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Government of India
Ministry of Human Resource Development
Department of School Education & Literacy



**Report of 5th Joint Review Mission on
Mid-Day Meal Scheme**

TAMIL NADU

(29th July 2013 - 08th August, 2013)

मध्याह्न भोजन योजना
Mid Day Meal Scheme



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ACKNOWLEDGEMENTS

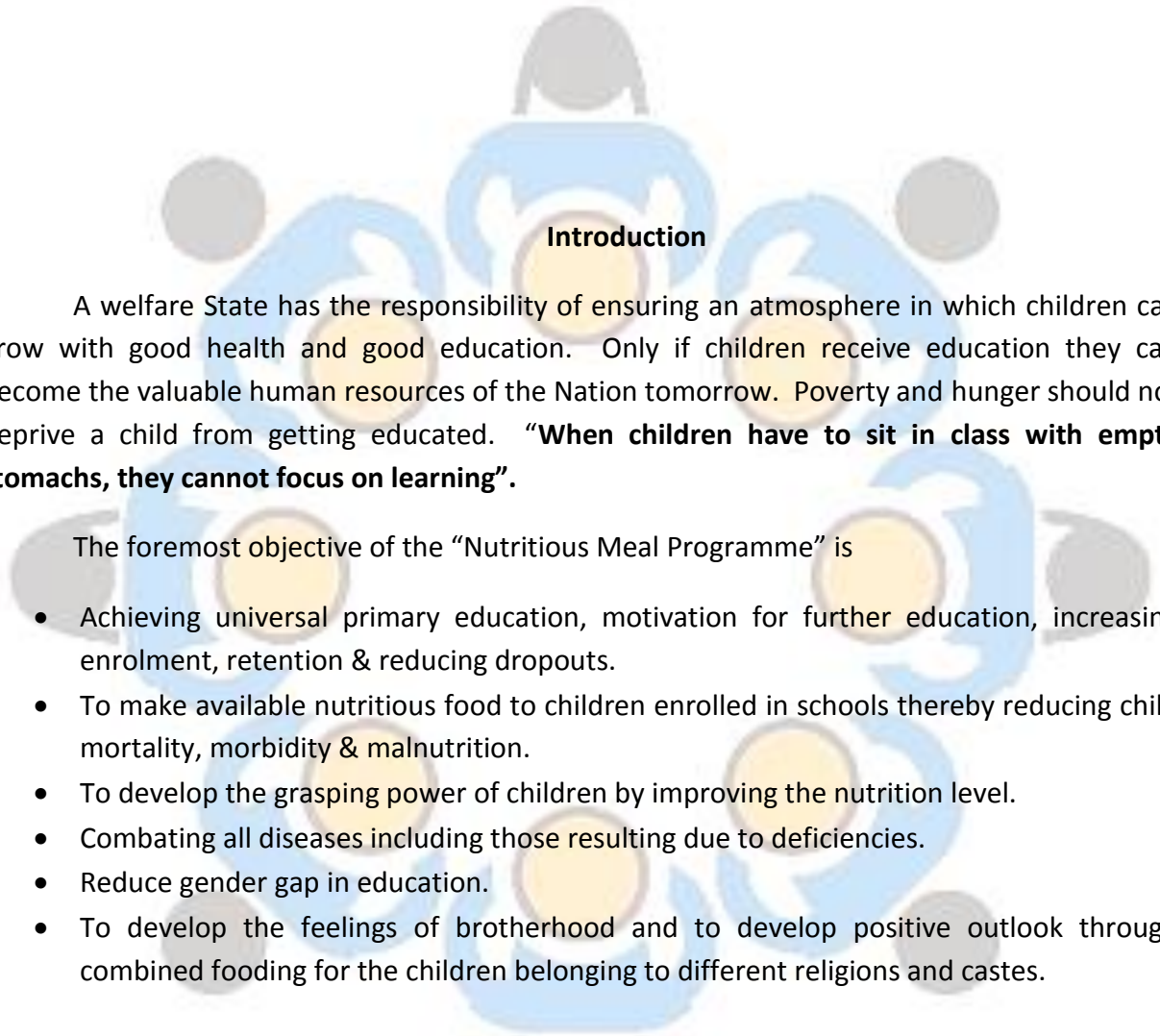
The Joint Review Mission Team would like to thank the Government of Tamil Nadu for the extending their support for facilitating the Team to undertake the review of Mid-Day Meal Scheme successfully.

The members of the Mission acknowledge and value the support and hospitality by the Principal Secretary, Social Welfare and Nutritious Meal Programme Department ; the District Collectors of Tuticorin and Ramnathapuram, all officials of the Department of Social Welfare, Noon Meal Organizers ,the State office of the Nutritious Meal Programme Department and the kitchen staff working in the MDM kitchens; the Department of Health; and the State Department of Food and Civil Supplies; SMC members of the villages and most importantly the students and Parents of the visited schools.

The team has made an earnest effort to include in the report the wide range of observations and discussions held at various levels with key officials and other stakeholders. It sincerely hopes that the recommendations that have emerged through this multi-pronged exercise would help the Government of Tamil Nadu in strengthening the implementation of the Nutritious Meal Programme in schools and ensure that every school going child avails its right to nutritious food in the State.

The JRM Team
August 08, 2013
Chennai

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Mid Day Meal Scheme



Introduction

A welfare State has the responsibility of ensuring an atmosphere in which children can grow with good health and good education. Only if children receive education they can become the valuable human resources of the Nation tomorrow. Poverty and hunger should not deprive a child from getting educated. **“When children have to sit in class with empty stomachs, they cannot focus on learning”.**

The foremost objective of the “Nutritious Meal Programme” is

- Achieving universal primary education, motivation for further education, increasing enrolment, retention & reducing dropouts.
- To make available nutritious food to children enrolled in schools thereby reducing child mortality, morbidity & malnutrition.
- To develop the grasping power of children by improving the nutrition level.
- Combating all diseases including those resulting due to deficiencies.
- Reduce gender gap in education.
- To develop the feelings of brotherhood and to develop positive outlook through combined fooding for the children belonging to different religions and castes.

Mid-Day Meal Scheme popularly called as Puratchi Thalaivar MGR Meal Programme in Tamilnadu was launched in Primary Schools for classes I-V during 1st July 1982 and to Pre-school Children of 2-5 years in Rural areas. Subsequently the scheme was extended to Nutritious Meal Centres in urban areas from 15-9-1982 and further extended to school students in the age group of 10 to 15 from September 1984. The students in 1 to V Standard do receive nutritious meal throughout the year (except holidays) and those in the VI to X Standard receive the meal in all the school working days (220 days). National Child Labour Project Children are provided Nutritious meal in 16 districts (Kancheepuram, Vellore, Tiruvannamalai, Namakkal, Dharmapuri, Krishnagiri, Salem, Coimbatore, Erode, Tirupur, Trichy, Dindigul, Virudhunagar, Tirunelveli, Tuticorin & Chennai) of the State.

The children enrolled under the scheme are provided with hot cooked, wholesome food within the school campus itself on all weekdays as per details given below:

| Day | Menu |
|-----------|---|
| Monday | White Rice, Vegetable Sambar with one boiled egg (one banana for those who do not eat egg) |
| Tuesday | White Rice, Vegetable Sambar with one boiled egg (one banana for those who do not eat egg) and 20 gms of boiled green gram or Bengal gram (alternatively) |
| Wednesday | White Rice, Vegetable Sambar with one boiled egg (one banana for those who do not eat egg) |
| Thursday | White Rice, Vegetable Sambar with one boiled egg (one banana for those who do not eat egg) |
| Friday | White Rice, Vegetable Sambar with one boiled egg (one banana for those who do not eat egg) and 20 gms of boiled potato |

Feeding Scale per Beneficiary per day – Primary & Upper Primary

| S.No | Food Item | Primary | Upper Primary | IX & X |
|------|---------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1 | Rice | 100 gram | 150 gram | 150 gram |
| 2 | Dhall | 15 gram | 15 gram | 15 gram |
| 3 | Oil | 3 gram | 3 gram | 3 gram |
| 4 | Salt | 1.9 gram | 1.9 gram | 1.9 gram |
| 5 | Vegetables, condiments and Fuel | 70 paise | 80 paise | 80 paise |
| 6 | Egg * | 46 gram / egg 5 days a week | 46 gram / egg 5 days a week | 46 gram / egg 5 days a week |
| 7 | Green gram / Bengal gram | 20 gram (Every Tuesday) | 20 gram (Every Tuesday) | 20 gram (Every Tuesday) |
| 8 | Potatoes | 20 gram (Every | 20 gram (Every | 20 gram |

| | | | | |
|--|--|---------|---------|-------------------|
| | | Friday) | Friday) | (Every Friday) |
|--|--|---------|---------|-------------------|

* Banana to children who do not take eggs.

1. Constitution of Review Mission and its objectives

A programme of scale and magnitude of Mid Day Meal requires close monitoring and evaluation at all levels. MHRD has constituted the 5th Joint Review Mission with the following composition :-

Composition of Joint Review Mission

1. Dr. U.K Lakshmi , Prof and Head, Food Science and Nutrition Department, Avinasilingam Institute of Home science and Higher Education for Women, Coimbatore
2. Mr.B. D. Shivani, Deputy Secretary, MHRD, Government of India
3. Mr. V.M. Xavier Chrisso Nayagam Director, Department of Social Welfare and Nutritious Meal Programme
4. Dr. C. Yegammai, Prof. Food Science and Nutrition Department, Avinasilingam Institute of Home science and Higher Education for Women, Coimbatore
5. Dr. V. Suresh, Advisor for Tamil Nadu to the Supreme Court Commissioners on Food Security, Chennai
6. Dr. Milind Brahme, Associate Prof. and Nodal officer for the Monitoring Institute, IIT Madras

Co-team Members

1. Shri K.K. Sharma, Consultant, NSG-MDM, Ed.Cil, MHRD
2. Dr. Mridula Sircar, Consultant, NSG-MDM, Ed.Cil, MHRD
3. Mr. Saravanan K, Office of Advisor for Tamil Nadu to the Supreme Court Commissioners on Food Security Chennai.
4. Dr. M. Govindarasan, Project Associate, IIT Madras for the Monitoring Institute.
5. Tmt.S. Ithayamalar Research Assistant, Avinasilingam Institute of Home science and Higher Education for Women,Coimbatore.
6. Selvi. E. Kalai Selvi, Research Assistant, Avinasilingam Institute of Home science and Higher Education for Women,Coimbatore.

7. Selvi. Ramya Siva Selvi, Research Assistant, Avinasilingam Institute of Home science and Higher Education for Women,Coimbatore.
8. Selvi M. Manju Devi, Research Assistant, Avinasilingam Institute of Home science and Higher Education for Women,Coimbatore.

The Terms of Reference (ToR) of the Joint Review Mission are as under:-

- (i) To review the performance of the Scheme in the selected State in the light of the Guidelines of the Mid Day Meal Scheme.
- (ii) To suggest policy measures for effective implementation of the Scheme in the State.

The 5th Joint Review Mission visited Tamil Nadu from 29th July to 8th August, 2013 to review the Implementation of Mid-Day Meal Scheme (MDMS) in the State keeping in view the following Terms of Reference (ToRs):

1. Review the system of fund flow from State Government to Schools/cooking agency and the time taken in this process.
2. Review the management and monitoring of the scheme from State to School level.
3. Review the implementation of the scheme with reference to availability of food grains, quality of MDM, regularity in serving MDM as per approved norms and mode of cooking.
4. Role of Teachers,
5. Convergence with School Health Programme (SHP) for supplementation of micronutrients and health checkups and supply of spectacles to children suffering from refractive errors.
6. Creation of capital assets through kitchen-cum-store/kitchen devices
7. Appointment of Cook-cum-Helpers for preparation and serving of meal to the children
8. Availability of dedicated staff for MDM at various levels
9. Review the maintenance of records at the level of school/cooking agency.
10. Review the availability of infrastructure, its adequacy and source of funding.
11. Review of payment of cost of foodgrains to FCI by the districts
12. Review the involvement of NGOs/Trust/Centralized kitchens by States/UTs
13. Government in implementation of the Scheme.
14. Management Information System (MIS) from school to block, district and State Level to collect the information and disseminate it to other stakeholders
15. Assess the involvement of Community' in implementation of MDM scheme and give suggestions for improvement in the implementation of the programme.
16. Review of the status of tasting of the meal by at least one teacher.

17. Review of status of Safe storage and proper supply of ingredients to schools.
18. Review of the status of Awareness about Mid- Day Meal Scheme.
19. Review of status of convening of Monitoring Committee under the Chairmanship of Member of Parliament.
20. Review of the convening of regular review meetings at District level.
21. Review of the status of testing of food samples by reputed institute.
22. Review of the status of Emergency Medical Plan; and.
23. Give suggestions for improvement in the implementation of the programme.

