457 | 1446 | 11 |
| 11 | SOLAN | 1088 | 1088 | 0 |
| 12 | UNA | 774 | 774 | 0 |
| | Total | 15434 | 15389 | 45 |

(A) Monthly Data Entry Status : District wise

School Monthly Status Report

| | |
|----------------|------------------|
| Financial Year | 2018-2019 |
| State | Himachal Pradesh |

| School Monthly Status Report | | | | | | | | | | | |
|------------------------------|---------------|---------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| S.Â No. | District | Total Schools | Freeze Schools | April | May | June | July | August | September | October | November |
| 1 | BILASPUR | 848 | 848 | 848 | 848 | 848 | 848 | 848 | 848 | 848 | 848 |
| 2 | CHAMBA | 1623 | 1621 | 1620 | 1620 | 1620 | 1524 | 1524 | 1522 | 1522 | 1492 |
| 3 | HAMIRPUR | 756 | 756 | 756 | 755 | 754 | 740 | 736 | 735 | 731 | 702 |
| 4 | KANGRA | 2522 | 2504 | 2486 | 2478 | 2469 | 2458 | 2373 | 2235 | 2058 | 1703 |
| 5 | KINNAUR | 270 | 270 | 267 | 267 | 267 | 266 | 266 | 266 | 266 | 266 |
| 6 | KULLU | 1036 | 1033 | 1033 | 1033 | 1033 | 1033 | 1033 | 1032 | 1031 | 1022 |
| 7 | LAHUL & SPITI | 267 | 256 | 255 | 255 | 184 | 155 | 155 | 141 | 125 | 64 |
| 8 | MANDI | 2466 | 2466 | 2466 | 2466 | 2465 | 2455 | 2442 | 2430 | 2162 | 1850 |
| 9 | SHIMLA | 2327 | 2327 | 2327 | 2327 | 2327 | 2327 | 2327 | 2327 | 2327 | 2217 |
| 10 | SIRMAUR | 1457 | 1446 | 1445 | 1430 | 1419 | 1418 | 1415 | 1410 | 1341 | 898 |
| 11 | SOLAN | 1088 | 1088 | 1088 | 1088 | 1088 | 1088 | 1088 | 1085 | 1085 | 981 |
| 12 | UNA | 774 | 774 | 774 | 774 | 774 | 774 | 774 | 774 | 774 | 773 |
| | Total | 15434 | 15389 | 15365 | 15341 | 15248 | 15086 | 14981 | 14805 | 14270 | 12816 |

xii. Review the implementation of Automated Monitoring System

District Wise (12 / 12) Meals Served on : 22 December 2018

State :- HIMACHAL PRADESH

| S.N o. | District | Total Schools | Total Enrolment | Reported Schools | Reported Schools Enrolment | Meals Served | Meals Served Percentage |
|--------|---------------|---------------|-----------------|------------------|----------------------------|---------------|-------------------------|
| 1 | BILASPUR | 843 | 28555 | 835 | 28351 | 25134 | [88.65 %] |
| 2 | CHAMBA | 1627 | 68776 | 969 | 41738 | 26082 | [62.49 %] |
| 3 | HAMIRPUR | 765 | 26689 | 723 | 25664 | 22890 | [89.19 %] |
| 4 | KANGRA | 2520 | 82296 | 1902 | 61288 | 48945 | [79.86 %] |
| 5 | KINNAUR | 269 | 6371 | 115 | 3091 | 1724 | [55.77 %] |
| 6 | KULLU | 1009 | 43770 | 693 | 30225 | 24323 | [80.47 %] |
| 7 | LAHUL & SPITI | 268 | 2247 | 80 | 687 | 628 | [91.41 %] |
| 8 | MANDI | 2451 | 83306 | 1898 | 64103 | 49017 | [76.47 %] |
| 9 | SHIMLA | 2304 | 66291 | 1619 | 46694 | 27214 | [58.28 %] |
| 10 | SIRMAUR | 1424 | 61241 | 1037 | 45362 | 33618 | [74.11 %] |
| 11 | SOLAN | 1075 | 53287 | 931 | 46298 | 35412 | [76.49 %] |
| 12 | UNA | 761 | 41248 | 718 | 38973 | 31693 | [81.32 %] |
| | TOTAL | 15316 | 564077 | 11520 | 432474 | 326680 | [75.54 %] |

xiii. 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.

As per information provided by Stat Govt., that the Department of Elementary Education (Nodal MDM Department) has created an effective convergence with the State Health Department for RBSK, regular Health Checkup and Supplementation of micro nutrients under WIFS and deworming medicine under National de-worming day and health checkups and supply of spectacles to children suffering from refractive errors in the State.

The Review Mission observed that in all the visited schools health check up has been done once in a year where it should be twice in a year. Some of the visited School having more than a year has been passed to have the Health Camp at School.

JRM Team also observed that IFA tablets have been distributed in Upper Primary Classes where as it should be for all the children of the age group of 6-14 Years. It would be advisable that Health Department should insure to proper supply of IFA on regular basis.

xiv. Review the following

a. Operationalization of Mid-Day Meal Rules, 2015

Mid Day Meal Rules, 2015 forwarded by the GOI, MHRD have been adopted by the State and circulated to all the field functionaries/ schools for implementation.

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

Food Safety Guidelines have been circulated to all the schools through Deputy Directors and Block Elementary Education Officers of the state for implementation.

c. Enrolment of children and Cook-cum-Helpers under Aadhaar

All the Cook-cum-Helpers engaged under Mid Day Meal Scheme and 93% students under mid day meal programme have been enrolled under Aadhaar.

d. Payment of Honorarium to Cook-cum-Helpers.

As per informed by State Govt., the honorarium of cook-cum-helpers @ ₹ 1000/- per month for ten academic months in a year in the ratio of 90:10 between centre and state. However, the State of HP has enhanced the honorarium of cook-cum-helpers engaged under this scheme @ ₹ 1800/- per month w.e.f 1.8.2018 onwards. Thus the GOI is sharing ₹ 900/- per month and the State is contributing ₹ 900/- per month. The honorarium is paid for ten academic months in a year and the honorarium is being paid to Cook-cum-Helpers in their Bank Accounts on line through RTGS/ NEFT.

The review Mission observed that in all the visited schools the cook-cum-helpers are getting honorarium directly in their account through e-transfer from the Block till November. They usually receive by 5th of the next month.

e. System of Storage food grains and other ingredients.

As per State Govt. informed that the Storage bins are available in all schools for storage of foodgrains and other ingredients.

In all the visited schools the Review Mission observed that good quality of Storage bins have been provided and food grain is safely stored in either room or kitchens

f. Role of Teachers in Mid-Day Meal Scheme.

State Govt. informed that the Mid Day Meal Scheme is being implemented through School Management Committee (SMC) in the State. Thus there is minimum role of teacher involvement in MDMs.

The Review Mission observed that in all the visited schools Teachers are maintaining proper registers , Cash books and Taste Register also. However in some of the visited schools due to ignorance about the Orders and Guidelines required reporting is not done. The list of schools are mentioned in the annexure which shows Teacher are not recording the daily tasting of meals.

On inquiry they informed that they were ignorant of the fact and in future they will do so. The team members appreciated the efforts of the teachers for maintaining good records but at the same time also Suggested that in case of problems being faced by them they should officially communicate to district authorities through a letter and also use Toll free number.

It was felt that most Teachers may be oriented time to time so that implementation of the scheme at school level is enriched. In Govt Sr. Sec School Kanaid Mandi on the day of the visit of Review Mission the teacher In-charge of MDM was on leave and the second teacher in command was not having any records. With the result Team was not shown any records. It was felt that Teachers in such case must be guided properly in case of main incharge going on leave. The Teacher going on leave must hand over all records of the schools to the next incharge The principal was called on phone but he was also not aware of the records. The team had to return without reviewing school MDM records. Similarly the FPS was closed for last 20 days and the Teacher was continuously calling the Shop owner but she was not heard. She should have called the District authorities or should have written letter to District but she did not do. These incidences show that regular inspection must be done.

g. Tasting of MDM by Teacher, Parents and Community.

State Govt. has informed that relevant instructions have been issued for the meal tasting. The meals are being tasted by the MDM In charge teachers/ mothers/cook-cum-helpers and SMC Members and instructions have also been issued to maintain record of tasting meals in MDM register.

The Review Mission found tasting register maintained in all the visited schools. The parents and community members do come to the schools and tastes MDM

Review Mission also observed that Parents are coming to schools to taste MDM but it is not a regular feature. In some of the schools, the registers show that cook is tasting the food and is also signing the register. In most of the visited schools although Teacher said that the food is being tasted every day but the Review Mission noticed that teacher is not signing & giving remarks.

h. Testing of meals

State Govt. informed that the Food samples of 10 schools (5 samples for Primary Schools and 5 samples from upper primary schools) were got tested from the (NABL) Punjab Biotechnology Incubator Mohali Punjab in the year 2014-15 from district Solan and similar testing were conducted during the year 2017-18 from 10 schools in District Una and test reports have been shared with the Government of India.

i. Involvement of Community

State Govt. has informed following about involvement of Community :

The School Management Committees (SMC) have been constituted for every school. The parents of the students and teachers of the school are its members. The SMC is responsible for the implementation of the programme at school level. For ensuring the Transparency and

Accountability at School Level, especially w.r.t. quality of meals, food-grains and cash.

School Management Committee (SMC) has been authorized to purchase the cooking ingredient at the school level. The School Management Committee(SMC) is empowered to decide the weekly menu keeping in view the liking of the students. The State of H.P, with a view to ensure transparency and openness in all aspects of programme is encouraging the participation of mothers.

The SMCs have been instructed to prepare roster of mothers so that one of the mother could be present in the school on every working day and supervise the preparation and serving of meal process. They are also assigned to keep a check on the quantity as well as the quality of meal served to enhance their level of satisfaction.

The funds are released to SMCs for the purchase of cooking devices. The SMC purchases cooking devices as per the requirement of school.

j. Bank Account of Cook-cum-helpers

All the cook-cum-helpers are engaged by SMC's of the concerned school. The budget for honorarium is allocated through e-Vitran to the BEEO's. All the Cook-cum-Helpers have Bank Account and honorarium is being transferred in their bank account through RTGS/ NEFT.

k. Awareness of the Scheme.

As per information provided by State Govt., To give the wider publicity of the scheme, Toll Free No 1800-180-8007 has been installed and also the information pertaining to the scheme is posted on the website of the MDM scheme at state level.

I. Contingency Plan

State Govt. informed that the Free Ambulance services are operational and anyone can avail this facility free of cost by simply dialing a Toll Free NO. 108; irrespective of time, day and place.

To tackle the law and order situation any one can dial Toll Free No. 100 and for Fire Department it is 101. They have been instructed to paint these numbers also on the wall in the premises of the school for awareness.

Review Mission observed in the visited schools (as per the annexure in both the districts), the emergency numbers were not displayed at the prominent place in the school.

1.3 Food and Nutrition norms through the years under MDM:

In the early era of 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 300 kcal 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.

Table 1: Revision of food norm w.e.f. 1.12.2009

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

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.

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 2: 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 Himachal Pradesh : An Introduction

Situated in North India, Himachal Pradesh is a mountainous state. Spread over an area of 55,673 square km. The state comprises a population of 6,864,602 as of 2011. Himachal Pradesh shares its borders with Jammu and Kashmir to the north and northwest, Punjab to the southwest, Haryana and Uttarpradesh to the south and Uttarakhand to the southeast. Shimla is the state capital and other major towns are Dharamshala, Kangra, Mandi, Kullu, Chamba, Hamirpur, Dalhousie and Manali.

History of Himachal Pradesh

The history of Himachal Pradesh dates back to ancient times and was inhabited by tribes such as Dagens, Khasas, Koilis, Halis, Dhaugris, Dasa, Kinnars and Kirats. Around 883 AD some parts of the state were under the control of the king of Kashmir, Sankar Varma. Around 1009 AD, Mahmud of Ghazni invaded the region. Rajputs exercised influence over the region in around 1043. During the time of the Mughals Empire, many kingdoms in the region accepted the authority of the Mughals. By 1804, vast regions of the state passed into the hands of Sikh emperor Maharaja Ranjit Singh. Many regions of the state also witnessed Gorkha rule. The region finally passed into the hands of the British who ruled it till 1947 when it became a part of independent India. In the year 1950, Himachal Pradesh was declared a Union Territory of India. Later on, however, with the passing of Himachal Pradesh Act of 1971, it emerged as the eighteenth state of India. The word 'Hima' actually means snow in Sanskrit terminology. Acharya DiwakarDatt Sharma, an eminent Sanskrit Scholar from Himachal Pradesh named the state.

Geography

Himachal Pradesh is located in the western Himalayas with most its major part of it situated lying in the foothills of the Dhauladhar Range. Reo Purgyl, with a height of 6,816, is the highest peak. Some of the drainage river systems located in the state are Chenab, Beas, Ravi, Yamuna and the Sutlej. Forests comprise some 66.52 percent of the state. Himachal Pradesh boasts of a wide variety of

fauna which include approximately 463 bird, 80 fish, 77 mammalian, and some 44 reptile species.

Administration in Himachal Pradesh

Himachal Pradesh is divided into 12 districts. The head of each of the districts is a Deputy Commissioner, also known as District Magistrate. For administrative purposes, the districts are further divided into sub-divisions, which are controlled by the sub-divisional magistrates. The sub-divisions are further divided into blocks. Blocks comprise panchayats that is the village councils and town municipalities. The law and order in the district is maintained by the Superintendent of Police.



Population Of Himachal Pradesh

Himachal Pradesh State, with population of about 68.6 lakh is India's the 9th least populous state. Total geographical area of Himachal Pradesh state is about 56 thousand km² and it is the 12th smallest state by area in the country. Population density of the state is 123 persons per km². There are 12 districts in the state, among them Kangra is the most populous district with population of about 15.1 lakh and Lahul & Spiti is the least populous district with population of about 32 thousand. Lahul & Spiti is the biggest district in the state with an area of about 14 thousand km² and Hamirpur is the smallest with 1118 km².

Demographics

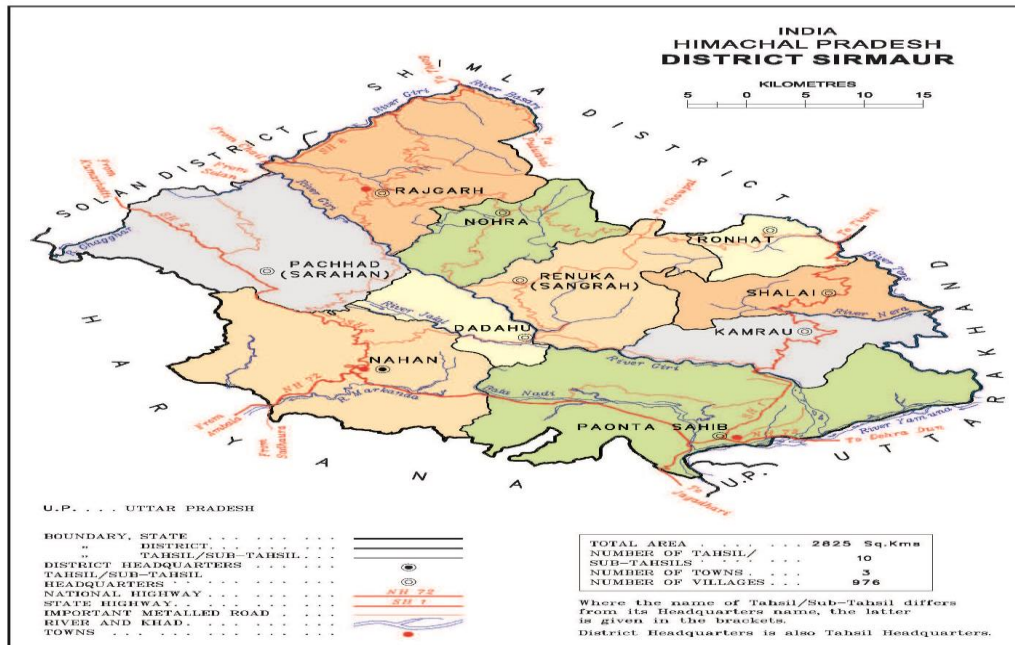
The state is home to about 68.6 lakh people, among them about 34.8 lakh (51%) are male and about 33.8 lakh (49%) are female. 69% of the whole population are from general caste, 25% are from schedule caste and 6% are schedule tribes. Child (aged under 6 years) population of Himachal Pradesh state is 11%, among them 52% are boys and 48% are girls. There are about 14.8 lakh households in the state and an average 5 persons live in every family.

The majority of the population, nearly 90% (about 61.8 lakh) live in Himachal Pradesh rural part and 10% (about 6.9 lakh) population live in the Himachal Pradesh urban part. Rural population density of Himachal Pradesh state is 111 and urban population density is 2542 persons per km².

Literacy

Total about 50.4 lakh people in the state are literate, among them about 27.5 lakh are male and about 22.9 lakh are female. Literacy rate (children under 6 are excluded) of HIMACHAL PRADESH is 83%. 90% of male and 76% of female population are literate here. Overall literacy rate in the state has increased by 7%. Male literacy has gone up by 5% and female literacy rate has gone up by 9%.

1.6 District: Sirmour



Sirmour District

District Sirmour is located in outer Himalayas which is commonly known as Shivalikrange. This district is bounded by district Shimla in North, Uttarakhand in East, Haryana in South and Distt. Solan in North-West. Like other parts of Himachal Pradesh, it has beautiful landscapes, bracing climate, big and small game and legendary temples which hold abiding attraction for the tourists. The river Giri is the biggest river in the district which originates from Kotkhai/Jubbal Tehsil of Shimla district and flows down in the south-east direction. It ultimately joins the river Yamuna near Paonta Sahib. Lot of tributaries join this river in its long course, most important of them being Jalal river which originates from Dharthi range near Pachhad and joins the Giri River at Dadahu from the right side. The river Giri is very useful as it a big source of livelihood fishermen in this district. Another important river which forms the eastern border of the Sirmour district is the river Tons.

In this District, there are five Administrative Sub Divisions, Nine tehsils, Four sub tehsils, six community development blocks, two municipal committees and one

notified area committee. Out of 228 panchayats in this district, 26 are backward declared panchayats.

| | |
|-------------------|---------------|
| Area | 2,24,759Hect. |
| Population | 5,29,855 |
| Male | 2,76,289 |
| Female | 2,53,566 |
| Language | Hindi |

1.7 District: Mandi



Mandi District

The present District Of Mandi was formed with the merger of two princely states Mandi and Suket on 15th April 1948, when the State of Himachal Pradesh came into existence. Ever since the formation of the district, it has not witnessd any changes in it's jurisdiction. The chiefs of Mandi and Suket are said to be from a common ancestor of the Chandravanshi line of Rajputs of Sena dynasty of

Bengal and they claim their descent from the Pandavas of the Mahabharata. The ancestors of the line believed to have ruled for 1,700 years in Indraprastha(Delhi), until one Khemraj was driven out by his Wazir, Bisarp, who then took over the throne. Khemraj, having lost his kingdom, fled eastward and settled in Bengal, where 13 of his successors are said to have ruled for 350 years. From there they had to flee to Ropar in Punjab, but here also the king, Rup Sen, was killed and one of his sons, Bir Sen, fled to the hills and reached Suket. The State of Suket is said to have been founded by Bir Sen, an ancestor of the Sena Dynasty of Bengal.

The use of technology is increasing day by day, we all depend on technology and we use various technologies to accomplish specific tasks in our lives. Today technology has made the field of communications so easy. Now we can draft official messages/Letters on our website so that information will be available for everyone in a second without any delays. Suggestions are invited from everyone so that we can make efficient use of this technology. Now days you can access a full district mandi website via a PC , mobile app on any smart phone or ipad.

Area: 3,950 Sq. Kms.

Villages: 3374

Languages: Hindi, Pahari, Mandyali

Population: 999,777

Male: 498,065

Female: 501,712

CHAPTER 2

Methodology

The districts have been selected on the basis of performance of the Scheme during the last year. As per the ToR for the Review Mission, one district Sirmour was selected by the Govt. of India and the other district Mandi was selected by the State Govt. The multistage stratified random sampling was used for selection of schools in the selected districts. The Review Mission followed a methodology to capture the intricacies involved in the implementation of the programme. From Sirmour district Rajgarh and Narag blocks and in Mandi Sunder Nagar-I, Sadar Block-I & Sadar Block-II were selected purposively so as cover 39 schools getting MDM.

CHAPTER 3

Review of performance: Physical and financial (2013-14 to 2017-18)

3.1 Coverage of children: Primary

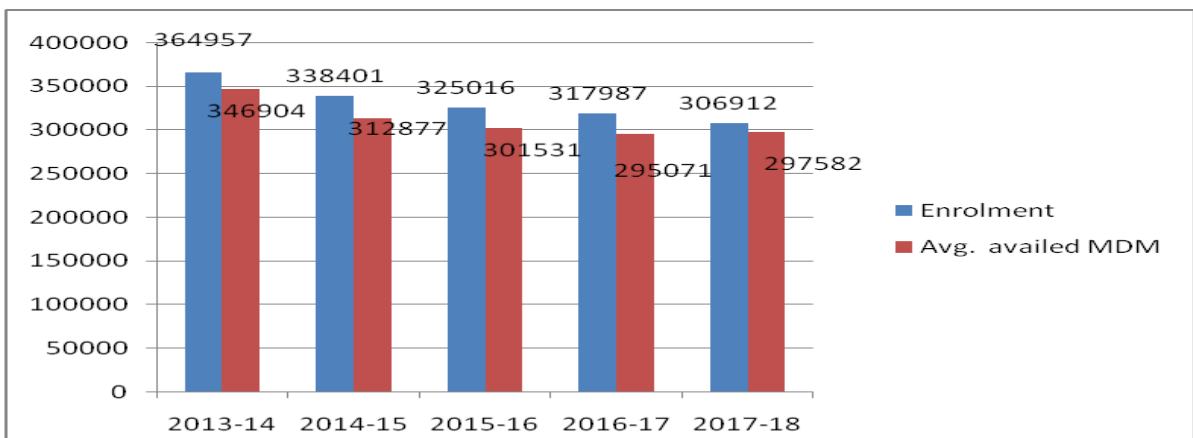
After perusal of data mentioned in the below table shows a constant decreasing trend of enrolment. Enrolment has been slightly reduced by almost 0.09 lakh children in the Primary & 0.09 Lakh in Upper Primary section.

| Stages | PAB APPROVAL | Coverage (Average) |
|----------------------|--------------|--------------------|
| PRIMARY | 3,06,912 | 2,97,582 (97%) |
| UPPER PRIMARY | 2,17,793 | 2,08,462 (96%) |

As far as concern of Coverage / Performance of MDMs are concern in the State, it is at par of National Average of 75%.

| Year | Enrolment | PAB approval | Avg. availed MDM | % availed vs. Enrol. | % availed vs PAB approval |
|---------|-----------|--------------|------------------|----------------------|---------------------------|
| 2013-14 | 364957 | 370000 | 346904 | 95 | 94 |
| 2014-15 | 338401 | 347000 | 312877 | 92 | 90 |
| 2015-16 | 325016 | 312877 | 301531 | 93 | 96 |
| 2016-17 | 317987 | 301531 | 295071 | 93 | 98 |
| 2017-18 | 306912 | 305679 | 297582 | 97 | 97 |

Graph : Decreasing trends of enrolment and Average number of children availing MDM (in lakh) in last 5 years : Primary Category

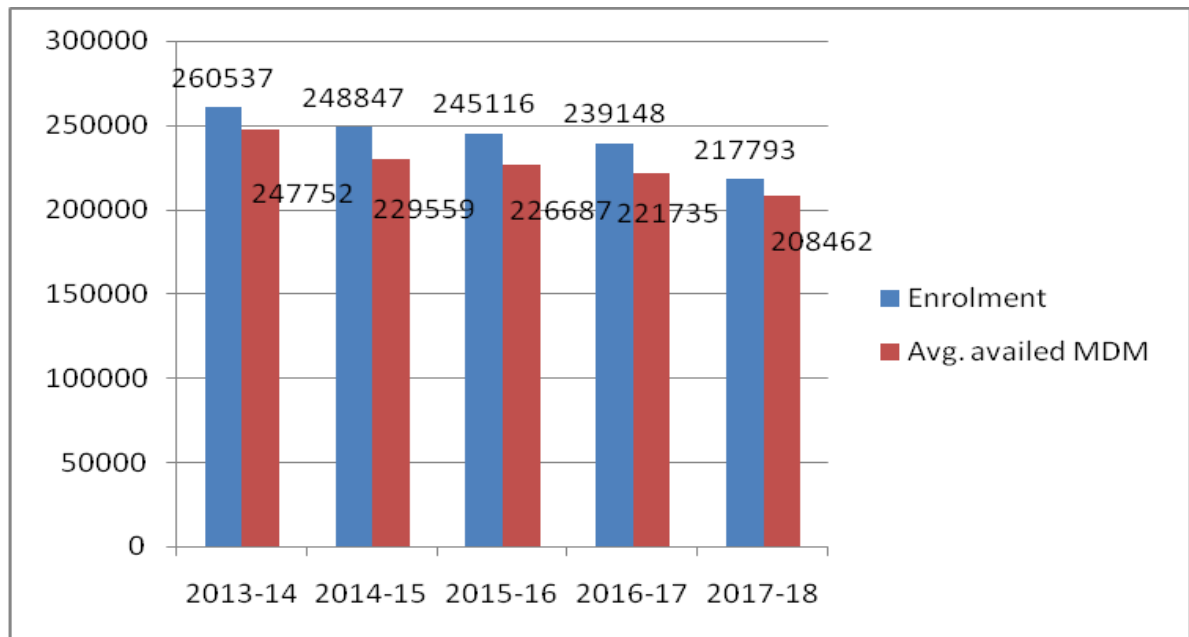


3.2 Coverage of children: Upper Primary

Like the Primary the decline in enrolment is also same in upper primary stage, but at the same time the decline in coverage of children under MDMS is quite sharp,

| Year | Enrolment | PAB approval | Avg. availed MDM | % availed vs. Enrol. | % availed vs PAB approval |
|---------|-----------|--------------|------------------|----------------------|---------------------------|
| 2013-14 | 260537 | 250000 | 247752 | 95 | 99 |
| 2014-15 | 248847 | 248000 | 229559 | 92 | 93 |
| 2015-16 | 245116 | 229595 | 226687 | 92 | 99 |
| 2016-17 | 239148 | 226687 | 221735 | 93 | 98 |
| 2017-18 | 217793 | 228303 | 208462 | 96 | 91 |

Graph : Trends of enrolment and Average number of children availed MDM (in lakh) in last 5 years : Upper Primary category

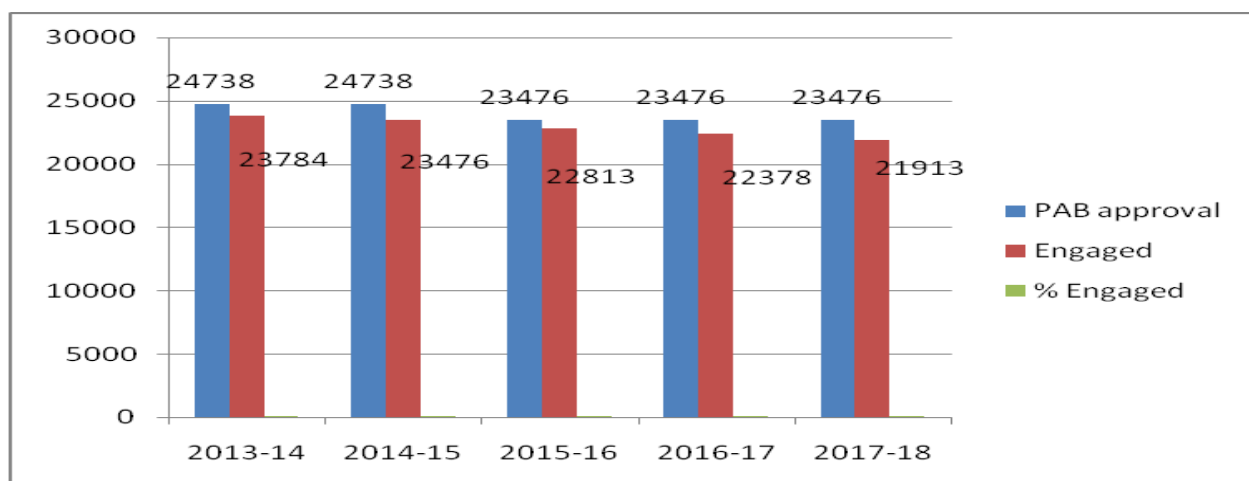


3.2 Engaged of Cook-cum-helper

The State Government has engaged 21913 (93%) Cook-cum-helpers against the PAB-MDM approval of 23476.

| Year | PAB approval | Engaged | % Engaged |
|---------|--------------|---------|-----------|
| 2013-14 | 24738 | 23784 | 96 |
| 2014-15 | 24738 | 23476 | 95 |
| 2015-16 | 23476 | 22813 | 97 |
| 2016-17 | 23476 | 22378 | 95 |
| 2017-18 | 23476 | 21913 | 93 |

Graph : Trends of CCH Approval and CCH Engagement in last 5 years :



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

(Rs. in Lakh)

| Year | Cooking cost | | TA | | Hon. to CCH | | MME | |
|---------|--------------|---------|------------|--------|-------------|---------|------------|--------|
| | Allocation | Util. | Allocation | Util. | Allocation | Util. | Allocation | Util. |
| 2013-14 | 4318.72 | 3851.91 | 271.98 | 261.92 | 1855.34 | 1796.53 | 135.38 | 122.73 |
| 2014-15 | 4484.11 | 4120.85 | 256.84 | 246.78 | 1855.34 | 1786.15 | 135.27 | 122.62 |
| 2015-16 | 5298.63 | 4950.91 | 230.36 | 230.36 | 2112.83 | 1876.21 | 152.38 | 135.09 |
| 2016-17 | 5662.57 | 5585.23 | 239.86 | 239.86 | 2112.84 | 2078.14 | 153.14 | 152.47 |
| 2017-18 | 5823.7 | 5107.69 | 243.11 | 243.11 | 2112.83 | 2003.55 | 155.54 | 155.54 |