ToRs for the Assessment of Nutritional Status of children:

1. To assess the anthropometric measurements of a sample of children availing MDM: Height, Weight, Mid arm Circumference.
2. To Calculate the Body Mass Index (BMI) on the basis of measurement of Height and weight.
3. To identify the children who are undernourished and over nourished.
4. To assess the nutritive value of the served MDM on the day of visit by 24 hour food recall method.
5. To review the quality and quantity of the served MDM.
6. To review the satisfaction of the children parents and community on the served meal under MDM in respect of quality and quantity.
7. To suggest some nutritionally balance region specific recipes.
8. To assess the ways for better convergence with School Health Programme.

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Mid Day Meal Scheme

State Profile : Tamil Nadu



Tamil Nadu, India's cultural capital was formerly known, as Madras State is located in southeast India. Kanyakumari, the southern most tip of the country and the voluminous confluence of the Bay of Bengal, Indian Ocean and Arabian Sea is a part of the state. With its 1000 km long coastline dotted with dense coconut groves, whose heads gracefully sway to and fro in the breeze, whispering delicious secrets to one another and enclose the solitary ocean glittering like a jewel in a brass setting, the state has some of the country's most exquisite natural backwaters.

Location and Area

Tamil Nadu is enclosed between Pondicherry, Kerala, Karnataka and Andhra Pradesh and spans across the geometric coordinates of 13°05' North to 80°16' East and encompasses an area of 130,058 sq. km. The beautiful state has an elongated coastline of nearly 1000 km dotted with lush foliage comprising of coconut and casuarinas groves behind which the elusive ocean waters gleam under the playful saffron sunbeams like a mirage of quicksilver.

| | | |
|---|---|---------------------|
| State Capital | : | Chennai |
| State Area | : | 1,30,058 Square km. |
| Population (As per census 2011 Provisional data) | : | 7,21,38,958 |
| (a)Males (As per census 2011) | : | 3,61,58,871 |
| b)Females (As per census 2011) | : | 3,59,80,087 |
| Decennial Growth rate (2001-2011) (As per census 2011) | : | 15.60 percent |
| Sex Ratio (As per census 2011) | : | 995 per thousand |
| Density (persons per sq. km.) (As per census 2011) | : | 555 per thousand |
| Child sex ratio (0-6 years) (As per census 2011) | : | 946 per thousand |
| Total Literacy rate- | | |
| Persons | : | 69.72 percent |
| a)Male Literacy | : | 79.24 percent |
| b)Female Literacy | : | 59.26 percent |
| Districts | : | 32 |
| Revenue Divisions | : | 76 |
| Taluks | : | 226 |
| Municipal Corporations | : | 10 |
| Municipalities | : | 125 |
| Panchayat Unions | : | 385 |
| Town Panchayats | : | 561 |
| Village Panchayats | : | 12,618 |

Source : Department of Economics and Statistics.

Noon Meal Centres in the State:

| | | |
|--|---|--------------|
| Primary School (Govt.+LB+G.A.+EGS/AIE /Madarsa/Maqtab) | : | 27108 |
| Upper Primary (Govt.+LB+G.A. EGS/AIE /Madarsa/Maqtab) | : | 15043 |
| NCLP | : | 339 |
| Total | : | 42490 |

Implementation of the National Flagship Programmes such as SSA, RTE Act, Free supply of 4 sets of uniforms and MDM in Tamil Nadu has given an impetus to the spread of education in the recent years. Various steps taken by the State Government in implementing educational schemes with the assistance of Central Government have brought about remarkable improvement in access, enrolment and retention. Efforts are being put on for achieving the goal of quality education and objectives of RTE Act in the State.

Coverage status of institutions, children and working days for the financial year 2010-11, 2011-12 and 2012-13 is shown in the following tables

- Coverage of Schools

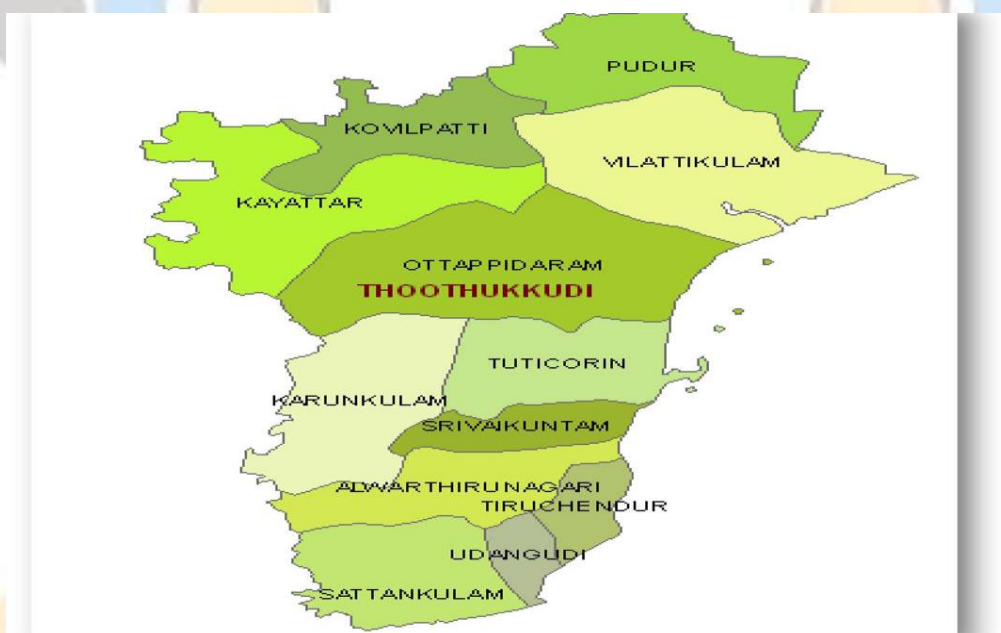
| S.No | Stage | 2010-11 | | 2011-12 | | 2012-13 | |
|------|---------------|--------------|-----------------------|--------------|------------------------|--------------|-----------------------|
| | | Approved | Coverage | Approved | coverage | Approved | coverage |
| 1 | Primary | 28027 | 27075 | 27526 | 27440 | 28415 | 27447 |
| 2 | Upper Primary | 14797 | 15360 | 9045 | 9367 | 15372 | 15043 |
| | Total | 42824 | 42435 (99%) | 36571 | 36807 (101%) | 43787 | 42490 (97%) |

- Coverage of Children & Working days

| S.No | Stage | 2010-11 | | 2011-12 | | 2012-13 | |
|------|--|----------------|----------------|----------------|----------------|----------------|----------------|
| | | Approved | Beneficiaries | Approved | Beneficiaries | Approved | Beneficiaries |
| 1 | No. of Children | | | | | | |
| 1.1 | PAB approval vs Coverage | | | | | | |
| | Primary | 3220864 | 2699771 | 2715398 | 2504239 | 2600000 | 2663943 |
| | Upper Primary (including NCLP) | 1823238 | 2504239 | 1720867 | 1624999 | 1800000 | 2054975 |
| | Total | 5044102 | 5204010 | 4436265 | 4129238 | 4400000 | 4718918 |
| 1.2 | Enrolment* vs Beneficiaries of Children | | | | | | |
| | Primary | 3251355 | 2699771 | 3215198 | 2504239 | 3028036 | 2663943 |
| | Upper Primary | 2212604 | 2504239 | 2310101 | 1624999 | 2367004 | 2054975 |
| | Total | 5463959 | 5204010 | 5625299 | 4129238 | 5395040 | 4718918 |
| 1.3 | No. of Working Days | | | | | | |
| | Stage | Approved | Coverage | Approved | Coverage | Approved | Coverage |
| | Primary | 220 | 220 | 220 | 220 | 220 | 220 |
| | Upper Primary | 220 | 220 | 220 | 220 | 220 | 220 |

| | | |
|---|--|---|
| 1 | Numbers of Block to be covered | 385 in 31 districts (10 Zones in Chennai Corporation) |
| 2 | Numbers of schools proposed to be covered (Primary) | 27,447 |
| 3 | Numbers of schools proposed to be covered (Upper Pry.) | 15,043 |
| 4 | Total Numbers of schools proposed (Pry. + Upper Pry.) | 42,490 |
| 5 | Total Numbers of Cook-cum-Helper Engaged (January to March 2013) | 1,08,643 |

District Profile : Thoothukudi



| | | |
|---|---|--|
| Population of the District (2011 Census) | - | 17,38,376 As Per Provisional Population 2011 |
| Males | - | 8,58,919 |
| Females | - | 8,79,457 |
| Literacy Rate | - | 86.52% |
| Male literacy | - | 91.42% |
| Female literacy | - | 81.77% |
| Density | - | 378 Person per sq km |

Noon Meal Employees Status in Tuticorin District

| S.No | Staff | Sanctioned | In position | Vacant |
|------|----------------|-------------|-------------|------------|
| 1 | Organizer | 1488 | 1249 | 239 |
| 2 | Cook | 1489 | 1193 | 296 |
| 3 | Cook Assistant | 1489 | 1311 | 178 |
| | Total | 4466 | 3753 | 713 |

• Coverage of Schools in Tuticorin District

| S. No | Stage | 2010-11 | | 2011-12 | | 2012-13 | |
|-------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | Approved | Coverage | Approved | coverage | Approved | coverage |
| 1 | Primary | 1008 | 1008 | 1008 | 1007 | 1007 | 1011 |
| 2 | Upper Primary | 465 | 465 | 465 | 462 | 462 | 492 |
| | Total | 1473 | 1473 | 1473 | 1469 | 1469 | 1503 |

Educational Institutions and Children in Tuticorin District

• Coverage of Children & Working days

| S.No | Stage | 2010-11 | | 2011-12 | | 2012-13 | |
|------|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | | Approved | Beneficiaries | Approved | Beneficiaries | Approved | Beneficiaries |
| 1 | No. of Children | | | | | | |
| 1.1 | PAB approval vs Coverage | | | | | | |
| | Primary | 73201 | 84256 | 76864 | 78423 | 78423 | 67518 |
| | Upper Primary (including NCLP) | 43331 | 41016 | 44901 | 35398 | 35398 | 36910 |
| | Total | 116532 | 125272 | 121765 | 113821 | 113821 | 104428 |
| 1.2 | Enrolment* vs Beneficiaries of Children | | | | | | |
| | Primary | 94546 | 84256 | 104319 | 78423 | 100062 | 67518 |
| | Upper Primary | 44711 | 41016 | 46579 | 35398 | 45269 | 36910 |
| | Total | 139257 | 125272 | 150898 | 113821 | 145331 | 104428 |

Target for implementation of MDM in 2013-14

| | | |
|---|---|------|
| 1 | Numbers of Block to be covered | 12 |
| 2 | Numbers of schools proposed to be covered (Primary) | 1018 |
| 3 | Numbers of schools proposed to be covered (Upper Pry.) | 483 |
| 4 | Total Numbers of schools proposed (Pry. + Upper Pry.) | 1501 |
| 5 | Total Numbers of Cook-cum-Helper Engaged(January to March 2013) | 3753 |

Mid day meals District Plan – Cooking Cost and Honorarium to Cook-cum-helpers 2010-11, 2011-12 & 2012-13

Cooking Cost

| Year | Funds Released (in lakhs) | | | Expenditure (In Lakhs) | | |
|---------|---------------------------|--------|--------|------------------------|--------|--------|
| | PS | UPS | Total | PS | UPS | Total* |
| 2010-11 | 182.78 | 57.72 | 240.5 | 101.25 | 118.85 | 220.10 |
| 2011-12 | 670.56 | 211.76 | 882.32 | 398.11 | 467.35 | 865.46 |
| 2012-13 | 160.18 | 50.58 | 210.76 | 66.19 | 77.71 | 143.90 |

Honorarium to Cook-Cum-Helper

The Noon Meal Organizers and Cook-cum-helpers are the regular temporary employees of the State Government. They get salary every month in the following pay scales:

- i) Noon Meal Organizers Rs. 2,500-5,000 + Grade Pay Rs. 500/-
- ii) Cook Rs. 1,300-3,800 + Grade Pay Rs. 300/-
- iii) Assistant Cook Rs. 950-2,000 + Grade Pay Rs. 200/-