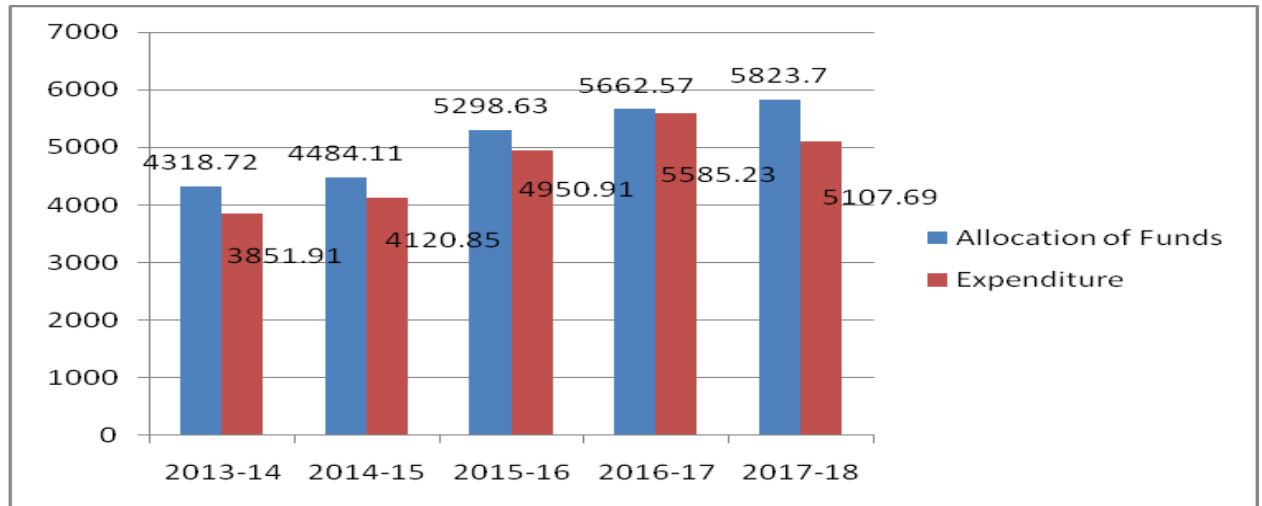
3.4 Component wise Details of Allocation and Expenditure of funds against Central Assistance

◆ Utilisation of Cooking Cost

(Rs in lakh)

| Cooking Cost | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---------------------|---------|---------|---------|---------|---------|
| Allocation of Funds | 4318.72 | 4484.11 | 5298.63 | 5662.57 | 5823.7 |
| Expenditure | 3851.91 | 4120.85 | 4950.91 | 5585.23 | 5107.69 |

Graph : Trends of Cooking Cost Allocation and their Utilisation in last 5 years :

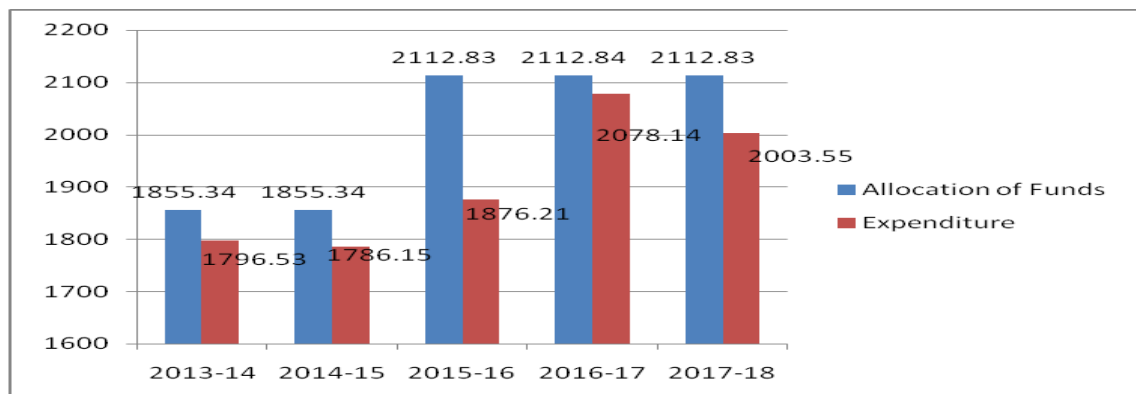


◆ Utilisation of Honorarium to Cook-cum-helpers

(Rs in lakh)

| Hon. to CCH | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---------------------|---------|---------|---------|---------|---------|
| Allocation of Funds | 1855.34 | 1855.34 | 2112.83 | 2112.84 | 2112.83 |
| Expenditure | 1796.53 | 1786.15 | 1876.21 | 2078.14 | 2003.55 |

Graph : Trends of Allocation of CCH Honorarium and their Utilisation in last 5 years :

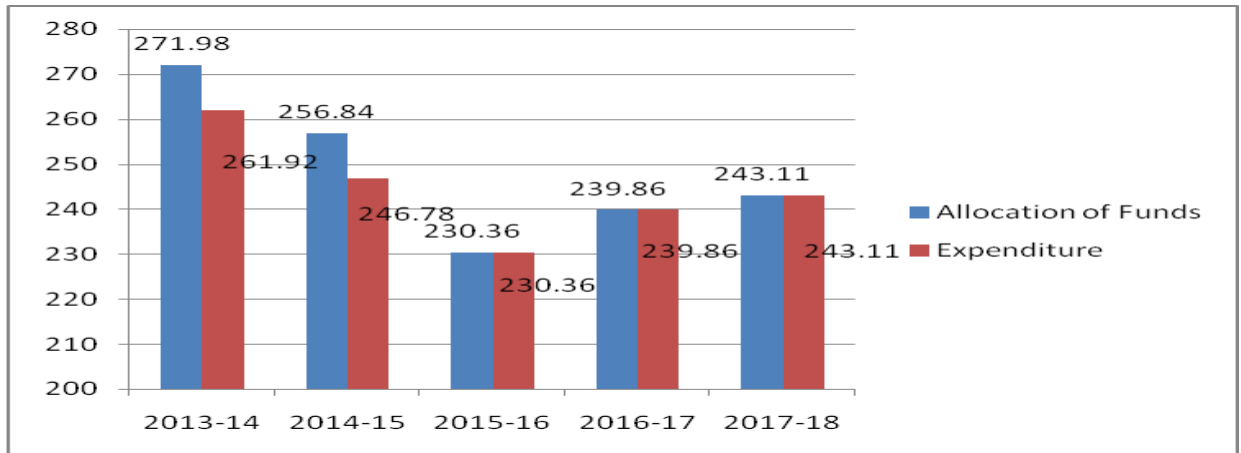


◆ **Utilisation of Transportation Assistance**

(Rs. in lakh)

| Transportation Asst. | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|----------------------|---------|---------|---------|---------|---------|
| Allocation of Funds | 271.98 | 256.84 | 230.36 | 239.86 | 243.11 |
| Expenditure | 261.92 | 246.78 | 230.36 | 239.86 | 243.11 |

Graph : Trends of Allocation of Transport Assistance and their Utilisation in last 5 years :

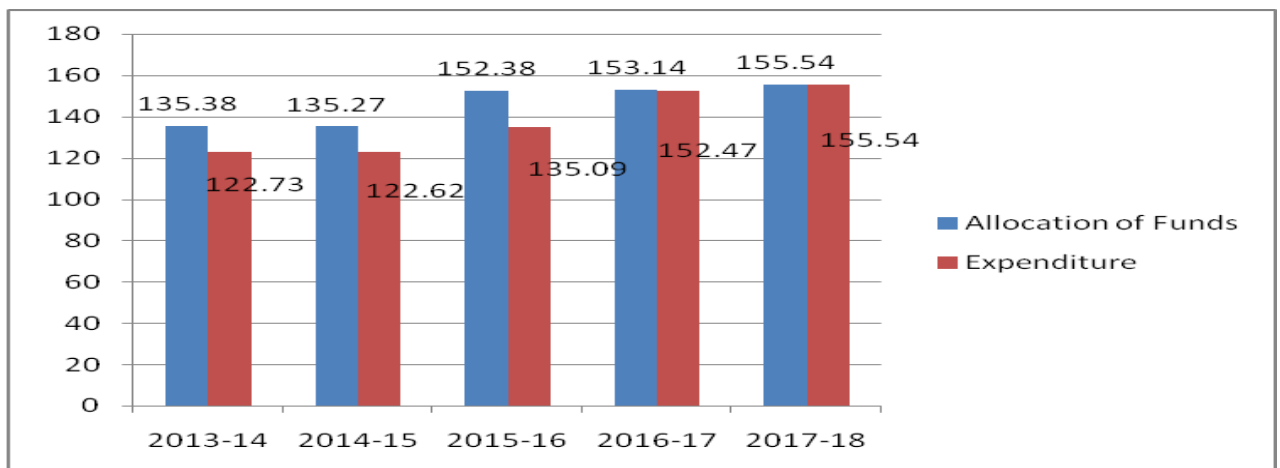


◆ **Utilisation of Management Monitoring and Evaluation (MME)**

(Rs. in lakh)

| MME | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---------------------|---------|---------|---------|---------|---------|
| Allocation of Funds | 135.38 | 135.27 | 152.38 | 153.14 | 155.54 |
| Expenditure | 122.73 | 122.62 | 135.09 | 152.47 | 155.54 |

Graph : Trends of Allocation of Management, Monitoring & Evaluation (MME) and their Utilisation in last 5 years :



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 Government of Himachal Pradesh has directly release the funds to Block and Block further releases the fund on the basis of Submission of bills by School. As far as concern of release of foodgrains, State Govt. releases Food grains to School on quarterly basis. The details of release of funds during 2018-19 are given below:

| Component | Fund received | | Funds released (Rs in lakh) | | | |
|----------------------|---------------|---------|---------------------------------------|--|---|--------|
| | Date | Amount | District | | School | |
| | | | Date | Amount | Date | Amount |
| Cost of FG | 26/04/2018 | 108.99 | Funds are directly released to blocks | Payment released to FCI on the receipt of bills from them. All the claims have been cleared till November 2018 | | |
| | 23/08/2018 | 117.79 | | | | |
| Cooking cost | 26/04/2018 | 1348.96 | | 10/05/2018 | 1348.96 | |
| | 23/08/2018 | 1157.36 | | 04/09/2018 | 1157.36 | |
| Hon. to CCH | 26/04/2018 | 489.40 | | 10/05/2018 | 489.40 | |
| | 23/08/2018 | 669.03 | | 04/09/2018 | 669.03 | |
| Transportation Asst. | 26/04/2018 | 57.40 | | 30/07/2018 | 54.55 | |
| | 23/08/2018 | 65.02 | | | | |
| MME | 26/04/2018 | 36.09 | | 18/06/2018 | Month wise Salary bills of out sourced staff engaged under MDMS are being paid time to time | |
| | 23/08/2018 | 51.11 | | 31/08/2018 | | |
| Kitchen-cum-store | 00.00 | 00.00 | 00.00 | 00.00 | | |
| Kitchen Devices | 15/11/2018 | 344.80 | Matter is under process | 0.00 | | |

Budgets for Cooking Cost, Cook-Cum-Helper, MME, Cost of foodgrain and transportation cost is directly released by e-transfer through e-vitran from the state level.

Budgets are transferred to Block Elementary Education Officer (BEEO) Accounts. BEEO further releases the Cooking cost in to School Account. As far as Cook cum Helpers Honorarium are concern, BEEO transfer the fund in to Cook cum Helpers (CCH) account directly for cook-cum-helper's honorarium. Cost of foodgrains is directly transferred to FCI after confirmation from districts by State Govt.

MME fund is also transferred in the same manner and it further transfers it into SMC's account and a part of it retaining at the district / state level for miscellaneous administrative and management expenses.

The Review Mission observed that funds were released to Block Elementary Education Officer (BEEO) Accounts creates unnecessary hurdle on smooth implementation of MDMs. BEEO releases the funds on the bills submitted by School after a month. It would be advisable that State Govt. should make an arrangement for directly transfer of Amount in to School/SMC account for better / smooth implementation of MDMs.

CHAPTER: 5

Nutritional and Anthropometric Assessment

Nutritional aspects of Mid-Day Meal

The Midday Meal Scheme is a school meal programme of the Government of India designed to better the nutritional standing of school-age children nationwide. The programme supplies free lunches on working days for children in primary and upper primary classes in government, government aided, local body, Education Guarantee Scheme. MDM scheme has many potential benefits: attracting children from disadvantaged sections (especially girls, Dalits and Adivasis) to school, improving regularity, nutritional benefits, socialization benefits and benefits to women are some that have been highlighted. 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 10-12 g 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 respect to food pattern, anthropometric profile, clinical signs and quality and quantity of MDM with following objectives:-

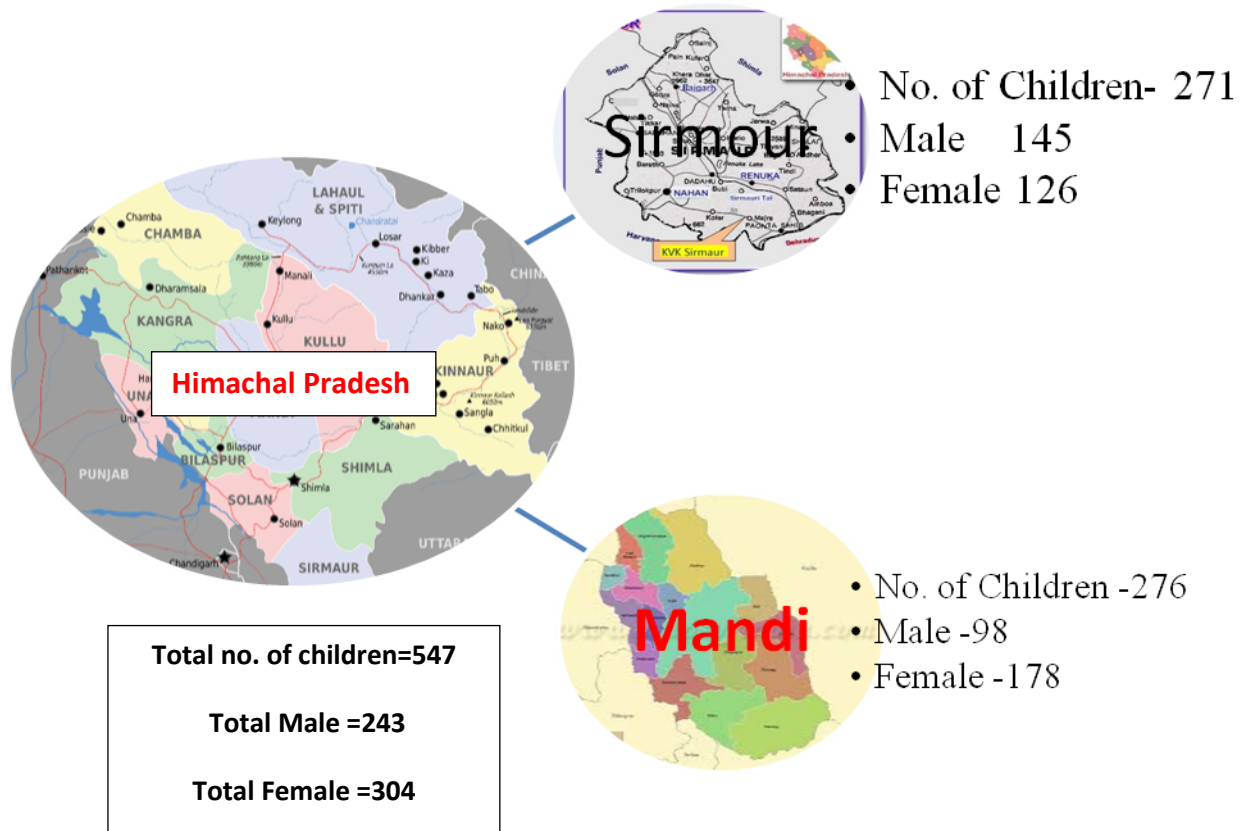
- ◆ To assess the anthropometric measurements of a sample of children availing MDM
- ◆ i.Height ii. Weight iii. Mid arm Circumference)
- ◆ To Calculate the Body Mass Index (BMI) on the basis of measurement of height and weight
- ◆ To identify the children who are undernourished and over nourished
- ◆ 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

Sampling design for anthropometric measurements

Two districts i.e. Sirmour and Mandi were selected. Thirty eight schools were taken. A total number of 547 school children availing MDM were studied which comprised of 243 boys and 304 girls. To assess nutritional status of the children the information was collected on anthropometric measurements, clinical assessments and dietary pattern of children.



Nutrition assessment of children availing MDM in schools of Himachal Pradesh

Anthropometric assessment

Measurements of anthropometric parameters viz. body weight, height, mid upper arm circumference (MUAC), were recorded for school children as per the following methods.

Anthropometric assessment of school children in Himachal Pradesh



Body weight

Body weight (kg.) indicates the body mass and is a composite of all body constituents like water, minerals, fat, protein, bone etc. For the present study,

body weight (kg) was taken by personal weighing machine with the maximum capacity of 120 kg and the minimum division of 0.5 kg. The following precautions were taken to measure body weight (kg). The school children were instructed to be without shoes. All the school children were in the school uniform. School children were asked not to lean against or hold any support, while the weight (kg) was being recorded.

Height

Height (cm) of the school children was taken by anthropometric rod. School children were asked to stand erect on a leveled surface, without shoes, looking straight with heels together and toes apart. The anthropometric rod was placed behind the school children in the center of the heels perpendicular to the ground. The investigator standing on left side of the school children held firmly the chin of the school children with his/her left hand and the occiput of the school children with his right little finger to maintain the Frankfurt plane horizontal (an imaginary line joining the tragus of the ear and infra orbital margin of the eye). The moving head piece of the anthropometric rod was placed in the sagittal plane over the head of the subject applying a slight pressure to reduce the thickness of hair. The readings were taken when the anthropometric rod was still in position.

The nutritional status of children was assessed on the basis of BMI Z-score classification given by WHO:

| | |
|--|----------------------------------|
| \geqMedian -2SD to $+< 1SD$ | : Normal |
| Median $< -2SD$ TO $> -3SD$ | : Moderate Undernutrition |
| $>$Median -3SD | : Severe Undernutrition |
| Median $\geq +1SD$ to $< +3SD$ | : Overweight |
| $\geq +3SD$ | : Obesity |

Children were categorized stunted i.e. low height for age based on WHO criteria which is Z-score lower than -2SD. Likewise children were also categorized as wasted i.e. low weight for age as per WHO criteria i.e. weight for age having less than -2SD.

Mid Upper Arm Circumference (MUAC)

MUAC (cm.) indicates the status of muscle development. For the present investigation, MUAC was taken using fiber glass tape with minimum count of 0.1 cm. The mid point between the tip of the acromion of scapula and the tip of the olecranon process of the (fore arm bone) ulna, with the arm flexed at the elbow at right angle; was marked with a marker pen. Arm of subject was hanged freely and the fiber glass tape was gently, but firmly placed embracing the arm without exerting too much pressure on the soft tissues. The reading was taken to the nearest millimeter, with the tape still in position.

Clinical signs of nutrients deficiencies

Clear cut visible signs of deficiencies in different body parts related with micronutrient deficiency were observed.

Food pattern

Apart from staple diet i.e. wheat, rice and potato which was taken by almost all the children proportion of children taking Dal, fruits and vegetables, milk & egg were analyzed.

Anthropometric measurements and nutritional status:

A total of 547 subjects were selected from 38 schools of the state. Studied population consisted of 243 boys and 304 girls. All the children were measured for their height, weight and MUAC. The average values are given in Table 1 for weight, height and MUAC.

Table 1(A) : Nutritional Anthropometry as per Age and Gender (District Mandi)

| Age | | | Male | | | Female | | |
|---------|------|--------|-------------|-------------|------------|-------------|--------------|------------|
| (Years) | Male | Female | Weight (kg) | Height (cm) | MUAC (cm) | Weight (kg) | Height (cm) | MUAC (cm) |
| 5 | 9 | 5 | 18.20±0.0 | 109±0.00 | 14±0.00 | 15.3±2.41 | 101.875±3.83 | 14.13±1.31 |
| 6 | 9 | 15 | 18.8±3.53 | 114±5.65 | 16.25±1.76 | 17.59±4.11 | 112.23±9.54 | 14.73±1.33 |
| 7 | 12 | 17 | 16.8±1.09 | 110.5±2.94 | 14.15±0.41 | 19.97±4.12 | 117.71±5.42 | 15.68±1.87 |

| | | | | | | | | |
|----|----|----|-------------|--------------|------------|------------|--------------|------------|
| 8 | 11 | 18 | 23.11±3.34 | 122.87±4.34 | 16.05±1.95 | 19.38±3.80 | 120.34±6.13 | 15.32±1.41 |
| 9 | 16 | 20 | 24.00±0.0 | 128±0.00 | 15.5±0.00 | 35.5±3.10 | 148.87±5.54 | 17.75±0.64 |
| 10 | 12 | 14 | 28.21±2.89 | 134.33±8.14 | 17.83±0.75 | 25.5±5.69 | 130.4±13.25 | 16.65±1.24 |
| 11 | 9 | 21 | 31.21±9.97 | 136.52±10.27 | 18.17±3.81 | 25.11±4.04 | 131.26±5.20 | 16.72±1.78 |
| 12 | 6 | 12 | 29.80±6.39 | 130.33±11.07 | 17.20±1.94 | 33.56±7.13 | 143.18±8.06 | 18.72±2.14 |
| 13 | 5 | 13 | 32.84±8.84 | 141.88±11.62 | 17.83±2.0 | 34.12±5.91 | 144±9.25 | 18.65±2.25 |
| 14 | 3 | 18 | 30.37±10.31 | 129.51±12.59 | 16.87±3.15 | 34.45±5.09 | 126.66±11.37 | 16.58±1.56 |
| 15 | 4 | 9 | 30.00±1.11 | 140.33±3.51 | 16.83±1.04 | 36.23±5.07 | 138.2±7.82 | 18.9±1.42 |
| 16 | 2 | 16 | 33.10±0.28 | 149±0.00 | 17.75±0.35 | 37±5.73 | 139.4±5.59 | 18.2±0.90 |

Table 1 (B): Nutritional Anthropometry as per Age and Gender (District Sirmour)

| Age (years) | | Male | | | | Female | | |
|----------------|-------------|---------------|----------------|----------------|--------------|----------------|----------------|--------------|
| | Male (n) | Female (n) | Weight (kg) | Height (cm) | MUAC (cm) | Weight (kg) | Height (cm) | MUAC (cm) |
| 5 | 7 | 9 | 14.66±0.58 | 110.66±11.06 | 15±1.00 | 16±1.73 | 110±2.64 | 15.33±1.53 |
| 6 | 16 | 11 | 18.38±2.79 | 114.08±5.03 | 5.70±1.57 | 16.27±2.80 | 108.89±6.27 | 14.95±1.74 |
| 7 | 14 | 13 | 19.85±3.14 | 120.17±5.54 | 15.11±1.58 | 19.78±3.01 | 119.63±4.93 | 15.5±1.35 |
| 8 | 11 | 19 | 20.58±7.68 | 120.5±8.87 | 16.83±2.92 | 21.22±2.57 | 127.33±7.74 | 17.77±1.92 |
| 9 | 18 | 15 | 23.24±4.29 | 129.41±9.89 | 16.29±2.54 | 23.19±4.53 | 121.36±11.50 | 15.95±1.73 |
| 10 | 13 | 10 | 26.60±5.36 | 134.53±6.71 | 16.96±1.04 | 24.87±3.31 | 132.83±5.74 | 16.67±1.53 |
| 11 | 18 | 17 | 23.4±5.18 | 139.94±8.47 | 16.78±1.12 | 32.54±6.64 | 143.45±7.29 | 104.65±2.06 |
| 12 | 19 | 16 | 31.57±3.99 | 144.46±8.72 | 17.96±1.91 | 35.54±6.44 | 140.45±7.29 | 18.29±2.06 |

| | | | | | | | | |
|----|----|----|------------|-----------|------------|------------|-------------|------------|
| 13 | 21 | 16 | 41.55±9.40 | 159±14.14 | 17.25±5.30 | 43.83±6.72 | 146.33±7.03 | 19.61±2.36 |
| 14 | 8 | - | 40.9±1.77 | 156±2.64 | 19.83±1.60 | - | - | - |

At the age of 8 years both the genders had similar height thereafter height of girls become more till the age of 12 (Table 1 a) & 1b). From the age 13 onwards height of boys was more than girls. Weight of boys and girls were almost similar by the age of nine but there is slightly increase in the weight of girls from 10-14 years. Rapid growth was noticed during adolescence in both the boys and girls. Also age of attainment of maximum height and weight is different in boys and girls.

Body mass index on the basis of measurements of height and weight

BMI: BMI and MUAC were in normal range as for their age (Table 2a and Table 2b). Using BMI Z- score prevalence of malnutrition was assessed and is presented in Table 3a and 3b and Figure 2 and 3..

Table 2 a: Calculated BMI of school children (District Mandi)

| Age (Years) (n) | Male | | Female | | |
|--------------------|---------------|------|--------|---------------|------|
| | BMI (Mean±SD) | ICMR | | BMI (Mean±SD) | ICMR |
| 5 (9) | 15.32±0.0 | 14.6 | 5 (5) | 14.70±1.84 | 14.4 |
| 6(9) | 14.38±1.29 | 14.5 | 6(15) | 13.79±0.81 | 14.5 |
| 7 (12) | 13.77±1.02 | 14.7 | 7(17) | 14.32±2.01 | 14.6 |
| 8(11) | 15.24±1.40 | 14.9 | 8(18) | 13.27±1.84 | 15.0 |
| 9(16) | 14.65±0.00 | 15.5 | 9(20) | 16.0±0.72 | 15.1 |
| 10(12) | 15.62±0.64 | 15.7 | 10(14) | 14.83±0.85 | 15.9 |
| 11 (9) | 16.36±2.81 | 16.3 | 11(21) | 14.55±2.15 | 16.5 |
| 12(6) | 15.57±3.63 | 16.6 | 12(12) | 16.23±2.38 | 17.3 |

| | | | | | |
|-------|------------|------|--------|------------|------|
| 13(5) | 16.03±1.60 | 17.6 | 13(13) | 16.36±1.67 | 18.3 |
| 14(3) | 15.40±1.90 | 18.1 | 14(18) | 16.00±1.37 | 19.1 |
| 15(4) | 15.24±0.63 | 18.6 | 15(9) | 16.91±1.57 | 19.6 |
| 16(2) | 16.18±0.13 | 19.2 | 16(16) | 16.96±1.75 | 20.1 |

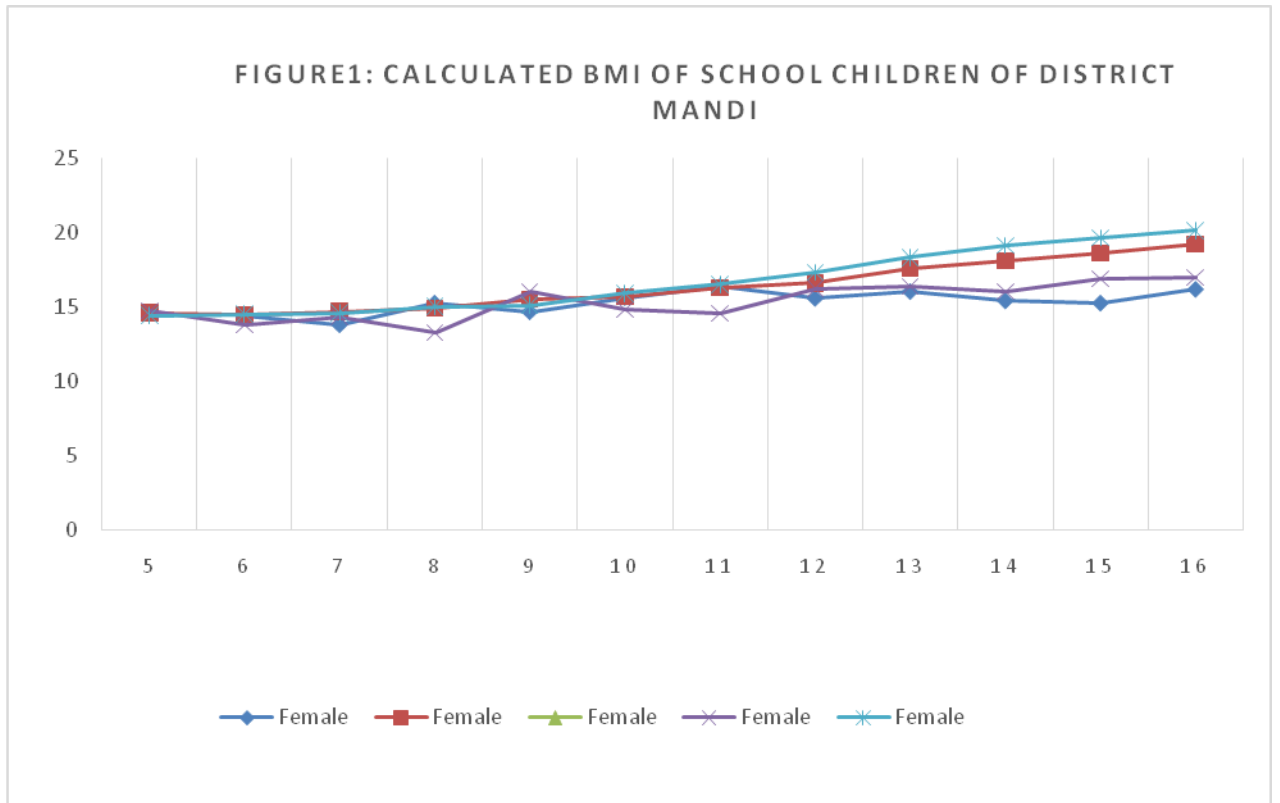
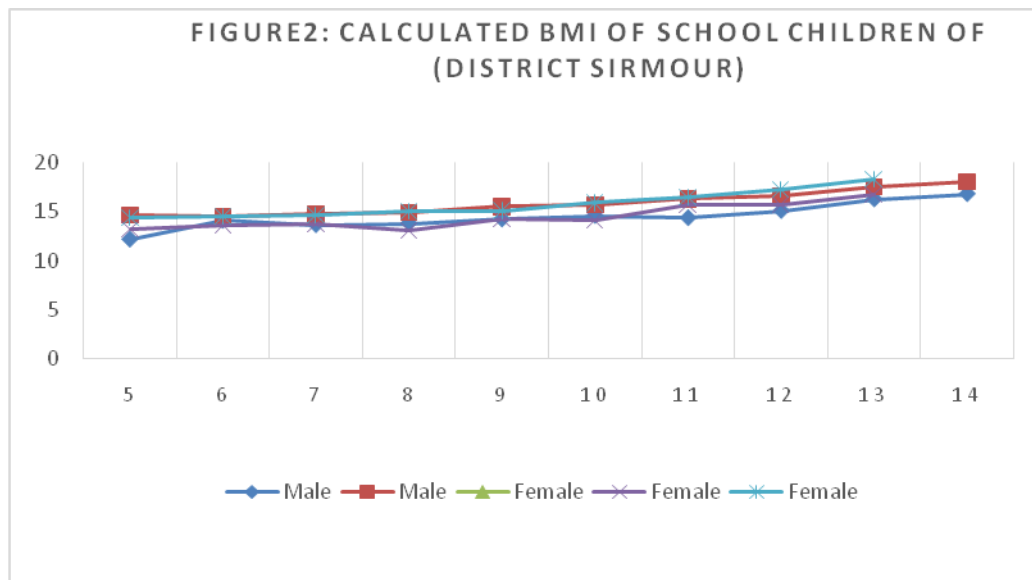


Table 2 (b): Calculated BMI of school children (District Sirmour)

| Age (Years) (n) | Male | | Female | | |
|--------------------|---------------|------|---------------|---------------|------|
| | BMI (Mean±SD) | ICMR | Age years (n) | BMI (Mean±SD) | ICMR |
| 5 (7) | 12.16±2.02 | 14.6 | 5 (9) | 13.19±0.79 | 14.4 |
| 6(16) | 14.10±1.67 | 14.5 | 6(11) | 13.65±1.37 | 14.5 |
| 7 (14) | 13.65±1.04 | 14.7 | 7(13) | 13.76±1.46 | 14.6 |
| 8(11) | 13.82±3.56 | 14.9 | 8(19) | 13.08±1.02 | 15.0 |

| | | | | | |
|---------|------------|------|---------|------------|------|
| 9(18) | 14.23±1.47 | 15.5 | 9 (15) | 14.25±1.25 | 15.1 |
| 10(13) | 14.59±1.95 | 15.7 | 10 (10) | 14.09±1.63 | 15.9 |
| 11 (18) | 14.36±1.44 | 16.3 | 11(17) | 15.69±2.15 | 16.5 |
| 12(19) | 15.10±1.10 | 16.6 | 12 (16) | 15.69±2.15 | 17.3 |
| 13(21) | 16.29±0.81 | 17.6 | 13 (16) | 16.76±2.32 | 18.3 |
| 14(8) | 16.82±1.12 | 18.1 | 14 (0) | | |



Data pertaining to the BMI of the surveyed districts in relation to the ICMR reference standards shows that mean of BMI of male students of Mandi as well Sirmour districts was similar to the reference values at the age of 11 years while it was lowered in onwards years. Similar findings were noticed in girl students.