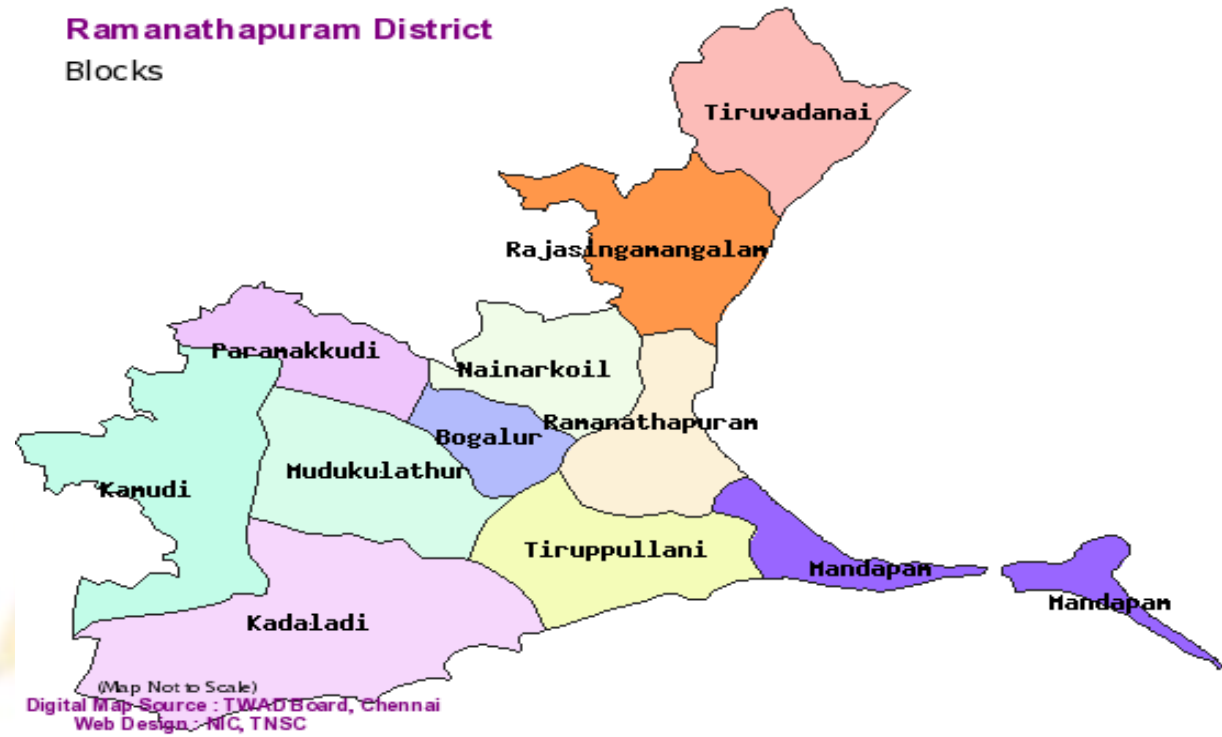
The Central Assistance released by the Government of India towards the honorarium for these cook-cum-helpers is utilized for paying the salary to the above functionaries. The expenditure incurred by the State against the central assistance for honorarium to cook-cum-

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Mid Day Meal Scheme

helpers is given below:

| Year | Funds Released (in lakhs) | | Expenditure (In Lakhs) |
|---------|---------------------------|-------------|------------------------|
| | Central Share | State Share | |
| 2010-11 | 250.40 | 1150.80 | 1401.2 |
| 2011-12 | 260.90 | 2389.92 | 2650.82 |
| 2012-13 | 262.50 | 197.56 | 460.06 |

District Profile : Ramanathapuram



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13,37,560 As Per Provisional Population
2011
Mid Day Meal Scheme

Population of the District (2011 Census)

| | | |
|------------------------|---|---------------------------|
| Males | - | 6,76,574 |
| Females | - | 6,60,986 |
| Literacy Rate | - | 74 % |
| Male literacy | - | 79 % |
| Female literacy | - | 68 % |
| Sex Ratio | - | 977 females to 1000 males |
| Density | - | 320 Person per sq km |

Noon Meal Employees Status in Ramanathapuram District

| S.No | Staff | Sanctioned | In position | vacant |
|------|----------------|-------------|-------------|------------|
| 1 | Organizer | 1224 | 982 | 242 |
| 2 | Cook | 1245 | 1077 | 168 |
| 3 | Cook Assistant | 1248 | 1087 | 161 |
| | Total | 3717 | 3146 | 571 |

Educational Institutions and Children in Ramanathapuram District

• **Coverage of Schools in Ramanathapuram District**

| S.No | Stage | 2010-11 | | 2011-12 | | 2012-13 | |
|------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | Approved | Coverage | Approved | coverage | Approved | coverage |
| 1 | Primary | 917 | 879 | 879 | 879 | 879 | 893 |
| 2 | Upper Primary | 345 | 348 | 345 | 345 | 345 | 313 |
| | Total | 1262 | 1227 | 1224 | 1224 | 1224 | 1206 |

• **Coverage of Children & Working days**

| S.No | Stage | 2010-11 | | 2011-12 | | 2012-13 | |
|------|--------------------------|----------|---------------|----------|---------------|----------|---------------|
| | | Approved | Beneficiaries | Approved | Beneficiaries | Approved | Beneficiaries |
| 1 | No. of Children | | | | | | |
| 1.1 | PAB approval vs Coverage | | | | | | |

| | | | | | | | |
|------------|---|---------------|---------------|---------------|---------------|---------------|--------------|
| | Primary | 59608 | 60378 | 63708 | 63708 | 63708 | 69211 |
| | Upper Primary (including NCLP) | 42002 | 41903 | 42622 | 42622 | 42622 | 27416 |
| | Total | 101610 | 102281 | 106330 | 106330 | 106330 | 96627 |
| 1.2 | Enrolment* vs Beneficiaries of Children | | | | | | |
| | Primary | 59034 | 60378 | 64436 | 63708 | 80092 | 69211 |
| | Upper Primary | 39801 | 41903 | 43832 | 42622 | 54047 | 27416 |
| | Total | 98835 | 102281 | 108268 | 106330 | 134139 | 96627 |

Target for implementation of MDM in 2013-14

| | | |
|---|---|------|
| 1 | Numbers of Block to be covered | 11 |
| 2 | Numbers of schools proposed to be covered (Primary) | 911 |
| 3 | Numbers of schools proposed to be covered (Upper Pry.) | 313 |
| 4 | Total Numbers of schools proposed (Pry. + Upper Pry.) | 1224 |
| 5 | Total Numbers of Cook-cum-Helper Engaged(January to March 2013) | 3146 |

Mid-day meals District Plan – Cooking Cost and Honorarium to Cook-cum-helpers 2010-11, 2011-12 & 2012-13

Cooking Cost

| Year | Funds Released (in lakhs) | | | Expenditure (In Lakhs) | | |
|---------|---------------------------|----------|-----------|------------------------|----------|-----------|
| | PS | UPS | Total | PS | UPS | Total* |
| 2010-11 | 12507962 | 4923006 | 174309068 | 12507962 | 4923006 | 17430968 |
| 2011-12 | 108834742 | 39457657 | 148292399 | 108834742 | 39457657 | 148292399 |
| 2012-13 | 96960085 | 39626915 | 136587000 | 96960085 | 39626915 | 136587000 |

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Honorarium to Cook-Cum-Helper

| Year | Funds Released (in lakhs) | | Expenditure(In Lakhs) |
|---------|---------------------------|-------------|-----------------------|
| | Central Share | State Share | |
| 2010-11 | 2787750 | 10780407 | 13568157 |
| 2011-12 | 2787750 | 9396248 | 12183998 |
| 2012-13 | 2787750 | 8837250 | 11625000 |

Briefing Session on 29th July, 2013

Principal Secretary, Social Welfare and Nutritious Meal Programme Department briefed the Joint Review Mission Team on 29th July, 2013. The briefing inter-alia included highlighted the issues:-

- i. The State Government is providing egg to all the elementary stage children on all working days (five days).
- ii. 6,33,193 children of 9th and 10th Classes are also given mid day meal by the State Government from its own resources.
- iii. Variety rice scheme has been introduced by the Chief Minister of Tamil Nadu in one pilot block of each district with effect from 20th March, 2013.
- iv. Each month's requirement of Pulses, Oil and Salt are delivered at school by Tamil Nadu Civil Supplies Corporation between 15-25 date of the previous month so that each school has buffer stock as per MDM guidelines.
- v. One Noon Meal Organiser, One Cook and One Assistant Cook has been engaged in each schools for ensuring uninterrupted preparation and serving of mid day meal in all schools.
- vi. Training programmes are organized at regular intervals to orient the employees on Nutrition, Health and Personal Hygiene like regular cutting of nails, washing hands and feet with soap before commencement of cooking / serving and on food preparation.
- vii. Training has been given on maintenance of hygiene, cleaning of cooking and serving utensils, storage and environmental protection in the disposal of wastage.
- viii. Millets in the form of Ladoos / Halwa / Pakoda has been introduced under Mid Day Meal in the Districts of Ariyalur and Perambalur to supplement the nutrition under Mid Day Meal Centres.
- ix. Training has been given on maintenance of hygiene, cleaning of cooking and serving utensils, storage and environmental protection in the disposal of wastage.

Principal Secretary desired that central assistance for Transportation Charges may be given at par with PDS rates. He further desired that the cost of LPG Cylinders has increased considerably due to the withdrawal of subsidy and the schools find it difficult to procure LPG with the existing central assistance. He, therefore, proposed that the additional funds may be provided to the State for meeting the enhanced cost of LPG cylinders. Director, Social Welfare and Nutritious Meal Programme also proposed that all unaided private schools may be included for central assistance instead of covering unaided private schools located in SC, ST and Minority concentrated district.

METHODOLOGY

The JRM adopted a multi stage sampling design to collect information and data for the review. In the first stage two districts – Tuticorin and Ramanathapuram were selected. District Tuticorin was selected by the Ministry of Human Resource Development (Department of School Education & Literacy) because of its poor performance while Ramanathapuram district was selected by the Govt. of Tamil Nadu. The team visited a total of 55 schools comprising of 29 schools in Tuticorin and 26 schools in Ramanathapuram districts. The team also visited 1 NCLP school located in Tuticorin district. The team adopted the primary method of interviewing the children, teachers, community members and other stakeholders. The secondary method was the MDM register, SMC meeting registers, school health cards and the records from the Civil Supplies.

In order to ensure maximum coverage of schools, the JRM members split themselves into two teams. The routes for visiting the schools were planned in consultation with the State and District Administration, keeping in mind the following points-

- Rural and remote schools to study the implementation of the scheme in village schools and far flung areas.
- NCLP Schools.
- Govt. Aided

The JRM team also visited a warehouse of the Department of Food & Civil Supplies in Tuticorin and Ramanathapuram.

Review of the Documents

The JRM team carried out a critical review of the documents pertaining to MDMS that had been provided by the State as well as the schools.

Interaction with the Stakeholders

Record based enquiry methodology and interviews with stakeholders were undertaken to collect information on the performance of the scheme in the State. In-depth discussions were

held with State, District, Block and School level functionaries to get information about the modalities being followed for implementation of the scheme in Tuticorin and Ramanathapuram.

Assessment of Nutritional Status

The JRM team was also assigned the task of assessing the nutrition profile of the students availing the benefit of MDMS. For this purpose, 803 students from the sample schools were selected through stratified random sampling. The nutrition profile was assessed by taking their anthropometric measurements, studying the BMI and carrying out critical appraisal to see the prevalence of micronutrient deficiencies. The 24-hour recall Method was used on the subjects from class 3rd to 8th to study their overall food pattern and assess their nutrient intake. A copy of the inventory used for the purpose has been furnished as an Annexure.



मध्याह्न भोजन योजना
Mid Day Meal Scheme

MAJOR OBSERVATIONS

On the basis of the data made available, field observations, interaction with various stakeholders as well as the nutritional assessment of the students, the observations made by the Mission have been discussed herein. To facilitate the discussion, these observations have been categorized into two sections – assessment of MDMS and assessment of nutritional status.

A: Implementation of MDMS

1. Review of the system of fund flow from State Government to Schools/cooking agencies and the time taken in this process.