Table 3 (a) BMI (Z scores) of school children as per gender (District Mandi)

| Age | N | | Normal | | Moderate under nutrition | | Severe under nutrition | | Overweight | |
|-----|------|--------|--------------|----------------|--------------------------|----------------|------------------------|----------------|--------------|----------------|
| | Male | Female | Male N(%) | Female N(%) | Male N(%) | Female N(%) | Male N(%) | Female N(%) | Male N(%) | Female N(%) |
| 5 | 9 | 5 | 6 (66.67) | 2 (40) | 3 (33.33) | 2 (40) | 0 (0) | 1 (20) | 0 (0) | 0 (0) |
| 6 | 9 | 15 | 7 (77.77) | 7 (46.67) | 2 (22.22) | 4 (26.66) | 0(0) | 4 (26.66) | 0 (0) | 0(0) |
| 7 | 12 | 17 | 5 (41.66) | 7 (41.17) | 7 (58.33) | 8 (47.05) | 0 (0) | 2 (11.76) | 0(0) | 0(0) |
| 8 | 11 | 18 | 6 (54.54) | 9 (50) | 5 (45.45) | 8 (44.44) | 0 (0) | 1 (5.55) | 0(0) | 0(0) |
| 9 | 16 | 20 | 8 (50) | 11 (55) | 6 (37.5) | 7 (35) | 2 (12.5) | 2 (10) | 0 (0) | 0(0) |
| 10 | 12 | 14 | 6 (50) | 9 (64.28) | 5 (41.66) | 3 (21.42) | 1 (8.33) | 2 (14.28) | 0(0) | 0(0) |
| 11 | 9 | 21 | 4 | 15 (71.42) | 3 | 4 | 2 (22.22) | 1 | 0(0) | 1 (4.76) |

| | | | | | | | | | | |
|-------------------|-----------|------------|-----------------------|-----------------------------|-----------------------|-----------------------|--------------------------|----------------------|-------------|-----------------|
| | | | (44.44) |) | (35.33) | (19.02) | 22) | (4.76) | | |
| 12 | 6 | 12 | 2 (33.33) | 9 (75) | 3 (50) | 3 (25) | 1 (16. 66) | 0 (0) | 0(0) | 0 (0) |
| 13 | 5 | 13 | 3 (60) | 8 (61.53) | 1 (20) | 4 (30.76) | 1 (20) | 1 (7.69) | 0(0) | 0 (0) |
| 14 | 3 | 18 | 2(66.66 7) | 10 (55.55) | 1 (33.33) | 6 (33.33) | 0 (0) | 0 (0) | 0 (0) | 2 (11.11) |
| 15 | 4 | 9 | 3 (75) | 5 (55.55) | 0 (0) | 4 (44.44) | 1 (25) | 0 (0) | 0(0) | 0 (0) |
| 16 | 2 | 16 | 2 (100) | 13 (81.25) | 0 (0) | 3 (18.75) | 0 (0) | 0 (00) | 0(0) | 0(0) |
| Tot al | 98 | 178 | 54 (55.10) | 105 (58.98) | 36 (36.73) | 56 (31.46) | 8 (8.1 6) | 14 (7.86) | 0(0) | 3 (1.68) |

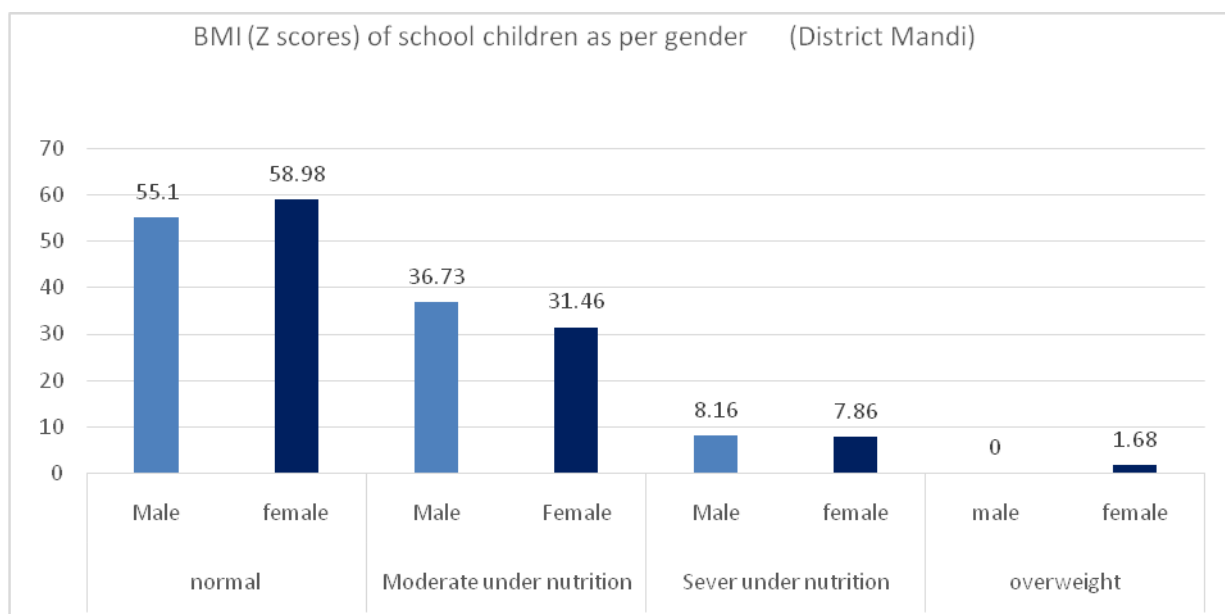


Figure 3: Percentage for BMI Z-scores of school children as per gender (District Mandi)

Table 3 (b): BMI (Z scores) of school children as per gender (District Sirmour)

| Age | N | | Normal | | Moderate under nutrition | | Severe under nutrition | | Overweight | |
|-----|------|--------|---------------|-----------------|--------------------------|-----------------|------------------------|-----------------|---------------|-----------------|
| | Male | Female | Male N (%) | Female N (%) | Male N (%) | Female N (%) | Male N (%) | Female N (%) | Male N (%) | Female N (%) |
| 5 | 7 | 9 | 5 (71.42) | 6 (66.67) | 1 (14.28) | 3 (33.33) | 1 (14.28) | 0 (0) | 0 (0) | 0 (0) |
| 6 | 16 | 11 | 9 (51.25) | 8 (72.72) | 5 (31.25) | 3 (27.27) | 2 (12.5) | 0(0) | 0(0) | 0 (0) |
| 7 | 14 | 13 | 11 (78.25) | 9 (69.23) | 2 (14.28) | 3 (23.07) | 1(7.14) | 1 (7.69) | 0(0) | 0(0) |
| 8 | 11 | 19 | 8 (72.72) | 13 (68.42) | 3 (27.27) | 5 (26.31) | 0(0.0) | 1 (5.26) | 0(0) | 0(0) |

| | | | | | | | | | | |
|----|----|----|---------------|---------------|--------------|--------------|----------|--------------|-------|-------|
| 9 | 18 | 15 | 12(66.67) | 9 (60) | 5 (27.77) | 2 (13.33) | 1(5.55) | 1 (6.67) | 0(0) | 0 (0) |
| 10 | 13 | 10 | 7 (53.84) | 7 (70) | 6 (46.15) | 2 (20) | 0(0.00) | 1 (10) | 0 (0) | 0(0) |
| 11 | 18 | 17 | 14 (77.77) | 12 (70.58) | 2 (11.11) | 3 (17.64) | 2(11.11) | 2 (11.76) | 0 (0) | 0(0) |
| 12 | 19 | 16 | 13 (68.42) | 12 (75) | 4 (21.05) | 2 (12.5) | 2(10.52) | 1 (6.25) | 0 (0) | 0(0) |

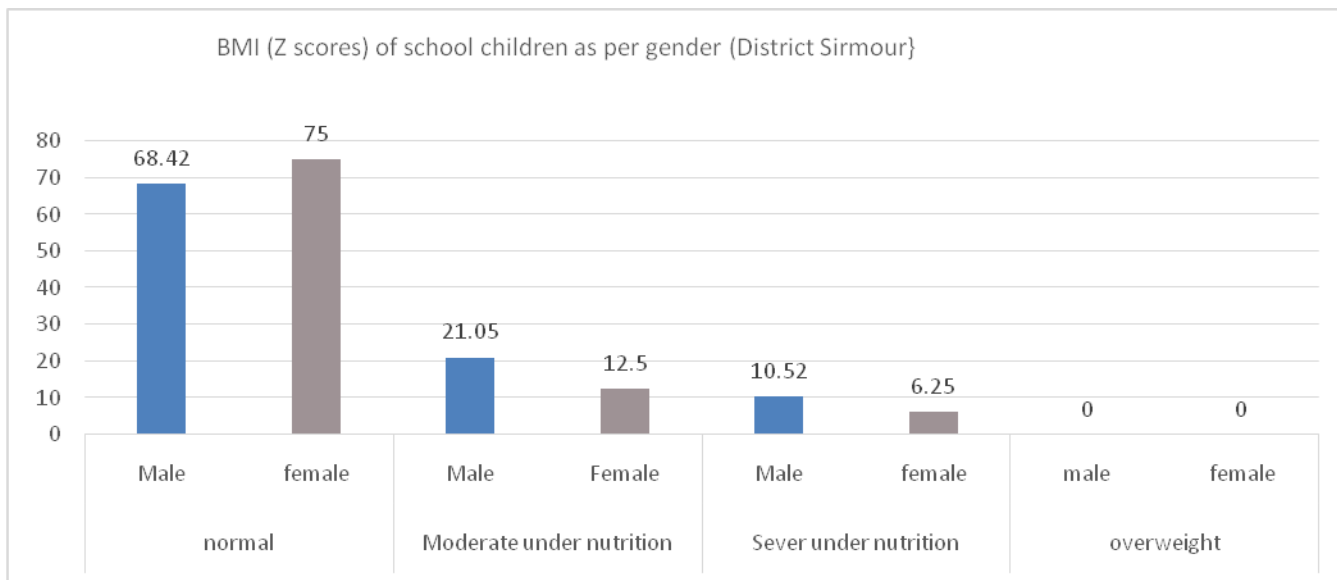


Figure 4: Percentage for BMI Z-scores of school children as per gender (District Sirmour)

The BMI for the age reflects the body weight relative to the height of an individual. The ICMR has classified low BMI for age as indicator of under nutrition which varies from moderate to severe. High BMI for age expresses overweight and obesity. As per gender wise BMI has shown in Figure3 and 4 it was observed that overweight was only 1.68 percent in district Mandi whereas no obesity was observed in District Sirmour. In both the districts 60-70 per cent of male and female were normal according to their BMI for Age.

Height for age (Table 4b) revealed that nearly 68.90 per cent male and 70.63 per cent female have normal height for age in Sirmour District. Around 23 per cent

male and 31 per cent female, respectively were stunted that means these children did not achieve normal height as per their age. Twelve per cent of males and 11 per cent of females were severely stunted, respectively. It clearly indicates chronic malnutrition or previous under nutrition.

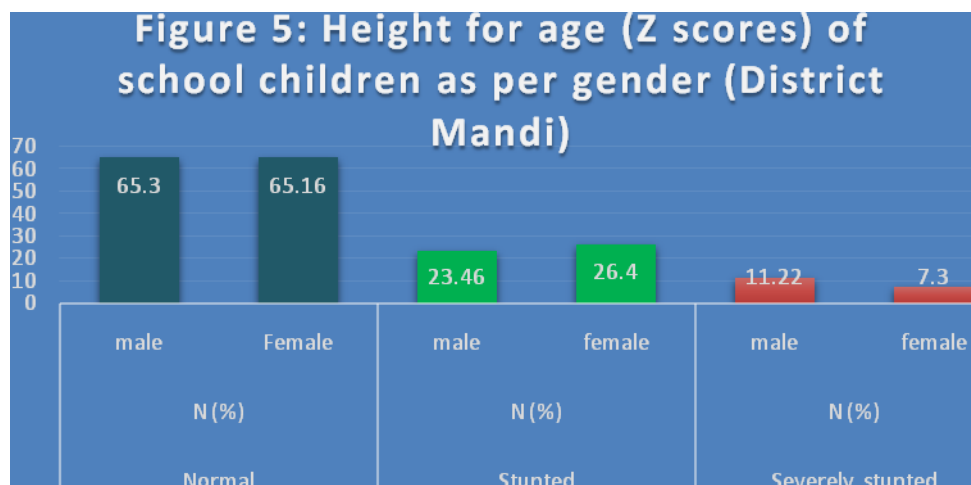


Table 4 (a): Height for age (Z scores) of school children as per gender (District Mandi)

| Age (years) | N | | Normal N (%) | | Stunted N (%) | | Severely stunted N (%) | |
|-------------|------|--------|-----------------|-----------|------------------|--------------|---------------------------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 5 | 9 | 5 | 5 (55.55) | 3 (60) | 4 (44.44) | 2 (40) | 0 (0) | 0 (0) |
| 6 | 9 | 15 | 6(66.67) | 8(53.33) | 2 (22.22) | 7(46.67) | 1 (11.11) | 0(0) |
| 7 | 12 | 17 | 7(58.33) | 10(58.82) | 4(33.33) | 7 (41.11) | 1 (8.33) | 0 (0) |
| 8 | 11 | 18 | 7(66.63) | 13(72.22) | 3 (27.27) | 5 (27.77) | 1(9.09) | 0(0) |

| | | | | | | | | |
|-------|----|-----|---------------|----------------|---------------|---------------|---------------|--------------|
| 9 | 16 | 20 | 12(75) | 14(70) | 1(6.25) | 4(20) | 3 (18.75) | 2 (10) |
| 10 | 12 | 14 | 8(66.67) | 9(64.28) | 2 (16.67) | 2(14.28) | 2 (16.66) | 1 (7.14) |
| 11 | 9 | 21 | 6(66.66) | 16 (76.19) | 1 (11.11) | 4 (19.04) | 2 (22.22) | 1 (4.76) |
| 12 | 6 | 12 | 3 (50) | 7 (58.33) | 2(33.33) | 3 (25) | 1 (16.67) | 2 (16.66) |
| 13 | 5 | 13 | 3(60) | 7 (53.84) | 2 (40) | 5(38.46) | 0 (0) | 1 (7.69) |
| 14 | 3 | 18 | 3 (100) | 11(61.11) | 0 (0) | 4 (22.22) | 0(0) | 3 (16.67) |
| 15 | 4 | 9 | 2(50) | 6 (66.67) | 2 (50) | 1(11.11) | 0(0) | 2 (22.22) |
| 16 | 2 | 16 | 2 (100) | 12 (75) | 0(0) | 3 (18.5) | 0(0) | 1 (6.25) |
| Total | 98 | 178 | 64 (65.30) | 116 (65.16) | 23 (23.46) | 47 (26.40) | 11 (11.22) | 13 (7.30) |

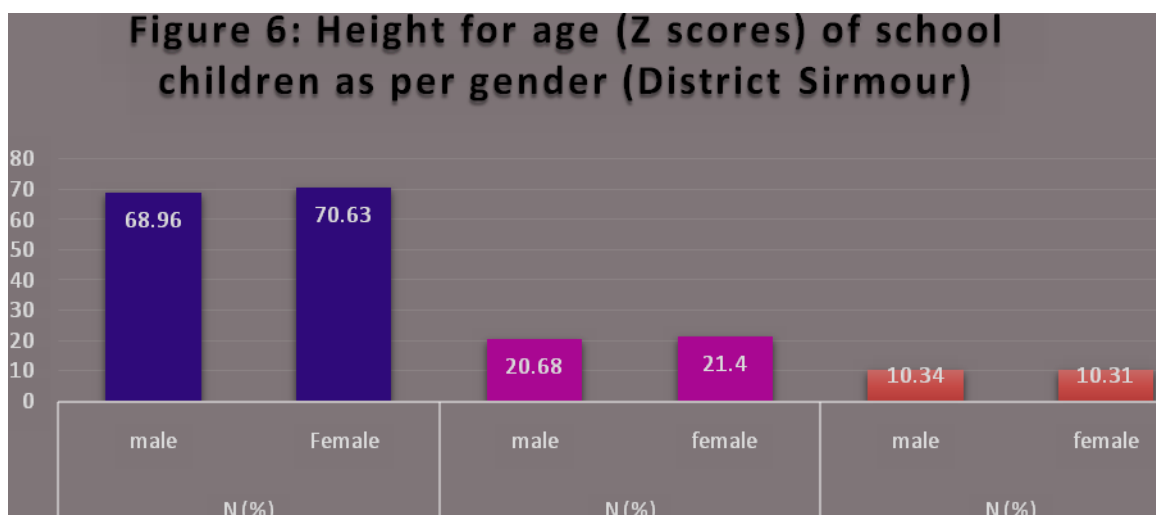


Table 4 (b) Height for age (Z scores) of school children as per gender (District Sirmour)

| Age (years) | N | | Normal N (%) | | Stunted N(%) | | Severely stunted N(%) | |
|-------------|------|--------|--------------|------------|--------------|-----------|-----------------------|-----------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 5 | 7 | 9 | 5 (71.42) | 6 (66.66) | 1 (14.28) | 3 (33.33) | 1 (14.28) | 0 (0) |
| 6 | 16 | 11 | 12 (75) | 8 (72.72) | 2 (12.5) | 1 (9.09) | 2 (12.5) | 2 (18.18) |
| 7 | 14 | 13 | 9 (64.28) | 7 (53.84) | 3 (21.42) | 3 (23.07) | 2 (14.28) | 3 (23.07) |
| 8 | 11 | 19 | 7 (63.66) | 13 (68.42) | 2 (18.18) | 4 (21.05) | 2 (18.18) | 2 (10.52) |
| 9 | 18 | 15 | 10 (55.55) | 11 (73.33) | 6 (33.33) | 2 (13.33) | 2 (11.11) | 2 (13.33) |
| 10 | 13 | 10 | 9 (69.23) | 6 (60) | 4 (30.77) | 3 (30) | 0 (0) | 1 (10) |

| | | | | | | | | |
|-------|-----|-----|----------------|---------------|--------------|--------------|---------------|---------------|
| | | | (69.23) | | (30.76) | | | |
| 11 | 18 | 17 | 12 (66.67) | 14(82.35) | 3 (16.66) | 2 (11.76) | 3 (16.66) | 1 (5.88) |
| 12 | 19 | 16 | 14 (73.68) | 15 (93.75) | 3 (15.78) | 4 (25) | 2 (10.52) | 0 (0) |
| 13 | 21 | 16 | 17 (80.95) | 9 (56.25) | 3 (14.28) | 5 (31.25) | 1 (4.76) | 2 (12.5) |
| 14 | 8 | - | 5 (62.5) | - | 3 (37.5) | - | 0 (0) | - |
| Total | 145 | 126 | 100 (68.96) | 89 (70.63) | 3 (20.68) | 27 (21.4) | 15 (10.34) | 13 (10.31) |

Nutritional status as per Clinical sign and symptoms

All the children were clinically examined by the JRM team members and physicians of PHC of Himachal Pradesh. Proportions of children with varying degree of clinical signs and symptoms related with nutrient deficiency were observed in school children (N=547). The major deficiency signs observed were pale skin, molten teeth and lack of lustre were suggestive of micronutrient deficiencies, evident in most of school children in both districts. Pale conjunctiva and pale skin suggestive of anemia of varying degrees was evident in near about 50% of children. Data also showed that the children of both the districts have relatively poor oral health. This could be correlated with the intake of the food by the children which is deficient in protective foods like green leafy vegetables, milk, fruits and other vegetables. Overall more female showed deficiency symptoms in comparison to the male respondents.

CLINICAL ASSESSMENT

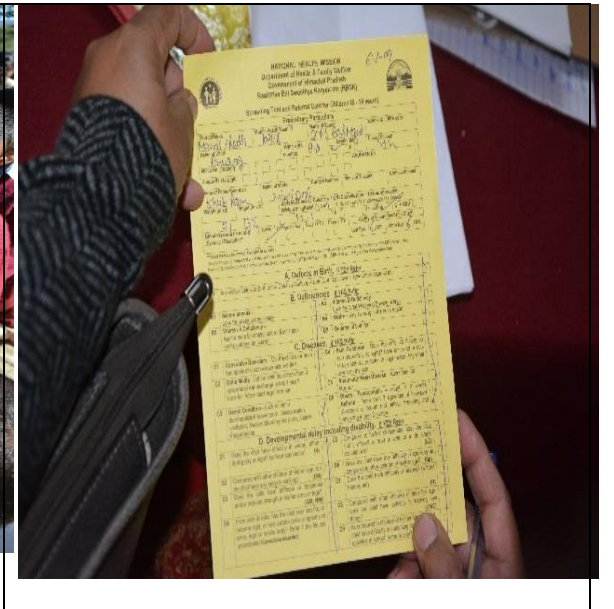


Table 5 a: Clinical signs of nutritional deficiencies in school children (District Mandi)

| Body parts | Clinical signs | Female (178) | | Male (98) | | Total (276) | |
|---------------|-------------------------|--------------|-------|-----------|-------|-------------|-------|
| | | n | % | n | % | n | % |
| Hair | Lack of luster | 62 | 34.83 | 17 | 17.34 | 79 | 28.62 |
| | Easy pluckability | 78 | 43.82 | 33 | 33.67 | 111 | 40.21 |
| | Premature whitening | 14 | 7.86 | 4 | 4.081 | 18 | 6.52 |
| | Thinness and sparseness | 41 | 23.03 | 20 | 20.40 | 61 | 22.10 |
| Eyes | Night blindness | 5 | 2.89 | 2 | 2.04 | 7 | 2.53 |
| | Pale counjunctiva | 48 | 26.96 | 25 | 25.91 | 73 | 26.44 |
| | Bitot's spot | 4 | 2.24 | 0 | 0 | 4 | 1.44 |
| Teeth | Molted enamel | 69 | 38.76 | 41 | 41.83 | 110 | 39.85 |
| | Caries | 83 | 46.62 | 54 | 55.10 | 137 | 49.63 |
| Gums | Spongy bleeding gums | 4 | 2.24 | 3 | 3.06 | 7 | 2.53 |
| Mouth | Cracked lips | 14 | 7.86 | 6 | 6.12 | 20 | 7.24 |
| | Angular stomatitis | 10 | 5.61 | 6 | 6.12 | 16 | 5.79 |
| | Cheilosis | 1 | 0.561 | 0 | 0 | 1 | 0.36 |
| Tongue | Scarlet and raw tongue | 7 | 3.93 | 12 | 12.24 | 19 | 6.88 |
| | Magenta tongue | 15 | 8.42 | 4 | 4.081 | 19 | 6.88 |
| Glands | Thyroid gland | 1 | 0.561 | 2 | 2.04 | 3 | 1.08 |

| | | | | | | | |
|--------------|--------------------------|----|-------|----|-------|-----|-------|
| | Parotid enlargement | 0 | 0 | 0 | 0 | 0 | |
| Skin | Lack of luster | 47 | 26.40 | 51 | 52.04 | 98 | 35.50 |
| | Dry and rough/dermatitis | 26 | 14.60 | 16 | 16.32 | 42 | 15.21 |
| | Pale skin | 76 | 42.69 | 36 | 36.73 | 112 | 40.57 |
| Nails | Koilonychia | 2 | 1.12 | 1 | 1.02 | 3 | 1.08 |

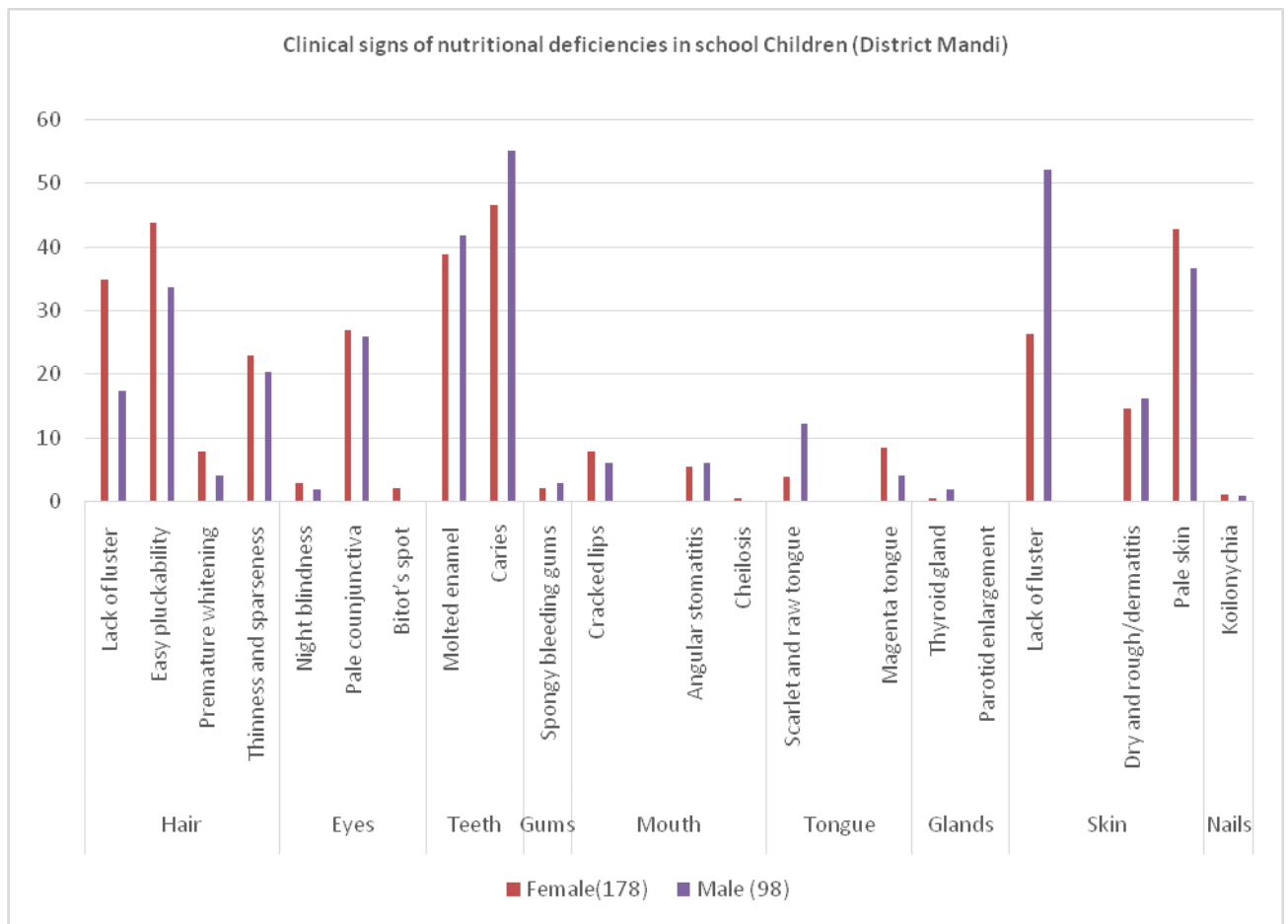


Table 5b: Clinical signs of nutritional deficiencies in school Children (District Sirmour)

| Body parts | Clinical signs | Female(126) | | Male (145) | | Total(271) | |
|---------------|-------------------------|-------------|-------|------------|-------|------------|-------|
| | | n | % | n | % | n | % |
| Hair | Lack of luster | 32 | 25.39 | 23 | 15.86 | 55 | 20.29 |
| | Easy pluckability | 50 | 39.68 | 43 | 29.65 | 93 | 34.31 |
| | Premature whitening | 8 | 6.34 | 3 | 2.06 | 11 | 4.05 |
| | Thinness and sparseness | 23 | 18.25 | 26 | 17.93 | 49 | 18.08 |
| Eyes | Night blindness | 1 | 0.79 | 1 | 0.68 | 2 | 0.73 |
| | Pale counjunctiva | 15 | 11.90 | 4 | 2.75 | 19 | 7.01 |
| | Bitot's spot | 1 | 0.79 | 0 | 0 | 1 | 0.36 |
| Teeth | Molted enamel | 50 | 39.68 | 47 | 32.41 | 97 | 35.79 |
| | Caries | 61 | 48.41 | 69 | 47.58 | 130 | 47.97 |
| Gums | Spongy bleeding gums | 2 | 1.58 | 8 | 5.51 | 10 | 3.69 |
| Mouth | Cracked lips | 34 | 26.98 | 38 | 26.20 | 72 | 26.56 |
| | Angular stomatitis | 6 | 4.76 | 4 | 2.75 | 10 | 3.69 |
| | Cheilosis | 1 | 0.79 | 0 | 0 | 1 | 0.36 |
| Tongue | Scarlet and raw tongue | 5 | 3.96 | 14 | 9.65 | 19 | 7.01 |
| | Magenta tongue | 4 | 3.17 | 2 | 0 | 4 | 1.47 |
| Glands | Thyroid gland | 0 | 0 | 1 | 1.37 | 2 | 0.73 |
| | Parotid enlargement | 0 | 0 | 0 | 0.68 | 1 | 0.36 |

| | | | | | | | |
|--------------|--------------------------|----|-------|----|-------|-----|-------|
| Skin | Lack of luster | 36 | 28.57 | 41 | 28.27 | 77 | 28.41 |
| | Dry and rough/dermatitis | 16 | 12.69 | 21 | 14.48 | 37 | 13.65 |
| | Pale skin | 56 | 44.44 | 51 | 35.17 | 107 | 39.48 |
| Nails | Koilonychia | 2 | 1.58 | 3 | 2.06 | 5 | 1.84 |