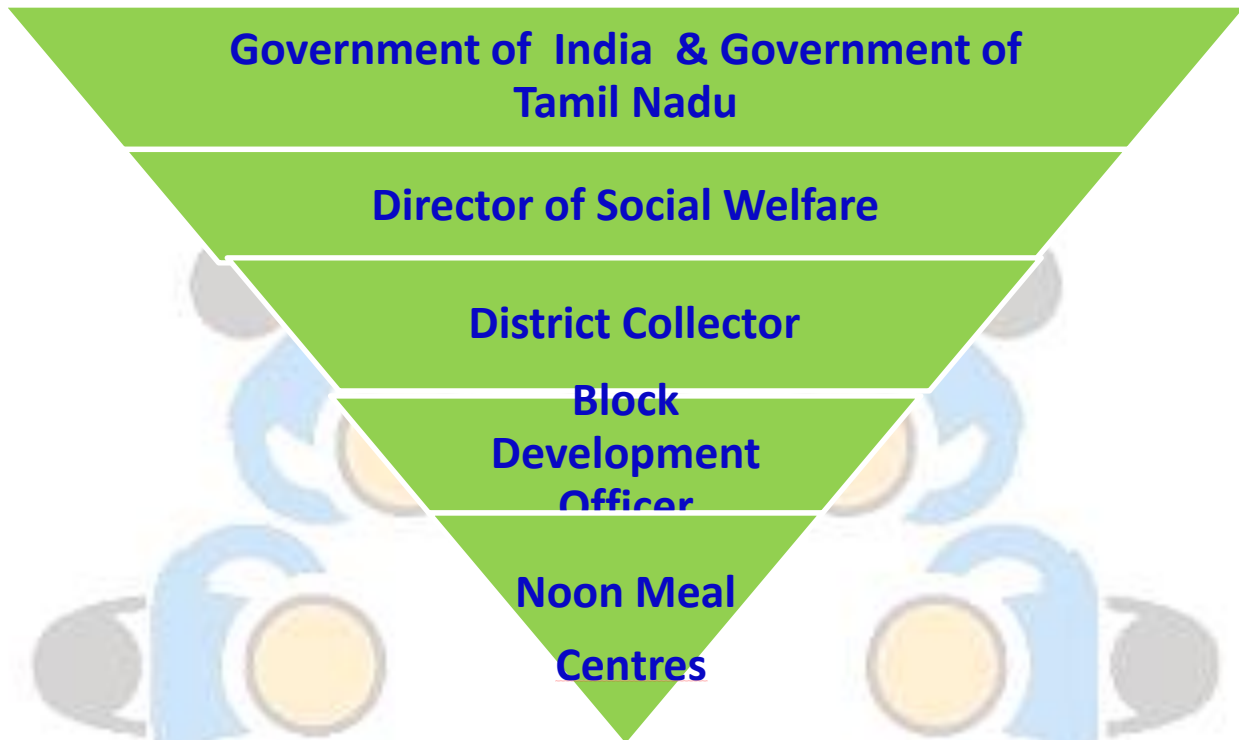
The Government of India releases funds in two installments (60:40) to the States/ UTs. The ad-hoc release @ 25% made without taking into consideration unspent balance of the previous year. The balance 35% of first installment is released after obtaining the information on unspent balance as on 01.04.2013 from the previous releases. The 2nd installment @ 40% is released after taking into consideration the expenditure against the funds made available to the State during the first installments and the unspent balance available with the State. The State share is also released @ 25% of Central Assistance for cooking cost, honorarium to cook-cum-helpers and construction of kitchen cum stores/

The central assistance is routed through the State Finance Department which in turn releases the funds to the Director, Social Welfare who releases funds to the District Collectors for onward transmission to Noon Meal Organisers through Block Development Officers by e-transfer.

The funds (contingent fund only) thus released by the Block Development Officers are credited into the Savings Bank Account of the Nutritious Meal Centers maintained exclusively for this purpose. Expenditure on fuel, vegetables and condiments are meted out by the Nutritious Meal Organizer from these funds released to the centers by Block Development Officers. Nutritious Meal Organizers are authorized to draw money required for food grains, Vegetables and fuel charges one week in advance to incur the above expenditure.

The following flow chart indicates movement of funds from Central Govt. to the implementing agencies:

मध्याह्न भोजन योजना
Mid Day Meal Scheme

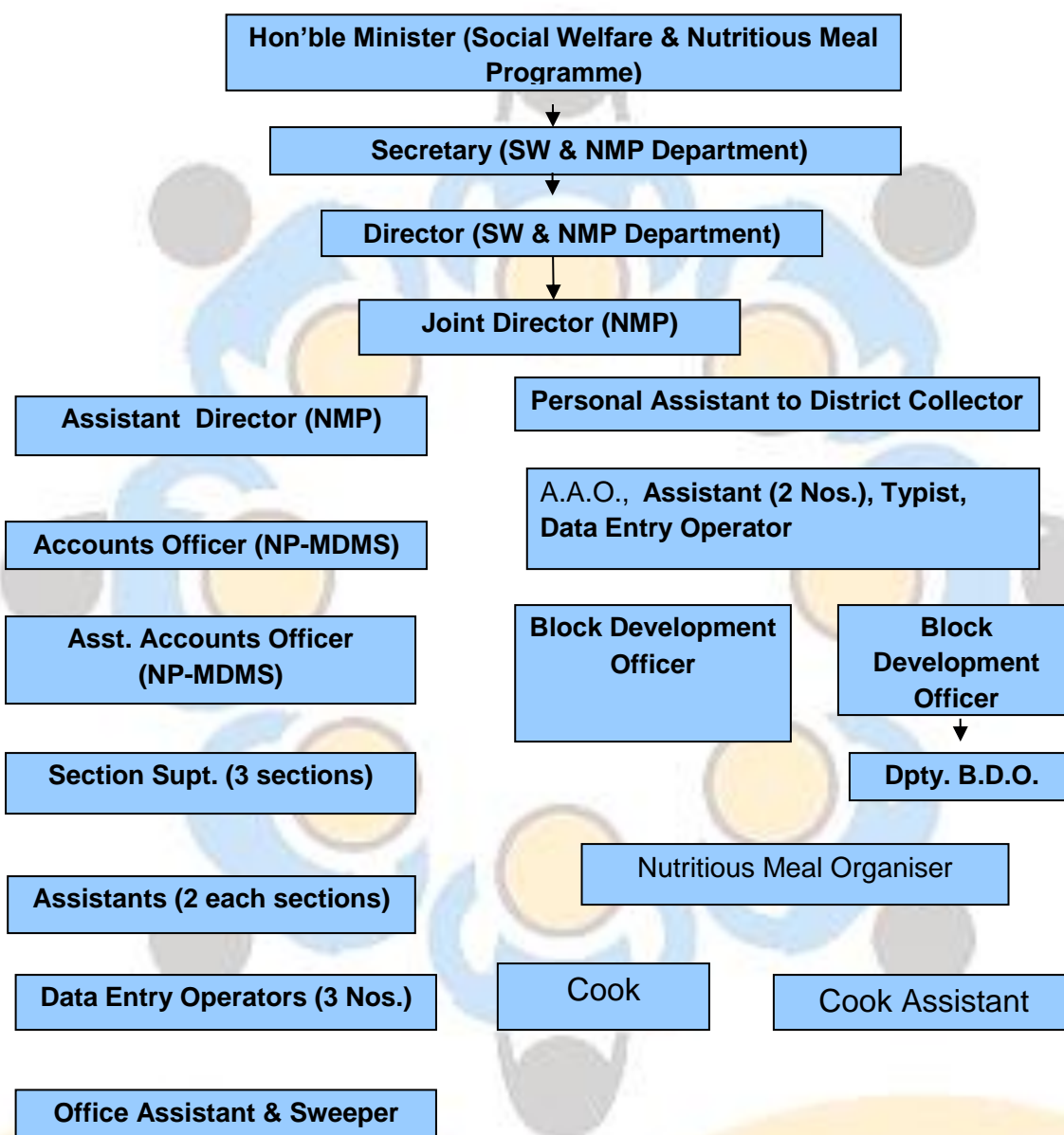


MHRD has already released ad-hoc central assistance of Rs. 11707.39 lakh on 18th April, 2013 and Rs. 17290.52 lakh towards the balance of first installment on 15th July, 2013. JRM observed that all the schools in Tuticorin district had received the first installment of funds in the last month of July, 2013. But funds were being released on monthly basis in Ramathapuram except in Kadaladi block where the Noon Meal Organizer was implementing the scheme on credit basis. This was brought to the notice of Shri Nanthakumar, District Collector, Ramanathapuram. He informed that funds had been released to the above but could not be further released to Noon Meal Organizers because the BDO of that block had been suspended and his successor has joined only two three days ago. He assured the JRM that he would advise the BDO to release the funds to all NMOs immediately.

2. Review the Management and Monitoring of the Scheme from State to School Level.

The Social Welfare and Nutritional Meal Department implements the Programme in the State. The organizational structure of the Department is as under:-

मध्याह्न भोजन योजना
Mid Day Meal Scheme



Monitoring Mechanism

The meeting of State Level Steering-cum-Monitoring Committee headed by Chief Secretary was held on 18th March, 2013 and attended by Secretaries of Planning Development & Special Initiatives, School Education, Rural Development & Panchayat Raj, Health & Family Welfare and Co-operation Food & Consumer Protection, Social Welfare and Director of Social Welfare Scheme implementation, new initiatives, training provided, steps to increase enrolment of

children in schools, maintenance of quality food, progress of the construction of kitchen-cum-stores, management and monitoring were the points taken up during the meeting.

JRM apprised the State officers that at least one meeting of SLSMC is to be held during each quarter. They were requested to organise the meeting for the quarter ending on 30th June, 2013 immediately and also the third meeting should be convened before the end of September, 2013.

2. District Level Steering cum Monitoring Committees have been constituted in most of the Districts. JRM learnt that District Magistrate are not able to hold meeting of District Level Steering-cum-Monitoring Committee on monthly basis due to a their pre-occupation in various other meetings and important work..

3. Block level monitoring is the responsibility of the BDO. But they are also not holding the regular meetings exclusively for Noon Meal Programme. However, Deputy BDO inspects the schools and fix the number of beneficiary children under NMP on the basis of three visits. JRM observed that due to little coordination between NMP and Department of Education, the actual enrolment of children is not available with them.

4. Parent Teacher's Association/SMC/ Steering Village Education Committees have been constituted in most places. They need to be regularly involved in monitoring of Cooking & Serving. It was observed that in few schools both SMC/VEC exist and they meet on the same day and discuss the same agenda.

5. Regular inspection by District / State level officers as per target fixed. The State Officials viz. Deputy Directors, Assistant Directors, Assistant Education Officers, Dy. BDOs/BDOs/ officials from BRC and CRC are inspecting the schools regularly. Their observations were not available at the school level. Therefore, JRM could not find their recommendations but during the de-briefing session with the Principal Secretary, it was mentioned that the State has evolved a standardised proforma for Inspection of Schools.

मध्याह्न भोजन योजना Mid Day Meal Scheme

The mandatory visits during each month by various Officers to the Nutritious Meal Centers are given as under:-

| | |
|--|------------|
| District Collector | 10 Centers |
| PA to Collector (NMP), | 20 Centers |
| Chennai Corporation Commissioner | 10 Centers |
| Commissioner of Municipalities | 20 Centers |
| District Project Officer, ICDS | 30 Centers |
| Block Development Officer | 40 Centers |
| Assistant Educational Officer, Chennai Corporation | 10 Centers |
| Other Corporation Commissioners | 10 Centers |
| Child Development Project Officer | 60 Centers |

- In the wake of Bihar incident , the Directorate officials have been advised to inspect the Noon Meal Centers regularly and more vigorously in order to ensure safety of the children
- District Collectors have also been advised to form teams for inspection of all the Noon Meal Centers to ensure that basic facilities viz. water for drinking and cleaning, toilets, sufficient utensils for cooking and serving plates and tumblers and infrastructure available in the centers and to verify the quality of food grains, quality of food prepared, distribution to children, sanitation, storage, Kitchen sheds etc.,
- Review meetings conducted by Hon'ble Minister for Social Welfare, Secretary as well as Social Welfare, PA (NMP)s on all indicators at State level regularly.
- Scheme monitored through monthly progress reports (food grains) quarterly progress reports, evaluation through monitoring institution and review of reports sent by District Collectors and other inspecting authorities.

Mid Day Meal Scheme

3. Review of implementation of the scheme with reference to availability of food grain, quality of MDM, regularity in serving MDM as per approved norms and mode of cooking

3.1 Availability of Food grain:

Every year the requirement of rice is calculated based on September pattern of consumption of food grains during the previous year, including buffer stock for 45 days. This indented quantity is communicated to Government of India. After the allocation by the Government of India, the distribution to District including Chennai Corporation is being made on quarterly basis by the Department, and the same is also sent to Food Corporation of India and Tamil Nadu Civil Supplies Corporation. The food grains allocated by Government of India is lifted from the Food Corporation of India by the Tamil Nadu Civil Supplies Corporation and stored in the godowns of State's Civil Supplies Corporation. The Tamil Nadu Civil Supplies Corporation lifts the rice from the Regional Centers and supply the rice, dhall, oil, green gram and Bengal gram every month as per indents. Bags weigh somewhere between 40 -50 kg. The TNCSC repack the bags 50 kg each and supply to the schools. The rice is supplied to the centers directly by the TNCSC from the godown as per the indent of the Organizers / Block Development Officers. The movement of the rice to the centers is done according to rice movement schedule and route chart. Rice is supplied to the centre from 15th – 25th of every month. To avoid disruption due to the unforeseen exigencies a buffer stock of foodgrains requires for 45 days is maintained in the centres.

The Tamil Nadu Civil Supplies Corporation, a State owned agency procures the Pulses (Toor Dhal, Green Grams and Bengal Grams), Palmolein Oil, Double fortified salt for supplying to Nutritious Meal Centers along with Rice which is lifted from TNCSC.