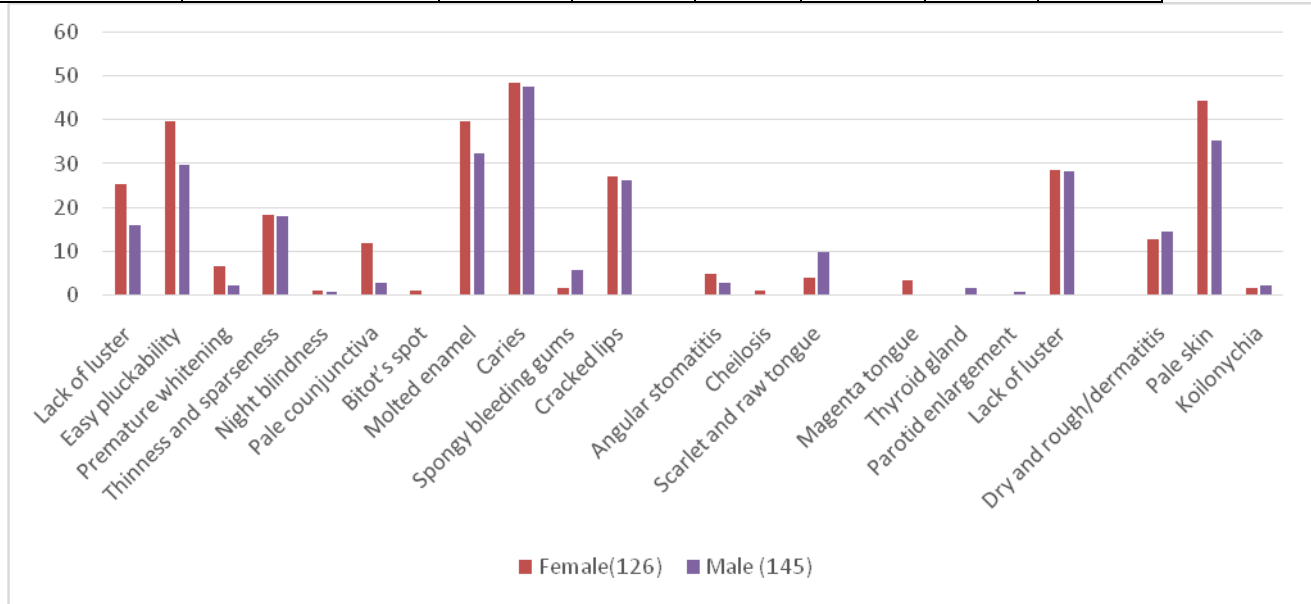


Figure 6: Clinical signs of nutritional deficiencies in school children (District Sirmour)

Quantity and quality of Mid-day Meal

The prescribed nutrition to be provided by the mid day meal is as follows:

1. 450 Kcal and 12g of protein which is derived from 100g of food grains (rice/wheat), 20 g of pulses, 50 g of vegetables and 5g of oil for the children studying in the primary schools.
2. 700 kcal and 20 g of protein which is derived from 150 g of food grains (rice/wheat), 30 g of pluses, 70g of vegetables and 7.5 of oil in upper primary schools.

Data pertaining to the quantity and quality of MDM in districts of Himachal Pradesh that in Mandi and Sirmour districts quality of rice received by the school was found to be good. The sensory quality of the meals was reported to be very good in most of the schools. The green leafy vegetables was missing in Mid Day

Meal only potato was served in the name of vegetables. Addition of GLVs as well as vitamins and minerals to the diet improve the nutritional status of the students. Double fortified salt was missing but iodide salt was generally being preferred. Students from majority of schools reported that quantity of meal served was adequate whereas some of the children were not able to consume the amount of food served.

STORAGE

The grains were stored in aluminum bins which were placed on wooden planks in most of the schools. Raw material placed in kitchens was also of good quality. The survey also showed that the storage quality of the ingredients was proper in almost all surveyed schools. In some schools rice was stored in the gunny bags despite the storage bins provided to the schools.



COOKING AREA



Serving Area

The result also revealed that cleanliness of the serving area as well as utensils was a major area of concern. Since the student from both the district reported that the utensils and area were not cleaned.



The satisfaction of the children, parents and community on the served meal under MDM in respect of quality and quantity was also observed by the

team.MDM must be tasted by Teacher Incharge as well as Parents of the children. It was observed that this phenomena was not a regular feature and was not reported meticulously.

Suggestive Nutritionally balanced region specific recepies

Nutritious Khichdi

Ingredients

| | |
|---|-------|
| Rice | 100 g |
| Moong Dal (split with Chilka) | 20 g |
| Seasonal Vegetables Ghiya, Peas, Carrot, Spinach | 70 g |
| salt to taste | |
| Ginger | 10 g |
| Cumin seeds | 2 g |
| Tomato | 20g |

Method

- Wash Rice and Dal properly.
- wash seasonal vegetables and chop them.
- Heat oil in pressure cooker and add cumin seeds and ginger.
- Add washed Rice, Dal and vegetables with salt.
- Add water and cook till done.

Nutritious Ladoo

Ingredients

| | |
|----------------------------|------|
| Wheat flour /Pearl millet/ | 50 g |
| Besan | 50 g |
| Sugar (Ground) | 65 g |
| Ghee | 55 g |
| Ground nut kernels | 20 g |

Til (white) 20 g

Method

- Roast wheat flour/millet flour separately in ghee
- Roast groundnut kernels remove skin and roast coarsely.
- Roast til slightly.
- Add roasted ground nut and til to roasted flour.
- Add ground sugar and shape into laddu

Paushtic Dalia

Ingredients

| | |
|-------------------------|---------------|
| Broken Wheat | 100 g |
| Green Gram dhal | 30 g |
| Carrot,Peas,cauliflower | 60 g |
| Tommato | 20 g |
| Ginger | 10 g |
| Ghee | 10 g |
| Salt | Salt to taste |

Method

- Roast broken wheat till slight brown and keep a side.
- Wash dal
- Chop vegetables to small pieces
- Keep pressure cooker on gas and add ghee followed by grated ginger and chopped tomatoes sauté for some time.
- Add roasted dalia, dal ,salt and water.
- Pressure cook till done
- Serve hot.

Spinach Nutri Nugget Rice

Ingredients

| | |
|------|-------|
| Rice | 150 g |
|------|-------|

| | |
|--------------|---------------|
| Spinach | 150 g |
| Nutri Nugget | 60 g |
| Onion | 30 g |
| Ginger | 20 g |
| Cumin seeds | 3 g |
| Ghee / Oil | 20 g |
| Salt | Salt to taste |

Method

- Wash rice and soak in double amount of water for 15 min.
- Soak nutria Nugget for one hour in hot water and remove from water.
- Chop onion and grate ginger
- Chop and grind spinach to paste.
- Heat oil in pan, add cumin seeds followed by onion and ginger.
- Add spinach paste, sauté for some time.
- Add 350 ml water, nutria Nugget and salt.
- When water starts boiling add rice and cook till done.

Carrot Kheer

Ingredients

| | |
|-----------------|--------|
| Carrot | 500 g |
| Milk | 2 Ltr. |
| Til | 30 g |
| Groundnut seeds | 30 g |
| Jaggery | 50 g |

Method

- Peel and grate carrot.
- Add grated carrot in milk, cardamom and boil till the milk gets thickened.
- Roast groundnuts, remove skin and ground coarsely.
- Roast til and grind to powder.
- Add ground nuts, til and jaggery to kheer.
- Serve hot.

Peanut Chikky

| Ingredients | Quantity |
|-------------|----------|
| Peanuts | 100 g |
| Jaggery | 50 g |
| Oil | 1 tsp. |

Procedure

- Roast peanuts and De-husk them.
- Lightly ground 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.

Missi Roti

| Ingredients | |
|-----------------------|-------|
| Wheat flour | 100 g |
| Beasan / Barley flour | 20 g |
| Finely Chopped onion | 30g |
| Spinach | 30g |
| Salt to taste | 30g |

Procedure

1. Add Chop spinach firmly and grate carrot onions and green chillies to flour.
2. Adding a little water at a time, knead into a dough.
3. Roll out chapattis or paranthas and cook on a tawa.

Chana / Matar Chaat

Ingredients

| | |
|---|----------|
| Boiled Channa / Dired Matar (Chick Pea / Peas) | 100 g |
| Boiled Patato | 50 g |
| Carrot | 50g |
| Tamato | 50g |
| Cucumber | 50g |
| Onion | 50g |
| Oil | 10g |
| Lemon | 1 |
| Salt | To taste |

Procedure

1. Soak and boil Bengal gram or peas in salted water till soft.
2. Boil potato , remove skin and cut into small cubes.
3. Cut all the vegetables into small pieces.
4. Heat oil in the pan and stir fry the vegetables.
5. Mix all ingredients together.
6. Add little salt and green chillies
7. Serve with lemon.

Vegetable Poha

Ingredients

| | |
|-------------------|-------|
| Poha(Rice Flakes) | 250g |
| Patato | 50g |
| Carrot | 50g |
| Pea | 50G |
| Cabbage | 50g |
| Peanuts | 20g |
| Sesame seeds | ½ tsp |

| | |
|-------|----------|
| Lemon | 1 |
| Oil | 10g |
| Salt | To taste |

Procedure:

1. Take poha in a sieve and wash well with water, keep aside.
2. Lightly roast peanuts de skin and coarsely ground them.
3. Cut potato into small cubes.
4. Cut carrots and cabbage into shreds
5. Heat oil in a pan and sesame seeds so that they splitter.
6. Add potato pieces and pinch of salt and stir fry till soft.
7. Add the carrot, cabbage and peanuts and stir for a few minutes.
8. Add poha and mix well.
9. Add salt taste and stir fry for 2 to 5 minutes
10. Serve with lemon.

CHAPTER: 6

Major Observations

(A) Best Practices

- ❖ e-transfer of Funds to the School / implementing agencies.
- ❖ All the Cook-cum-helpers are paid Honorarium through e-banking.
- ❖ Contribution of additional State share of Rs. 800/- for payment of Honorarium to Cook-cum-helpers
- ❖ The cook cum helpers cover their head with cloth (Dhatu) and wear Apron while preparing MDM.
- ❖ Safe and Hygienic Storage of Food items including storage of Rice
- ❖ All the schools visited were using LPG as a fuel.
- ❖ Teachers are reporting daily beneficiary data in (ARMS)
- ❖ Dedicated Toll Free Number was displayed in most of the schools
- ❖ Very well constructed Kitchen-cum-stores in the visited schools
- ❖ Cleanliness was maintained in Toilets were clean
- ❖ Participation and awareness of MDMS among parents was visible

(B) Area of Concern

- ❖ Lack of Advance release of Funds in some of schools. (As it is currently being done on reimbursement basis).
- ❖ Non Delivery of food grains at school door step. Teachers were found lifting from FPS shop.
- ❖ Transportation charges are being booked from cooking cost for lifting of food grains, hence the quality of Meal is compromised.
- ❖ No green vegetables provided under MDM to children. (Only potatoes are served as vegetable).
- ❖ Children bring Eating plates from their home.
- ❖ Health check up of Children is done once a year in stead of twice in a year.
- ❖ IFA tablets not distributed regularly.
- ❖ Under Nutrition was prevalent which was evident in low weight for age and low height for age in almost similar proportion of children.
- ❖ Approximately one third daily nutrient intake of children is met through MDM. Therefore, its quality and quantity are important specially in relation to nutrition, Hygiene and Safety
- ❖ Negative Balance of Funds & Food Grains in some of the schools.
- ❖ Double fortified salt is not used for MDMS as per MHRD guidelines.
- ❖ Weight and height measurement is not done regularly .
- ❖ Potable water needs to be ensured.
- ❖ MDM Logo, Child MDM entitlements, Weekly Menu to be painted on the Prominent wall of the School.
- ❖ Emergency plan dedicated for MDMS to be displayed at prominent place in the school.
- ❖ Fire extinguishers mostly found non functional in the schools
- ❖ None of the Cook-cum-helpers were trained.
- ❖ Teachers, stakeholders not fully oriented towards MDMS
- ❖ Kitchen gardens need to be promoted.

(C) Recommendations and Suggestions

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

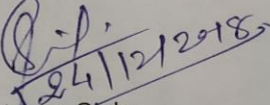
- ❖ State Govt. should insure availability of funds in advance at School level.
- ❖ Food grains should be made available timely in all the schools doorsteps. Teachers should not be involved in the process of lifting of Food grains from Fair Price Shops.
- ❖ Additional Proposal of Head load from FPS shop to School doorstep may be submitted to MHRD..
- ❖ There is an urgent need for orientation of the teachers and CCH associated with MDMS. Small refresher courses and workshops can be organized at Block / district level. Requisite awareness about entitlements of children under this Scheme also need to be created among the teachers, MDM In-charge and CCH of the schools.
- ❖ Leaflets consisting of standarized receipes for Mid Day Meal may be distributed in each school as ready reckonor for CCH.
- ❖ It should be compulsory to add green and leafy vegetables in MDM to meet the food norms and to improve nutritional status of children. Locally available fruits, green leafy and other vegetable should to include in MDM to ensure the intake of protective nutrients.
- ❖ Variety of Pulses should be included in MDM as only Razma and Black gram is being served.
- ❖ There should be provision of at least one serving of milk or egg in the weekly menu.
- ❖ Kitchen gardens may be developed in school premises including plantation of fruit bearing trees like banana, guava, mango, papaya, etc. For this purpose help may be sought from the State Departments of Horticulture/Agriculture/KVKs, SAU, Palampur.
- ❖ Preferably food should be cooked in IRON utensils to improve the overall Iron content in the cooked food.

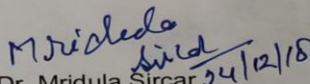
- ❖ Standard weights and measuring equipments should be made available in all kitchens across the State to weigh the exact amount of raw ingredients to be cooked.
- ❖ The SMCs should finalize the menu as per the availability of local raw materials, religious beliefs and likes & dislikes of the students. Weekly menu may be revised periodically by the SMC for maintaining interest of children towards MDM
- ❖ 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.
- ❖ Cooks and school teachers must know the cooked portion to be served as per recommendations.
- ❖ Home Science/Community Science graduates be appointed at State and District level for the implementation and monitoring of MDMS.
- ❖ The refresher training of district and block officials for the preparation of low cost recipes and monitoring of MDMS can be done at SAU, Palampur.
- ❖ For identification of the undernourished children and making timely corrective action, BMI of the children should be observed regularly.
- ❖ Health check up should be done at least twice a year. More convergence of Rashtriya Baal Swasthya Karyakram (RBSK) is required 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 school children.
- ❖ The State Govt. should also constitute Review Mission at the State level and send them to model districts of the State every six months to review the implementation of the programme. The State Govt. officials looking after MDMS may join the Review Mission in other states under exchange scheme. These orientation visits will also widen the horizon of the officials.
- ❖ State Government should ensure the procurement and supply of double fortified salt.
- ❖ Full size serving plates should be provided to the children in all the schools for eating meals.

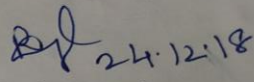
- ❖ Children are needed to be educated for personal hygiene and sanitation like cutting of nails.
- ❖ Person with at least Master's degree in Food Science & Nutrition should be appointed for better monitoring of scheme at district/block levels.
- ❖ Provision should be made for supply of food grade plastic storage container for storage of raw materials.
- ❖ Usage of natural protectants should be emphasized to prevent insect infestation.

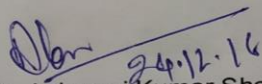
Overall the Mid Day Meal Scheme has made significant improvements in the psychological, social and mental well being of school children and it is expected to continue doing so in future with greater efficiency and much better impact.

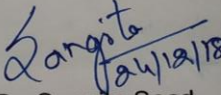
(The above recommendations may be implemented within a period of three months.)