The State has chalked out a Rice movement schedule and route chart for supplying next month quota of rice , pulses, oil and salt to the NMOs from 15th to 25th of the previous month to avoid disruption due to unforeseen exigencies. A buffer stock of food grains for 45

days is maintained in the centers. The Status of food grain allocation and its lifting in FY 2012-13 is as under:

Allocation of food grains 2012-13 – Tamil Nadu

| Stage | Opening Balance | 1 st Qtr (In MTs) | 2 nd Qtr (In MTs) | 3 rd Qtr (In MTs) | 4 th Qtr (In MTs) | Total (Lifted) 1 to 4 Qtrs |
|---------------|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|
| Primary | 376.149 | 11339.653 | 14339.570 | 12829.415 | 12290.318 | 50798.956 |
| Upper Primary | 1437.290 | 10070.248 | 11164.063 | 12655.035 | 10311.165 | 44200.511 |
| Total | 1813.439 | 21409.901 | 25503.633 | 25484.45 | 22601.48 | 94999.467 |

The allocation of food grain for the first two quarters during 2013-14 is as under:

Allocation of Food grains 2013-14 – Tamil Nadu

| Stage | GOI Allocation (In MTs) | Rice allocated to Districts for 1 st & 2 nd Qtrs (In MTs) |
|---------------|-------------------------|---|
| Primary | 56700 | 24960.000 |
| Upper Primary | 65520 | 26190.000 |
| NCLP | 546.34 | 271.421 |
| Total | 122766.34 | 51421.421 |

Foodgrains allocation – Tuticorin District

| Stage | Allocation (In MTs) 2012-13 | Allocation for 1 st & 2 nd Qtrs (In MTs) 2013-14 |
|---------------|-----------------------------|--|
| Primary | 1335.311 | 666.250 |
| Upper Primary | 1292.002 | 595.619 |
| NCLP | 18.954 | 12.392 |
| Total | 2646.266 | 1274.261 |

Foodgrains allocation – Ramnathapuram District

| Stage | Allocation (In MTs) 2012-13 | Allocation for 1 st & 2 nd Qtrs (In MTs) 2013-14 |
|---------------|--------------------------------|--|
| Primary | 1721.268 | 682.502 |
| Upper Primary | 1516.011 | 465.513 |
| Total | 3237.279 | 1148.015 |

The Policy note 2013-14 (page No. 61) mentions Government of Tamil Nadu is incurring additional cost of Rs.8.47 for Mid Day Meal on various components. But the entire cost of food grain is borne by MHRD. Besides, central assistance is also given for cooking cost (pulses, vegetables, oil, salt and condiments, fuel) @ Rs. 2.51 per child per day for primary and Rs. 3.75 for upper primary. Thus the contribution from MHRD for cooking cost for primary and upper primary including the cost of food grain, is Rs. 3.07 and Rs.4.59 for primary and upper primary respectively. This may be corrected in the policy note.

3.2 Regularity in serving and the Quality of Mid Day Meal etc.

The JRM observed that the Mid Day Meal was served regularly in all the schools and the quality of Mid Day Meal was also found to be good. However, vegetable are not added in sufficient quantity because funds are released @ Rs.32 and Rs.0.36 per child per day for primary and upper primary classes. As per the MDM guidelines, the State should provide 50 grams of green leafy vegetables to primary stage and 75 grams for upper primary stage.



JRM observed that in 10% of the visited schools in Ramanathapuram, the children brought drum sticks or vegetables from their houses and gave to the NMO for Mid day meal.

JRM also observed that State Government is providing 95 grams of pulses (15 grams per day and 20 grams extra on Tuesday) to the primary as well as upper primary children. As per MDM guidelines, 20 grams and 30 grams of pulses are to be given to each child per school day for primary and secondary classes. TN has five day school week. Therefore, 100 grams of pulses should be given to primary and 150 grams to upper primary class children. Thus the State is providing less quantity of pulses to the children. However, the short fall in the provision of protein is compensated by serving one egg per day to each child. Each egg weighs below 46 grams. The JRM also observed that egg is not being served to NCLP schools on Saturdays.



3.3. Serving of Variety Meal in one block in each district

As the noon meal provided to the children in the form of hot cooked rice with sambar has become monotonous and in order to attract children variety meals and masala eggs has been introduced by Hon'ble Chief Minister of Tamil Nadu to benefit the children. The scheme has been launched from March 20th onwards in one pilot block of each District. The variety meal consists of tamarind rice, tomato rice, vegetable biryani, Bengal Gram Pulao, Curry Leaf rice, Masala egg, Pepper egg. This initiative has been appreciated by the children and they like the variety meal very much. The State proposes to universalize it in all the schools in the near future. The menu for the variety

Mid Day Meal Scheme

meal is as under:

- First Week and Third Week:

| DAYS | PROPOSED MENU |
|-----------|--|
| Monday | Vegetable Briyani + Pepper Egg |
| Tuesday | Black gram Pulav + Tomato Masala Egg. |
| Wednesday | Tomato Rice + Pepper Egg |
| Thursday | Sambar Rice with Vegetable + Boiled Egg |
| Friday | Curry Leaf Rice or Keerai Sadham + Masala Egg & Chilly Fried Potato. |

Second Week and Fourth Week:

| DAYS | PROPOSED MENU |
|-----------|---|
| Monday | Sambar Sadham (Bisibalabath) + Onion Tomato Masala Egg. |
| Tuesday | Mixed Meal Maker with Vegetables Rice + Pepper Egg |
| Wednesday | Tamarind Rice + Tomato Masala Egg |
| Thursday | Lemon Rice + Sundal + Tomato Egg |
| Friday | Rice + Sambar with vegetable + Boiled Egg and Fried Potato. |

The variety meals will be gradually introduced in the rest of the blocks based on the feedback received from the pilot blocks. It was noticed that after the introduction of variety meals there was a gradual increase in the enrolment of children under Noon Meal Programme which in turn will reduce dropouts



3.4 Quantity of MDM served

The quantity of food served was satisfactory for the children in all the schools. The children responded that the quantity of food was sufficient.

3.5 Usage of Fortified RBD Palmolein

PEC Ltd., New Delhi is a Public Sector Enterprise under Ministry of Commerce and Industry, Department of Commerce, Government of India. The Company imports bulk quantity of RBD Palmolein from Malaysia/ Indonesia. The bulk quantity of the oil is packed in small packets for marketing by Private Companies. TNCSC procures 1litre (910gm) packets of Palmolein from these companies for distribution to the Noon Meals Centers in the State.

On each packet, the date of packaging is mentioned alongwith the instructions that the oil is 'best before' i.e in other words 'within' three months from the date of packaging. The JRM came across a few Palmolein packets beyond prescribed. This was brought to the notice of District and Block officials accompanying the JRM. These packets were immediately removed from the NMCs.

The JRM also visited two TNCSC godowns in Thiruchendur in Tuticorin District and Thiruvadanai in Ramnathapuram Distrct. In both godowns the members of JRM found fresh stock of Palmolein packets, packaged in July.2013.

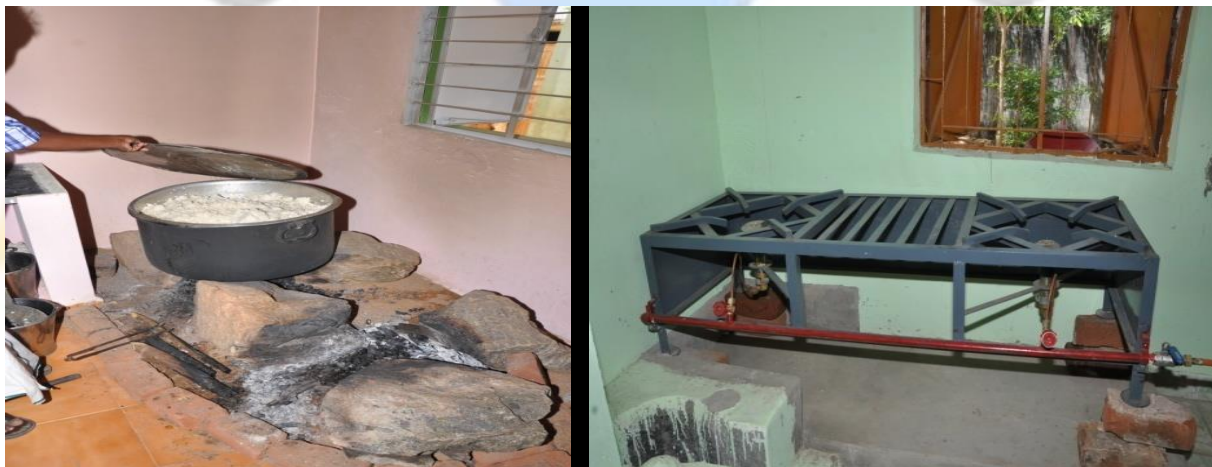
However the JRM recommends that '*First in First out*' principle should be followed diligently by TNCSC while supplying Palmolein packets to NMCs. Palmolein stocks should reach NMCs well in advance of the prescribed 'best before' date of packaging. It should also be ensured that the Palmolein oil is consumed by all the Noon Meal Centers within three months from the date of its packaging. The Noon Meal Organizers Cooks and Helpers should be sensitized to '*First in First out*' principle.





3.6 Mode of Cooking

Fire wood is the usual mode of cooking. LPG connections were found in a very little number of schools. Now that the MHRD has obtained the concurrence of Ministry of Finance to reimburse the additional cost incurred by the State Governments for procuring the unsubsidized LPG cylinders, the State Government was advised to provide LPG Gas connection in the schools so that health of the noon meal workers does not suffer due to smoke pollution resulting from the fire wood. The State Government officials accompanying the JRM were also advised to construct proper chullahs for cooking of MDM on fire wood because some of the schools had make shift chullahs which can be a source of accident to the cook-cum-helpers etc.



Mid Day Meal Scheme

4. Review of status of Safe storage and proper supply of ingredients to schools.

The food grain and other ingredients are supplied up to school level by Tamil Nadu Civil Supplies Corporation. Whereas Green Gram and Bengal Gram are supplied in small quantity because they are to be served only once in a week, the rice is supplied in bulk quantity. The rice is kept in the gunny bags because big storage bins are not available in the schools.

Green gram and Bengal gram are rich in protein; care should be taken to protect them from pest infestation. Using air tight containers, drying few times in sun light, putting Vasambu & Neem leaves in the storage bins/ containers can be few measures which can control pest infestation. The GoTN can think of supplying Bengal Gram and Green Gram to NMCs in 1kg/2kg packets rather than supplying in bulk.

5. Role of Teachers

JRM records its general observation after visiting NMCs in Tuticorin and Ramanathapuram district that though HMs have started tasting the meal in the wake of Bihar tragedy, their active participation in NMC level planning, implementation and Monitoring is very poor. The coordination of School HMs with health official, NMO, BDO is either not seen or very limited. As per RTE, Head Master of the school is the Honorary Secretary of SMC, he/she has an active role to play in any scheme implemented in the school. The HMs, with the help of other teachers can effectively monitor NMP and also coordinate with other department functionaries.

It is learnt that in Tamil Nadu, the Teachers are not actively involved in NMC level planning, implementation and monitoring. It is to be noted that at school level only when the teachers take active participation, schemes by other departments can be effectively implemented. The students will follow only the instructions of teachers. The teachers just have to involve themselves in overall supervision of mid day meal. GoTN may advise all the teachers to play an active role for the smooth implementation of NMP.

6 Review of the status of tasting of the meal by at least one teacher.

The Teachers are under the administrative control of Department of School Education. The JRM interacted with many teachers for eliciting the information on the tasting of mid-day meal by them. Teachers in almost all the schools mentioned that they taste the mid-day meal but they have neither maintained a taste register nor they sign in the Taste register. They were informed that as per MDM guidelines, the mid-day meal has to be tasted by 2-3 persons, including one Teacher and the other cook-cum-helper. They were advised to maintain a taste register, prepare a roster of for tasting of mid-day meal by teachers/CCH. They were asked to ensure that the teacher or the persons tasting the mid-day meal, must sign the Taste Register.

7. Convergence with School Health Programme for supplementation of Micronutrients and Health Check-ups for supply of spectacles to children suffering from refractive errors:

Joint Review Mission observed poor convergence with the Health Department in the implementation of School Health Programme (SHP). The schools are visited once in a year. The Health Cards of the children had no entries about the medicines administered to the children. The cards merely mentions that health check-up was undertaken and all the children were vaccinated but the type or details of vaccination are not mentioned in the School Health Cards. Similarly, there is no mention about the IFA and de-worming tablets given to the children or vitamin A drops given to the children or the number of spectacles distributed. Some of the schools were visited by doctor in November, 2011.

Dr. J. Radhakrishnan, Secretary (Health), Government of Tamil Nadu had discussions with the members of the Joint Review Mission on their findings about the SHP. He informed that there was a outbreak of dengue in Tamil Nadu during last year due to which the doctors could not be deputed for SHP during last year. Besides, the shortage of doctors also affected the deployment of doctors in schools for undertaking health check-ups of children. He informed that vacancies of doctors have now been filled up/about to be filled up. He assured that health check-ups would be carried out in all the schools during this year.

The JRM was informed that in pursuance of the decision of the State Level Steering-cum-Monitoring Committee Meeting, a convergence meeting with Health Department was held on 8th July, 2013 to discuss the Health issues of Anganwadi and School Children under Chairmanship of Secretary, Social Welfare & NMP Department in which the following decisions were taken:-

- i) Quarterly health checkup of children has to be done at Anganwadi and schools and referral cards to be given.
- ii) In rural areas, Hospital on Wheels (mobile medical unit) should take up the health check-up of children at regular intervals. The data of Anaemic status of children and adolescent girls should be collected for giving treatment suitably. The medical team should ensure the maximum coverage of school children and subsequently the follow up of sick children should be taken up by the school Health Team frequently.
- iii) The supply of IFA tablets / syrup, de-worming tablets have to be ensured by the Health Department on need basis at regular intervals.

Mid Day Meal Scheme

Introduction of Variety meals in pilot blocks

| Sl.No | Districts | Pilot Block Identified |
|-------|---------------------|------------------------|
| 1 | Kancheepuram | Kattankulathur |
| 2 | Tiruvallur | Kadambathur |
| 3 | Cuddalore | Panruti |
| 4 | Villupuram | Sankarapuram |
| 5 | Vellore | Walajapet |
| 6 | Tiruvannamalai | Polur |
| 7 | Salem | Valapady |
| 8 | Namakkal | Pallipalayam |
| 9 | Dharmapuri | Pappireddipatti |
| 10 | Krishnagiri | Kaveripattinam |
| 11 | Erode | Erode |
| 12 | Coimbatore | Pollachi (S) |
| 13 | The Nilgiris | Kotagiri |
| 14 | Thanjavur | Thanjavur |
| 15 | Nagapattinam | Thirumarugal |
| 16 | Tiruvarur | Nannilam |
| 17 | Trichy | Andanallur |
| 18 | Karur | Kadavur |
| 19 | Perambalur | Perambalur |
| 20 | Ariyalur | Jayamkondam |
| 21 | Pudukkottai | Thirumayam |
| 22 | Madurai | Madurai (E) |
| 23 | Theni | Theni |
| 24 | Dindigul | Shanarpatti |
| 25 | Ramnad | Ramanathapuram |
| 26 | Virudhunagar | Sivakasi |
| 27 | Sivagangai | Devakkottai |
| 28 | Tirunelveli | Cheran Mahadevi |
| 29 | Tuticorin | Tuticorin |
| 30 | Kanniyakumari | Thakkalai |
| 31 | Tirupur | Tirupur |
| 32 | Chennai Corporation | Nungambakkam |

8. Creation of Capital Assets through Kitchen-cum-stores/Kitchen Devices

MHRD has sanctioned 28,607 kitchen-cum-stores from 2005-06 to 2012-13 as per the information given below:-

| S.No | Year | Physical progress | | | | Financial Progress (Rs in crores) | | |
|--------------|---------|-------------------|-------------|-------------|--------------|-----------------------------------|--------------|---------------|
| | | sanctioned | Completed | In Progress | Balance | Amount Sanctioned | Expenditure | Balance |
| 1 | 2006-07 | 457 | 419 | 38 | 0 | 2.74 | 2.51 | 0.23 |
| 2 | 2007-08 | 1176 | 820 | 356 | 0 | 7.06 | 4.87 | 2.19 |
| 3 | 2008-09 | 3804 | 1740 | 2064 | 0 | 22.82 | 11.18 | 11.64 |
| 4 | 2009-10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 2010-11 | 9040 | 2388 | 6652 | 0 | 198.04 | 51.24 | 146.80 |
| 6 | 2011-12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 2012-13 | 14130 | 0 | 0 | * 14130 | 359.70 | 0 | 359.70 |
| Total | | 28607 | 5367 | 9110 | 14130 | 590.36 | 69.80 | 520.56 |

* For the construction of 14130 Kitchen-cum-Stores funds are yet to be distributed to the districts. Officials from the Directorate have been ordered to inspect the status of the Noon Meal Centre buildings in all the districts and accordingly funds are to be distributed shortly.



Mid Day Meal Scheme



JRM observed that the construction for the 14,130 kitchen cum stores sanctioned on plinth area norms to the Government of Tamil Nadu, Department of Social Welfare and Nutritious Meal Programme is yet to start. It was suggested that the construction for these Kitchen-cum-stores may be started immediately and the progress of their construction may be monitored closely so as to avoid cost overrun.

JRM also observed that Government of Tamil Nadu is not providing grant-in-aid to the Government aided schools because modalities for assistance to them are yet to be finalized. All the Government aided schools are preparing the mid day meal in temporary and unsafe kitchen-cum-stores where possibility of untoward incident cannot be ruled out. JRM suggested that Government of Tamil Nadu may finalize the modalities for providing funds to the Government aided schools for the construction of kitchen-cum-stores.

9. Appointment of Cook-cum-helpers for preparation and serving meals to children

Government of Tamil Nadu has appointed one Noon Meal Organizer, one cook and one assistant cook in all the schools for preparing and serving mid day meal in the schools. The organizer is overall in-charge for arranging items of mid day meal by coordinating with various agencies such as Tamil Nadu Civil Supplies Corporation, local purchase of vegetables etc. He also maintains the record of the mid day meal items supplied at the school. He supervises the preparation of mid day meal by cook and the serving of meal by the assistant cook.

The Noon Meal Organizer, Cook and Assistant Cooks are the regular temporary employees of the State Government and paid salary as per the regular scale. They are also given lump sum pension at the time of retirement. They are also eligible for promotion. The details of Noon

Meal employees working under mid day meal scheme is given as under:-

| S.No | Staff | Sanctioned | In position | vacant |
|------|----------------|------------|-------------|--------|
| 1 | Organizer | 42423 | 36691 | 5732 |
| 2 | Cook | 42852 | 35577 | 7275 |
| 3 | Cook Assistant | 42855 | 36375 | 6480 |
| | Total | 128130 | 108643 | 19487 |

JRM observed that 3% of the visited schools had vacant post of cook or assistant cook. It was suggested that all the vacancies of Noon Meal workers may be filled up.

10. Review the Maintenance of Records at the level of schools/cooking agency

Noon Meal Organizers are keeping a proper record of the items of mid day meal received from Tamil Nadu Civil Supplies Corporation, the quantity utilized and the balance available on each day, the vouchers for expenditure purchase of vegetables etc. These records are submitted to the Deputy BDO for verification and indenting the items for the next month after adjusting the rice, dhall, oil and salt lying in the school from previous supply. The accounts are also scrutinized by the Internal Fund Audit of the State Government.



It is observed by JRM that Government of Tamil Nadu is serving mid day meal through Noon Meal Centers to the students of 9th and 10th classes from its own resources. But there is no separate account for these schools. JRM recommends the State to maintain exclusive records including accounts for Primary & Upper Primary students and separate maintenance of records

for 9th & 10th Students so as to ensure transparency and accountability of expenditure incurred under mid-day meal scheme for elementary classes and 9th and 10th classes.

It is observed by JRM that records for various purposes of NMP, maintained at NMCs vary from block to block in both Districts. This creates a sense of confusion. The JRM suggests the Social Welfare & NMP department to supply uniform records for various purposes of NMP to all NMCs across Tamil Nadu.

11. Review the availability of infrastructure, its adequacy and source of funding

Modernization of Kitchen:

In order to create 'smoke free atmosphere' in the Noon Meal Centre, to save cooking time, and to avoid pollution, is provided with Rs. 22,000/- by State Government for Civil works for stove and LPG connection. So far 5384 Noon Meal Centres have been provided with Gas connection. JRM observed that 95% the visited schools had sufficient quantity of cooking utensils, serving devices and eating plates as well as tumblers. The remaining schools, mostly Government aided schools, had less number of eating plates. It was learnt from the Head Master of the Government aided schools that they get 50% grant for the purchase of eating plates whereas Government schools get 100% grant. Therefore, some of the children in these schools are bringing their eating plates from the school.

State Government has issued a tender on 16.6.2013, for the supply of 8,33,640 Plates and Tumblers and Kitchen utensils for 17,312 Noon Meal Centres. Tender was finalized on 09.07.2013 and firm orders are being issued.



The visited schools in both the districts have water connection but due to the acute shortage of water in Ramanathapuram, the potable water is supplied for a limited number of hours in the schools. These schools store water in Syntax tanks.

The toilets were available in 99% of the schools. But the facility of running water in them is not available in Ramanathapuram due to scarcity of water in the district.

All the schools had Fire Extinguisher but it was not installed in the kitchen-cum-store where chances of fire hazard are maximum. They were lying either in Head Master’s room, class rooms etc. The school authorities were not aware of the validity period of the gas filled in the fire extinguishers. JRM advised the teachers to get them filled immediately after expiry of the validity period of gas filled in these extinguishers.

12. Review of payment of cost of food grains to Food Corporation of India

Payment of Rs. 689.106 lakhs has been made to FCI till 30th June, 2013. A bill for Rs. Regarding Rs. 10.22 lakhs has been received for the rice lifted from FCI in Chennai district. . The bills will be settled within a week.

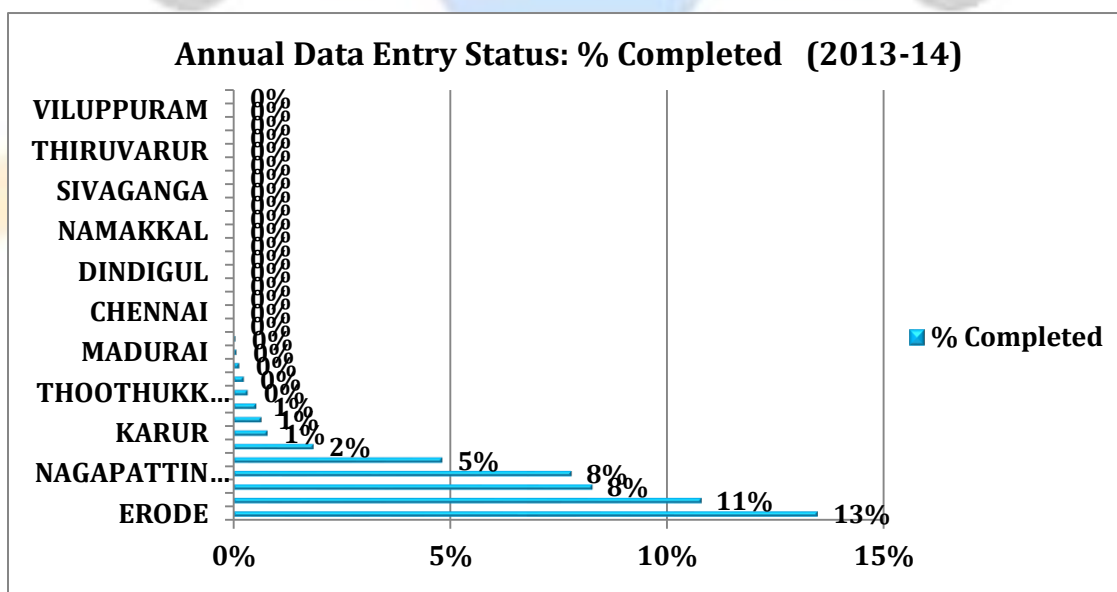
13. Review the involvement of NGOs/Trust/Centralized Kitchen by the State in the implementation of the Scheme.