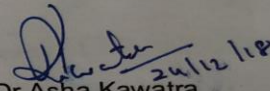

Sunil Kumar Sinha


Dr. Mridula Sircar


Ritu Aggarwal


Dr. Ashwani Kumar Sharma


Dr. Sangita Sood


Dr. Asha Kawatra

Some Photographs from the field visit



ANNEXURE I

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

District -- Sirmour

| S No. | Name of the school | Enrollment | Last 10 days attendance | | | | | | | | | | Avg | % to Enrol |
|-------|---------------------------------|------------|-------------------------|----|----|----|----|----|----|----|----|----|-----|------------|
| | | | Day 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 1 | GPS Dhamoon, Raigarh, | 53 | 42 | 24 | 38 | 35 | 39 | 44 | 45 | 41 | 40 | 37 | 39 | 73% |
| 2 | GMS Dhamoon, Raigarh, | 32 | 32 | 30 | 28 | 28 | 28 | 28 | 27 | 20 | 16 | 17 | 25 | 79% |
| 3 | GPS, Nai Netti, Rajgarh | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 12 | 16 | 20 | 21 | 91% |
| 4 | GHS, Nai Netti, Rajgarh | 37 | 37 | 37 | 37 | 37 | 16 | 25 | 20 | 20 | 21 | 16 | 27 | 72% |
| 5 | Govt. Sr. Sec. School, Shargaon | 38 | 21 | 35 | 32 | 36 | 36 | 35 | 38 | 38 | 38 | 38 | 35 | 91% |
| 6 | GPS Jagher, Rajgarh | 25 | 23 | 23 | 24 | 19 | 23 | 22 | 17 | 22 | 21 | 21 | 22 | 86% |
| 7 | GMS Jagher, Rajgarh | 17 | 17 | 14 | 14 | 14 | 15 | 14 | 15 | 12 | 12 | 13 | 14 | 82% |
| 8 | GPS Gadhasar, Narang | 43 | 40 | 42 | 40 | 30 | 40 | 42 | 42 | 38 | 21 | 32 | 37 | 85% |
| 9 | GMS Gadhasar, Narang | 18 | 8 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 93% |
| 10 | GPS Katla Panjala, Narang | 76 | 20 | 69 | 67 | 65 | 66 | 65 | 61 | 60 | 72 | 70 | 62 | 81% |
| 11 | GHS Katla Panjala, Narang | 70 | 28 | 44 | 40 | 45 | 45 | 48 | 70 | 63 | 70 | 70 | 52 | 75% |
| 12 | G.P.S. Dudham Matiana Rajgarh | 39 | 38 | 35 | 31 | 34 | 26 | 30 | 30 | 35 | 37 | 30 | 33 | 84% |
| 13 | G.H.S. Dudham Matiana Rajgarh | 50 | 50 | 45 | 47 | 45 | 27 | 41 | 42 | 44 | 36 | 36 | 41 | 83% |
| 14 | G.P.School Thanoga Rajgarh | 24 | 18 | 20 | 15 | 17 | 16 | 12 | 20 | 21 | 20 | 20 | 18 | 75% |
| 15 | G.M.School Thanoga Rajgarh | 29 | 19 | 20 | 25 | 23 | 23 | 14 | 23 | 25 | 29 | 29 | 23 | 79% |
| 16 | G.P.S.Pabiana Rajgarh | 75 | 46 | 51 | 53 | 56 | 60 | 58 | 67 | 63 | 58 | 64 | 58 | 77% |
| 17 | Govt Sr. Sec School | 48 | 36 | 41 | 39 | 44 | 44 | 41 | 45 | 44 | 45 | 47 | 43 | 89% |

| | | | | | | | | | | | | | | |
|----|---------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| | Pabiana Rajgarh | | | | | | | | | | | | | |
| 18 | Govt Primary School Nohra Narag | 38 | 38 | 38 | 38 | 38 | 30 | 30 | 30 | 30 | 30 | 25 | 33 | 86% |
| 19 | Govt Middle School Nohra Narag | 18 | 11 | 7 | 12 | 13 | 11 | 7 | 10 | 17 | 17 | 16 | 12 | 67% |
| 20 | G.P.S. Kanger Banona Narag | 29 | 29 | 28 | 20 | 28 | 27 | 23 | 22 | 20 | 19 | 16 | 23 | 80% |
| 21 | Govt Middle school Narag Banona | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 15 | 10 | 8 | 24 | 81% |

Annexure-II

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

District – Mandi

| S No. | Name of the school | Enrolment | Last 10 days attendance | | | | | | | | | | Avg | % to Enrol |
|-------|---|-----------|-------------------------|----|----|----|----|----|----|----|----|----|-----|------------|
| | | | Day 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 1 | Govt. Centre Primary School (GCPS), Slapper, Sunder Nagar-I | 26 | 24 | 24 | 23 | 24 | 26 | 25 | 23 | 22 | 22 | 26 | 24 | 92% |
| 2 | Govt. Sr. Sec. School, Slapper, Sunder Nagar-I | 31 | 30 | 28 | 24 | 29 | 30 | 30 | 30 | 30 | 31 | 31 | 29 | 95% |
| 3 | Govt. Centre Primary School (GCPS), Kangoo, Sunder Nagar-I | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 26 | 27 | 27 | 26 | 27 | 99% |
| 4 | Govt. Middle School (GMS), Kangoo, Sunder Nagar-I | 42 | 35 | 38 | 39 | 38 | 39 | 38 | 35 | 32 | 38 | 38 | 37 | 88% |
| 5 | Govt. Centre Primary School (GCPS), Bhajpur, Sunder Nagar-I | 63 | 53 | 53 | 51 | 54 | 53 | 56 | 60 | 58 | 58 | 54 | 55 | 87% |
| 6 | Govt. Middle School (GMS), Bhajpur, Sunder Nagar-I | 40 | 35 | 29 | 34 | 33 | 30 | 32 | 38 | 35 | 36 | 30 | 33 | 83% |

| | | | | | | | | | | | | | | |
|----|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 7 | GPS Paddal, Block Sunder - I, Mandi | 64 | 36 | 53 | 49 | 42 | 48 | 45 | 49 | 49 | 47 | 49 | 47 | 73% |
| 8 | GMS Paddal, Block Sunder - I, Mandi | 35 | 22 | 29 | 24 | 18 | 24 | 23 | 28 | 30 | 27 | 26 | 25 | 72% |
| 9 | GCPS Purani Mandi, Block - Sunder -I, Mandi | 20 | 17 | 11 | 16 | 15 | 14 | 16 | 12 | 16 | 16 | 18 | 15 | 76% |
| 10 | GMS Purani Mandi, Block - Sunder -I, Mandi | 25 | 22 | 21 | 22 | 16 | 17 | 16 | 14 | 14 | 17 | 18 | 18 | 71% |
| 11 | Govt Boys Sr. Sec School. Sundarnagar | 86 | 72 | 65 | 69 | 75 | 71 | 68 | 69 | 73 | 68 | 70 | 70 | 81% |
| 12 | G.P.S. Kanaid | 70 | 50 | 49 | 50 | 50 | 47 | 50 | 47 | 47 | 50 | 51 | 49.1 | 70% |
| 13 | Govt Sr. Sec School Kanaid | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Govt Boys Sr. Sec School Mandi | 101 | 82 | 82 | 79 | 69 | 68 | 70 | 84 | 87 | 90 | 91 | 80.2 | 79% |
| 15 | Govt CPS Kamand Sadar -II | 36 | 33 | 34 | 32 | 30 | 35 | 35 | 34 | 34 | 36 | 32 | 33.5 | 93% |
| 16 | Govt Sr. Sec School Kamand | 45 | 38 | 37 | 35 | 37 | 40 | 39 | 40 | 42 | 39 | 39 | 38.6 | 86% |
| 17 | Govt Girls Sr Sec School Sadar-I | 157 | 134 | 123 | 122 | 121 | 134 | 142 | 143 | 135 | 137 | 133 | 132.4 | 84% |
| 18 | G.P.S. Balamandi Sadar-1 | 126 | 92 | 83 | 93 | 80 | 93 | 101 | 100 | 99 | 103 | 86 | 93 | 74% |

Annexure-III

**School wise details of Infrastructure facilities
District -- Sirmour**

| S No. | Name of the school | Display Menu | MDM Logo | Availability of Pucca Kitchen | Fuel used | Availability of KD | Fire Extinguisher ** | Availability of eating plates | No. of CCH engaged | Availability of Health card | Emergency plan *** | Tasting of meals |
|-------|---------------------------------|--------------|----------|-------------------------------|-----------|--------------------|----------------------|-------------------------------|--------------------|-----------------------------|--------------------|-----------------------------------|
| 1 | GPS Dhamoon, Raigarh, | Yes | Yes | Yes | LPG | Yes | Yes | Yes | 2 | Yes | Yes | Yes |
| 2 | GMS Dhamoon, Raigarh, | Yes | Yes | No * | LPG | Yes | Yes | Yes | No * | Yes | Yes | Yes |
| 3 | GPS, Nai Netti, Rajgarh | No | No | No | LPG | Yes | Yes | No | 2 | Yes | Yes | Yes |
| 4 | GHS, Nai Netti, Rajgarh | Yes | Yes | Yes | LPG | Yes | Yes | Yes | No * | Yes | No | Yes |
| 5 | Govt. Sr. Sec. School, Shargaon | No | No | Yes | LPG | Yes | Yes | No | 2 | Yes | Yes | Yes |
| 6 | GPS Jagher, Rajgarh | No | No | Yes | LPG | Yes | No | Yes | 1 | Yes | No | Yes |
| 7 | GMS Jagher, Rajgarh | No | No | No * | LPG | No * | No * | No | 1 | Yes | Yes | Yes |
| 8 | GPS Gadhasar, Narang | No | No | Yes | LPG | Yes | Yes | Yes | 1 | Yes | Yes | Yes |
| 9 | GMS Gadhasar, Narang | No | No | Yes | LPG | Yes | Yes | No | 1 | Yes | Yes | Yes |
| 10 | GPS Katla Panjala, Narang | No | No | Yes | LPG | Yes | Yes | No | 2 | Yes | Yes | Yes |
| 11 | GHS Katla Panjala, Narang | No | No | Yes | LPG | Yes | Yes | No | 1 | Yes | Yes | Yes |
| 12 | G.P.S. Dudham Matiana Rajgarh | Yes | No | Yes | LPG | Yes | Yes | Yes | 2 | No | Yes | Yes but not recording in Register |
| 13 | G.H.S. Dudham Matiana Rajgarh | Yes | NO | Yes | LPG | Yes | Non Functional | No | 2 | No | Yes | Yes |

| | | | | | | | | | | | | |
|----|---|-----|----|-----|-----|-----|-------------|----|---|-----|-----|--|
| 14 | G.P.School Thanoga Rajgarh | Yes | No | Yes | LPG | Yes | Yes | No | 1 | No | Yes | Yes |
| 15 | G.M.School Thanoga Rajgarh | Yes | No | Yes | LPG | Yes | Yes | No | 1 | No | Yes | Yes |
| 16 | G.P.S.Pabiana Rajgarh | Yes | No | Yes | LPG | Yes | Yes | No | 2 | No | Yes | Yes but not recordin g in Register |
| 17 | Govt Sr. Sec School Pabiana Rajgarh | Yes | No | Yes | LPG | Yes | Yes | No | 1 | No | Yes | Yes but not recordin g in Register |
| 18 | Govt Primary School Nohra Narag | Yes | No | Yes | LPG | Yes | expi red | NO | 1 | No | No | Yes |
| 19 | Govt Middle School Nohra Narag | Yes | No | Yes | LPG | Yes | expi red | No | 1 | No | No | Yes |
| 20 | G.P.S. Kanger Banona Narag | Yes | No | Yes | LPG | Yes | expi red | No | 1 | Yes | No | Yes |
| 21 | Govt Middle school Narag Banona | Yes | No | Yes | LPG | Yes | expi red | No | 1 | Yes | No | Yes |

* Not Provided as per State Govt. policy under one campus Primary & Upper Primary School.

** Fire Extinguisher was available in most of School but out of this, most of them were not working or need to refill immediately.

** On the Issue of Emergency Plan, only one Tol free Helpline Number was mentioned at School level.

**School wise details of Infrastructure facilities
District -- Mandi**

| S No. | Name of the school | Display Menu | MDM Logo | Availability of Pucca Kitchen | Fuel used | Availability of KD | Fire Extinguisher ** | Availability of eating plates | No. of CCH engaged | Availability of Health card | Emergency plan *** | Tasting of meals |
|-------|---|--------------|----------|-------------------------------|-----------|--------------------|----------------------|-------------------------------|--------------------|-----------------------------|--------------------|--|
| 1 | Govt. Centre Primary School (GCPS), Slapper, Sunder Nagar-I | Yes | Yes | Yes | LPG | Yes | Yes | Yes | 1 | Yes | Yes | Yes |
| 2 | Govt. Sr. Sec. School, Slapper, Sunder Nagar-I | No | Yes | Yes | LPG | Yes | Yes | No | 1 | Yes | Yes | Yes |
| 3 | Govt. Centre Primary School (GCPS), Kangoo, Sunder Nagar-I | Yes | Yes | Yes | LPG | Yes | Yes | Yes | 1 | Yes | Yes | Yes |
| 4 | Govt. Middle School (GMS), Kangoo, Sunder Nagar-I | No | Yes | Yes | LPG | Yes | Yes | No | 1 | Yes | Yes | Yes |
| 5 | Govt. Centre Primary School (GCPS), Bhajpur, Sunder Nagar-I | No | Yes | Yes | LPG | Yes | Yes | No | 2 | Yes | Yes | Yes |
| 6 | Govt. Middle School (GMS), Bhajpur, Sunder Nagar-I | No | Yes | Yes | LPG | Yes | Yes | Yes | 1 | Yes | Yes | Yes |
| 7 | GPS Paddal, Block Sunder -I, Mandi | No | No | Yes | LPG | Yes | Yes | No | 2 | Yes | Yes | Yes |
| 8 | GMS Paddal, Block Sunder -I, Mandi | No | Yes | Yes | LPG | Yes | No | No | 1 | Yes | Yes | Yes |
| 9 | GCPS Purani Mandi, Block - Sunder -I, Mandi | Yes | Yes | Yes | LPG | Yes | Yes | No | 1 | Yes | Yes | Yes |
| 10 | GMS Purani Mandi, Block - Sunder -I, Mandi | No | Yes | Yes | LPG | Yes | Yes | No | 1 | Yes | Yes | Yes |
| 11 | Govt Boys Sr. Sec School. Sundarnagar | No | No | Yes | LPG | Yes | Yes | Yes | 2 | Yes | No | Yes but on the day of visit it was not tasted by any Teacher |

| | | | | | | | | | | | | |
|----|-----------------------------------|-------------------------|------------|------------|------------|------------|------------|------------------------------------|---|-----|------------|-----------------------------------|
| 12 | G.P.S. Kanaid | Yes 2015-16 | Yes | Yes | LPG | Yes | Yes | NO | 2 | No | No | Yes |
| 13 | Govt Sr. Sec School Kanaid | Record not shown | Yes | Yes | LPG | Yes | Yes | Record not shown | | | Yes | Record not shown |
| 14 | Govt Boys Sr. Sec School Mandi | Yes | Yes | Yes | LPG | Yes | Yes | Yes | 2 | Yes | Yes | Yes but not recording in Register |
| 15 | Govt CPS Kamand Sadar - II | Yes | Yes | Yes | LPG | Yes | No | No Plates Children bring from home | 1 | No | Yes | Yes |
| 16 | Govt Sr. Sec School Kamand | Yes | No | Yes | LPG | yes | Expired | plates children bring | 1 | Yes | No | Yes |
| 17 | Govt Girls Sr Sec School Sadar-I | Yes | No | Yes | LPG | Yes | Expired | Yes | 3 | Yes | Yes | Yes |
| 18 | G.P.S. Balamandi Sadar-1 | Yes | Yes | Yes | LPG | Yes | Yes | plates children bring | 2 | Yes | Yes | yes Teacher not signing every day |

* Not Provided as per State Govt. policy under one campus Primary & Upper Primary School.

** Fire Extinguisher was available in most of School but out of this, most of them were not working or need to refill immediately.

** On the Issue of Emergency Plan, only one Toffee Helpline Number was mentioned at School level.