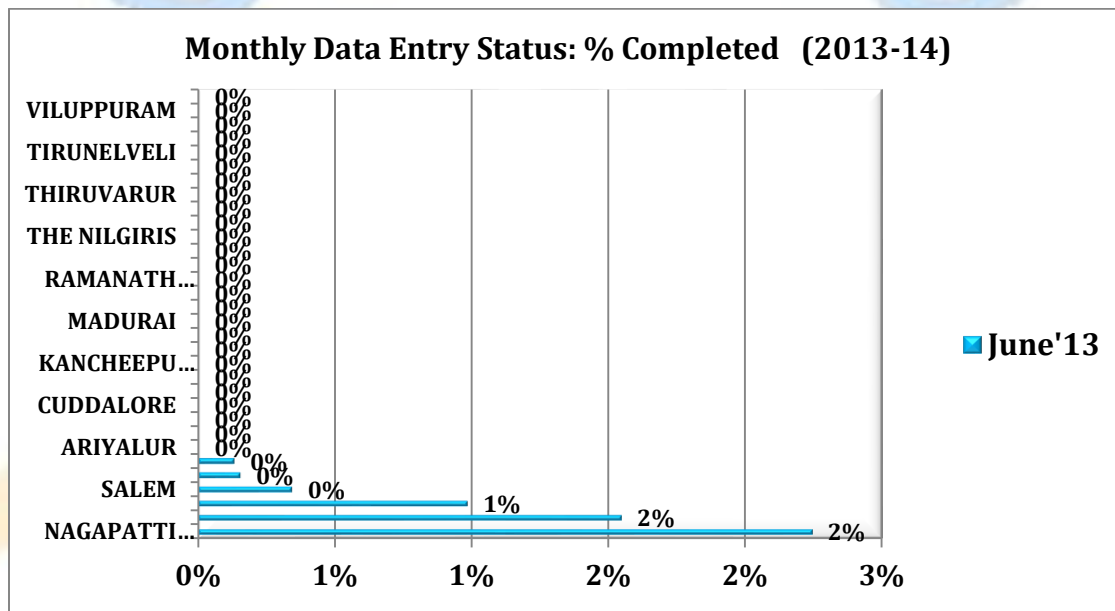
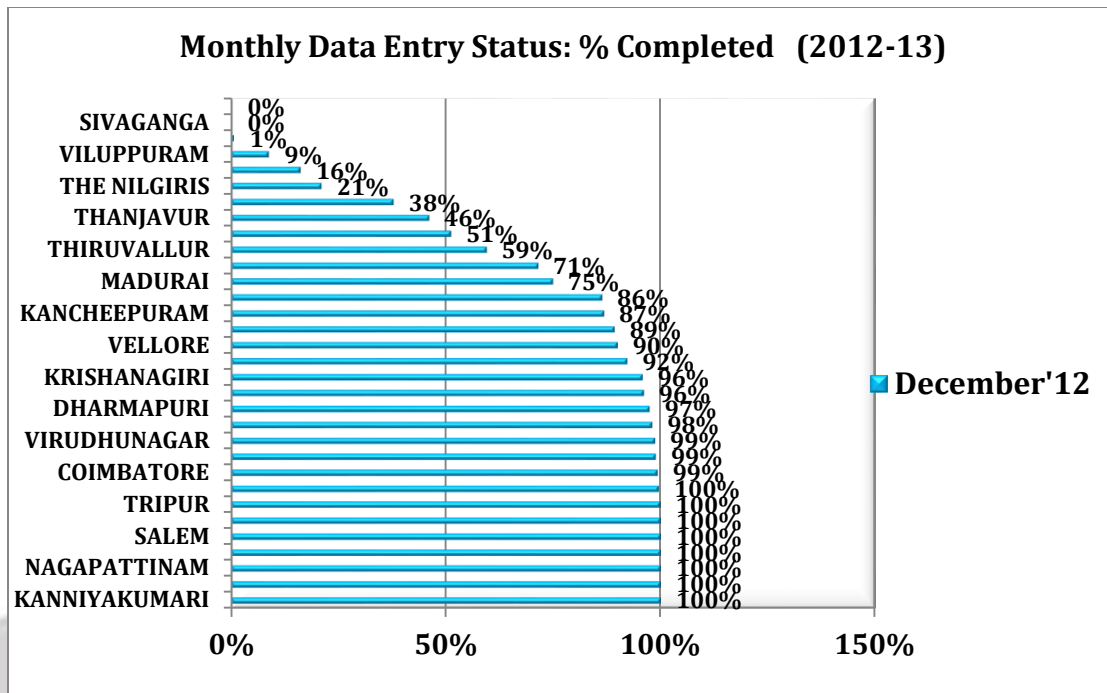
No NGO/Trust/Centralized Kitchen is involved in the Mid day meal scheme in both the visited districts.

14. Management Information System from school to block, district and State level to collect the information and disseminate to other stack holders

Only 13% entries have been made during 2013-14 in the web portal for Management Information System (MIS).

The status of the monthly data entries made till December, 2012-13 and 2013-14 is given below:-





The State was advised to take necessary steps for completing their data entries immediately.

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15. Assess the involvement of Community in the implementation of the scheme.

Any programme by Government needs community participation for its effective implementation. Even a very effective system evolved over many years can benefit from community participation. Community participation makes the tasks of the functionaries easy and community will also own the programme implemented in their own areas.

In many Noon Meal Centres visited by JRM, there is no indication of community participation in NMC level planning, implementation and monitoring of the programme. The SMC meetings are either not held or they are not organized every month. The Presidents of SMC are not aware of the components of NMP.

The mission has interacted with parents too. The general impression is that the parents are not visiting the NMCs to taste the food or to see various records maintained by the NMO. Where ever possible, the JRM members have also interacted with Panchayat Presidents and motivated them to regularly monitor the NMP for its effective implementation.

Very effective way of ensuring community participation is involving Mothers in the NMC level planning, implementation and monitoring of the programme. The mothers can be encouraged to take turns to oversee the feeding of the children thus ensuring quality and regularity of the meal. The frequency of the visits can be atleast once in a month to start with.

This simple intervention of '**mothers watch**', gives them a voice and a role and greater ownership of the programme.

Reports from Chattisgarh's Baster district indicate that the involvement of mothers "MITANIN (means friend – a female friend in Chhatisgarh)" has not only led to a significant improvement in cooking and hygiene but also a change in attitude on the part of the teachers with the decline in absenteeism. More and more States /UTs are including mothers in supervision committee as well. In Kerala mothers have been involved for supervision and duty rosters are being maintained. Similar rosters have been introduced in Madhya Pradesh. In Uttrakhand where mothers are appointed as Bhojan Mata and Sahayika in all primary schools.

Government of Tamil Nadu can roll out a mass mobilization campaign to involve mothers in this programme. It can think of innovative ways of involving mothers in the programme and brainstorm how this process can be systematized. This can be immediately started in some pilot blocks using MME funds.

Mid Day Meal Scheme



14. Capacity building and Training to Noon Meal Employees:

Government of Tamil Nadu is organizing training at regular intervals to orient the employees on Nutrition, Health and Personal Hygiene like regular cutting of nails, washing hands and feet with soap before commencement of cooking / serving and on food preparation. Training has been given on maintenance of hygiene, cleaning of cooking and serving utensils, storage and environmental protection in the disposal of wastage.

16. Grievance Redressal Mechanism:

As per the briefing meetings held on 29th July, 2013, Complaint Box at District as well as Block Level have been provided at prominent places for submission of grievances by aggrieved persons. It was further informed that funds have been released to all Districts to install Toll Free Number from BSNL immediately. So far, Namakkal and Coimbatore districts have operationalised their Toll Free Number 1800 4255 4444 and 18004251049 respectively. Every Monday is observed as GRM day under the Chairpersonship of District Collectors. The GRM is attended by all the district level officers who are asked to redress the grievances of within 30 days.

The JRM team observed that Complaints boxes were available in only 20% of the visited schools. JRM team requested the District Collectors during meeting with them to install Toll Free Numbers in their districts also.

17. Review of the status of Awareness about Mid- Day Meal Scheme.

Government of Tamil Nadu is proposing to incur an expenditure of Rs. 85 lakh during this year for publicity of the scheme and generating awareness on the food norms, entitlements of the children, display of logo in the schools. The weekly menu also needs to be displayed

prominently in the schools as well in market places. JRM observed that the weekly menu is either lying at an inconspicuous place in the school or kept in the almirah of the Noon Meal Organiser.

18. Review of status of convening of Vigilance and Monitoring Committee under the Chairmanship of Member of Parliament

Principal Secretary, Department of Social Welfare and Nutritious Meal Programme has already issued instructions to all the District Collectors to convene the meeting of recently constituted Vigilance and Monitoring Committee under the Chairpersonship of Member of Parliament.

JRM team also discussed this issue with District Collectors of Tuticorin and Ramanathapuram. Both of them assured the JRM team that they would seek the convenience of the hon'ble MP to convene the meeting of the above Committee at the earliest possible.

**19. Review of the convening of regular review meetings at State and District level.
District level Steering-cum-Monitoring Committee**

The meeting of State Level Steering-cum-Monitoring Committee headed by Chief Secretary was held on 18th March, 2013 and attended by Secretaries of Planning Development & Special Initiatives, School Education, Rural Development & Panchayat Raj, Health & Family Welfare and Co-operation Food & Consumer Protection, Social Welfare and Director of Social Welfare Scheme implementation, new initiatives, training provided, steps to increase enrolment of children in schools, maintenance of quality food, progress of the construction of kitchen-cum-stores, management and monitoring were the points taken up during the meeting.

JRM apprised the State officers that at least one meeting of SLSMC is to be held during each quarter. They were requested to organise the meeting for the quarter ending on 30th June, 2013 immediately and also the third meeting should be convened before the end of September, 2013.

The District Level Steering-cum-Monitoring Committees have been constituted in each district but they are not being held regularly because the District Collectors remain busy in other meetings. Similarly, Block Development Officers are not able to hold monthly meetings of their SMCs because they are regularly called for meetings at the district headquarter. Both the District Collectors assured that they would try to convene the meeting of DLSMC as soon as possible.

20. Review of the status of testing of food samples by reputed institute.

The State Government was requested to send mid day meal samples for testing by reputed laboratories recognized by the National Accreditation Board for examining the nutrition , calorific value, protein. The presence of E-coli should also be got tested at regular intervals and strict action taken if the samples fall short of the prescribed standards.

21. Review of the status of Emergency Medical Plan.

The issue was flagged during the meeting with Principal Secretary, Department of Social Welfare and Nutritious Meal Programme during the briefing meeting on 29th July, 2013 and also in the meetings with the District Collectors of Tuticorin and Ramanathapuram. They are already seized of the importance of this issue and are taking necessary action in consultation with State Disaster Management Authority.

22. The Joint Review Mission has appreciated some of the BEST PRACTICES followed by the state government in the implementation of the Nutritious Noon Meal Programme like-

- All enrolled Children covered under Noon Meal Programme regularly.
- New initiatives (4 set of School Uniforms, school Bags, chappals and Geometry box) for enhancing enrolment.
- Egg served to all children on all 5 working days.
- Colouring scheme for eggs for each day of the week to prevent pilferage and staleness.
- Variety meal introduced in one block of all districts on pilot basis is liked by the children.
- e-transfer of funds at all levels.
- Permanent Structure for organizing and cooking noon meal in all centres
- Noon meal functionaries are paid every month through e-transfer.
- State Contribution for salary Noon meal functionaries is higher than the Central assistance for Honorarium to CCH and special provisions for Noon Meal staff of the Centre such as *Introduction of Special Pension, Provision of Lump sum payment, Provision of Special Provident Fund, Promotional Opportunities to Staff, like Office Assistant:-Special test is conducted by Teachers Recruitment Board for qualified NMOs & they are appointed as teachers in Schools ,General Provident Fund Scheme, Appointment on Compassionate Grounds:*
- Capacity building of all CCH

- ❑ Regular supply of Pulses, Oil, Salt by Centralized procurement through TNCS.
- ❑ Availability of one month buffer Stock in all centres.
- ❑ Kitchen Devices available in Government and Local Body Noon Meal Centres.
- ❑ Food Samples found in all the schools.
- ❑ MDMS is also served to 9th and 10th Class children from State Resources
- ❑ Chemistry Lab and Physics Lab have been constructed through donation by Dr. Raj Jeevan, a US based doctor TNDTA RMP Pulamadan Chettiar National Hr. Sec. School, Sathankulam. Similarly, Rs. 38.00 lakh has been donated by five persons for construction of six class rooms in Sri Muthuraman Hindu Middle School, Vijayaramapuram, Sathankulam.
- ❑ RTE & Enrolment of students of NMP

It is observed by the JRM that GoTN is finalising list of students enrolled for NMP in September every year. It is instructed that block level officials visit thrice on various dates in the month of September every year and fix the enrolment for the next one year. But, with '*Right of Children to Free and Compulsory Education Act, 2009 (generally RTE Act)*' coming into force and there is a possibility of students getting enrolled even after September, the JRM suggest the GoTN to device mechanism to include students who will get enrolled from time to time (at least end of every six months considering the academic year starting from June in this state). The anticipated increase in number of students and the expenditure details can be communicated to GoI and get it sanctioned. Modalities can be worked out with Ministry of HRD.

22. Hand wash

Hand washing with soap has been found to be one of the most cost-effective interventions to prevent diarrhoea related deaths and disease; it reduces the incidence of ARIs by more than 20%. Hand washing at critical times (before eating or preparing food and after using the toilet - can reduce diarrhoea rates by almost 40 per cent. Hand washing in institutions such as primary schools reduces the incidence of diarrhoea by an average of 30 per cent. Lower morbidity in turn results in reduced absenteeism among primary school children.

Government of India has accordingly, embarked on a new initiative to promote hand washing with soap before the Mid Day Meals, as a campaign in all schools of India.

All states have been requested to initiate simple, cost effective and sustainable interventions that promote hand washing by school children as part of the daily school

activity that is monitored and encouraged by the school teachers. In collaboration with UNICEF, the Ministry is promoting simple and scalable multiple hand washing facilities in schools that allow children to exchange messages through eye-to-eye contact as a fun time activity. Hand washing platforms are designed to encourage children to wash hands with soap as a social norm. Leading Corporate Undertakings have been requested to allocate a generous amount to reach the maximum number of students from their CSR budgets. For a sum of Rs 6 crores they can reach 10000 schools and almost 2,00,000 children. The State Govt. may also send a proposal to the GOI in this regard.

A large, stylized illustration of children washing their hands. The children are depicted as blue figures with yellow faces, arranged in a circular pattern. They are all holding their hands under a yellow stream of water. The background is white with a light blue and yellow color scheme.

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B. Nutritional Assessment

Good nutrition in childhood lays the foundation for good health throughout an individual's life time. Good food adequate in quality and quantity is needed to stimulate and maintain growth, regulate body functions, repair the tissues already formed and supply adequate energy for work. If children do not receive the nourishment they need, under nutrition and malnutrition of one or other type will result. Government of India introduced Mid-Day Meal programme as a very important strategy to overcome malnutrition among children and Tamil Nadu state is a pioneering state with regard to Mid Meal Programme.

A survey was conducted among primary and upper primary schools of two Districts of Tamil Nadu to collect the following information with regard to nutritional assessment,

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

Methodology

i. Selection of sample

A total of 803 children aged 5-13 years from 8 primary schools (I-V std), 11 upper primary schools (VI-VIII std), 5 Higher Secondary Schools and one NCLP (National Child Labour Programme) school from two Districts of Tamil Nadu namely Ramanathapuram and Tuticorin were selected (Appendix I). Multistage stratified random sampling was adopted for selection of children.

ii. Anthropometric profile

The height and weight measurements of the selected children were taken using standardized techniques (Jelliffe,1966).

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Measurement of Weight



Measurement of Height

Body Mass Index (BMI) was calculated using the following equation given by Garrow (1981)

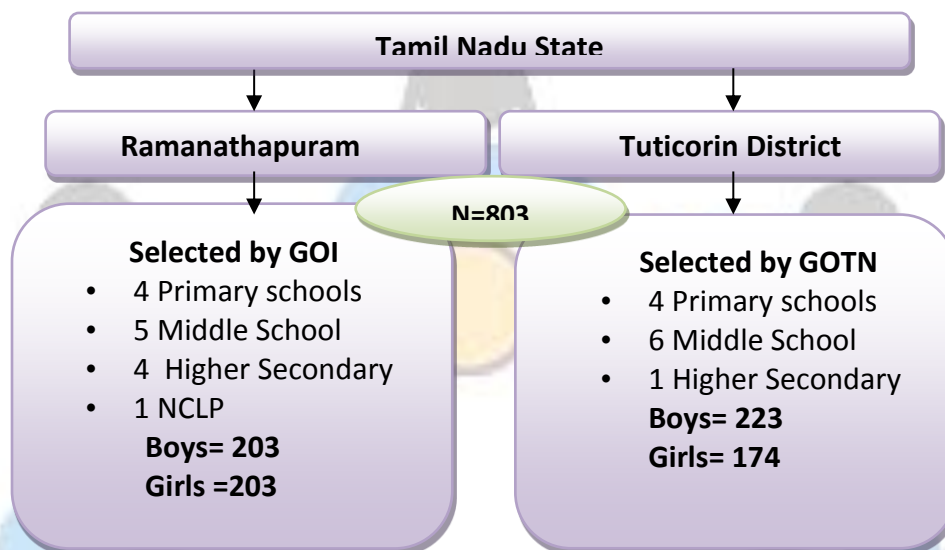
$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m}^2\text{)}}$$

The height, weight and BMI were determined for Z scores using WHO Global Database on Child Growth and Malnutrition (WHO, 2007).

The children were classified into normal (-0.99 to 1SD), under nourished (<-2SD) and Overweight/Obesity (>1SD) categories based on their weight for age (WAZ) and height for age (HAZ). Similarly, based on their BMI Z Scores, the children were classified into the following categories;

| | |
|---------------------------|---------------|
| Severely undernourished | <-3SD |
| Moderately undernourished | - 2.99 to-2SD |
| Mildly undernourished | -1.99 to 1SD |
| Normal | -0.99 to 1SD |
| Overweight / Obese | >1SD |

Sampling



iii. Clinical Symptoms

The clinical symptoms of nutritional deficiency diseases among the selected children were identified by the doctors from the Primary Health Centres using a schedule (Appendix II).



Clinical Examination

iv. Food Pattern

The children were interviewed regarding their food pattern, breakfast consumption and benefits derived by them from noon meal.

v. Quality MDM

Sensory evaluation of the noon meal served to children among 14 schools was done by the JRM team during their visit at the lunch time.

vi. Quantity of MDM-Food Weighment

The adequacy of the noon meal was evaluated through food weighment survey for 56 children (I to VIII std.) covering both the Districts selected for the study. Due to paucity of time, the data was computed only for 32 children. Total raw ingredients taken for cooking, total cooked weight and individual cooked food consumption were taken following standard procedures to find out the actual intake of food by the selected children.

Findings of the Nutritional Assessment

i. Anthropometric Profile

Anthropometric data (height and weight) have been gathered from 803 children (Boys-426 Girls - 377) covering 25 schools. Data on Mid Upper Arm Circumference was not gathered since it is no longer considered as a reliable indicator for nutritional assessment of school children. Since WHO reference standards (2007) for WAZ (weight for age) are available only for children upto 10 years whereas HAZ (Height for Age) and BAZ (BMI for age) are available upto 19 years, the analysis was done accordingly.

a. Body Weight

Table I and Figure 1 present the gender wise distribution of weight for age Z scores. Out of 406, only for 279 children (upto 10 yrs), Z Scores were available for comparison.

Table I
Gender Wise Data on Weight for Age Z Scores (N= 279)- Ramanathapuram District

| Category | Classification | Boys N (%) | Girls N (%) | Pooled data N (%) |
|----------------|------------------------|------------------|------------------|----------------------|
| <=-3SD | Severely underweight | 31 (22.1) | 24 (17.2) | 55(19.7) |
| -2.99 to -2 SD | Moderately Underweight | 47 (33.5) | 50(35.9) | 97(34.7) |
| -1.99 to -1 SD | Mildly Underweight | 36(25.7) | 50(35.9) | 86(30.8) |
| -0.99 to 1 SD | Normal | 22(15.7) | 12(8.6) | 34(12.1) |
| >1 SD | Overweight/Obesity | 4(2.8) | 3(2.1) | 7(2.4) |
| | Total | 140 (100) | 139 (100) | 279(100) |

WAZ available only for children upto 10 years

Out of a total sample of 279 children, 34.7 per cent were moderately underweight and 30.8 per cent were mildly underweight. Severely underweight children comprised 19.7 per cent. The percentage of normal weight children was only 12.1. Children more than normal weight constituted 2.4 per cent. Under weight was more prevalent among girls (89%) compared to boys (81.3 %).

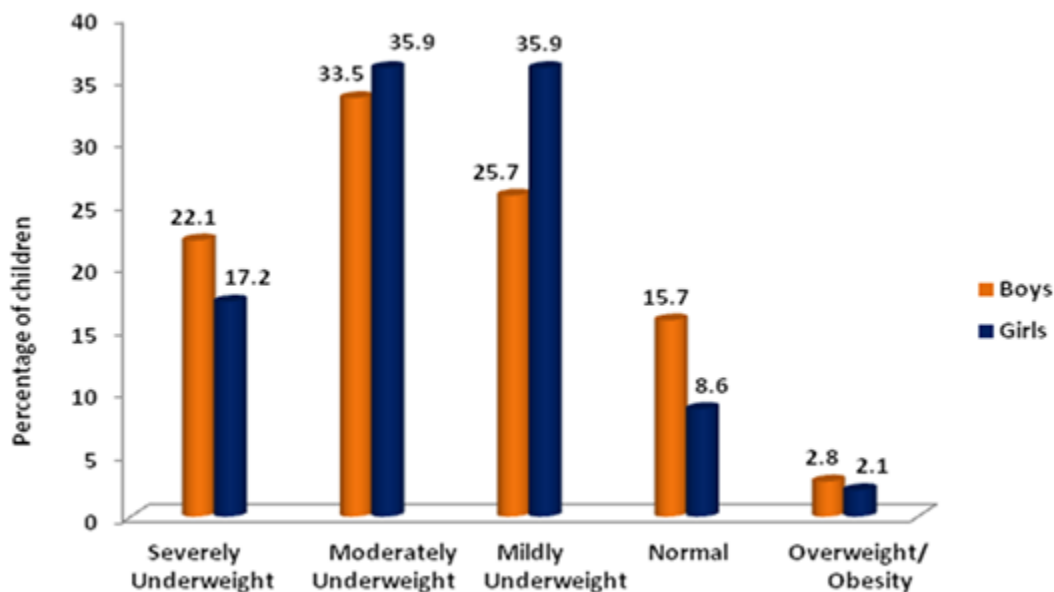


Figure 1 - Categorization of children (5-10 years) by weight for age Z Scores

Table II and Figure 2 present the gender wise distribution of weight for age Z scores in Tuticorin District. Out of 397 children, only for 225 children (upto 10 years), Z scores were available for comparison.

**Table II
Gender wise Data on Weight for Age Z Scores (N=225)–Tuticorin District**

| Category | Classification | Boys N (%) | Girls N (%) | Pooled Data n (%) |
|----------------|------------------------|------------------|-----------------|----------------------|
| < = - 3SD | Severely under weight | 18 (14.2) | 13(13.3) | 31(13.8) |
| - 2.99 to -2SD | Moderately underweight | 32 (25.2) | 36 (36.7) | 68 (30.2) |
| -1.99 to 1SD | Mildly underweight | 55 (43.3) | 32 (32.7) | 87 (38.7) |
| 0.99 to 1SD | Normal | 21 (16.5) | 17 (17.3) | 38 (16.9) |
| >1SD | Overweight/Obesity | 1 (0.8) | - | 1(0.4) |
| Total | | 127 (100) | 98 (100) | 225 (100) |

Note: WAZ Available only for children upto 10 years

The data revealed that a maximum of 38.7 per cent were found to be mildly underweight followed by 30.2 per cent moderately underweight. Among the selected children, 13.8 per cent were found to be severely underweight. Only 16.9 per cent were found to have normal weight for age. Obesity was found to be negligible.

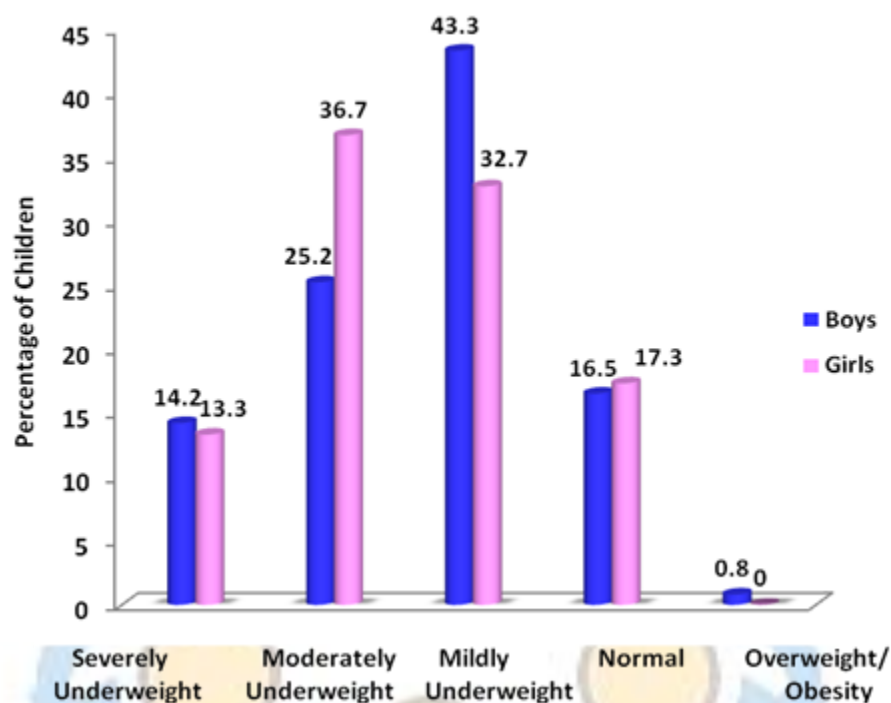


Figure 2 - Categorization of children (5-10 years) by weight for age -Gender Wise

b. Height

Table III and Figure 3 presents the gender wise data on Height for age Z scores for 406 children in Ramanathapuram District.

**Table III
Gender wise data on Height for Age (Z score) N=406- Ramanathapuram District**

| Category | Classification | Boys n (%) | Girls n (%) | Pooled Data n (%) |
|---------------|--------------------|------------------|------------------|-------------------|
| <=-3SD | Severely Stunted | 6 (2.9) | 12 (5.9) | 8(4.5) |
| -2.99 to -2SD | Moderately Stunted | 25 (12.3) | 28 (13.8) | 53(13.0) |
| -1.99 to 1SD | Mildly Stunted | 73 (35.9) | 68 (33.5) | 141(34.8) |
| 0.99 to 1SD | Normal | 94 (46.3) | 88(43.4) | 182 (44.9) |
| >1SD | | 5 (2.3) | 7(3.4) | 12 (2.8) |
| Total | | 203 (100) | 203 (100) | 406 (100) |

Among the 406 children surveyed, 44.9 per cent had normal height for age while 47.8 per cent were found to be mildly or moderately stunted. Severe stunting was found among only

4.5 per cent of children. The data regarding height for age was found to be somewhat similar among both boys and girls.

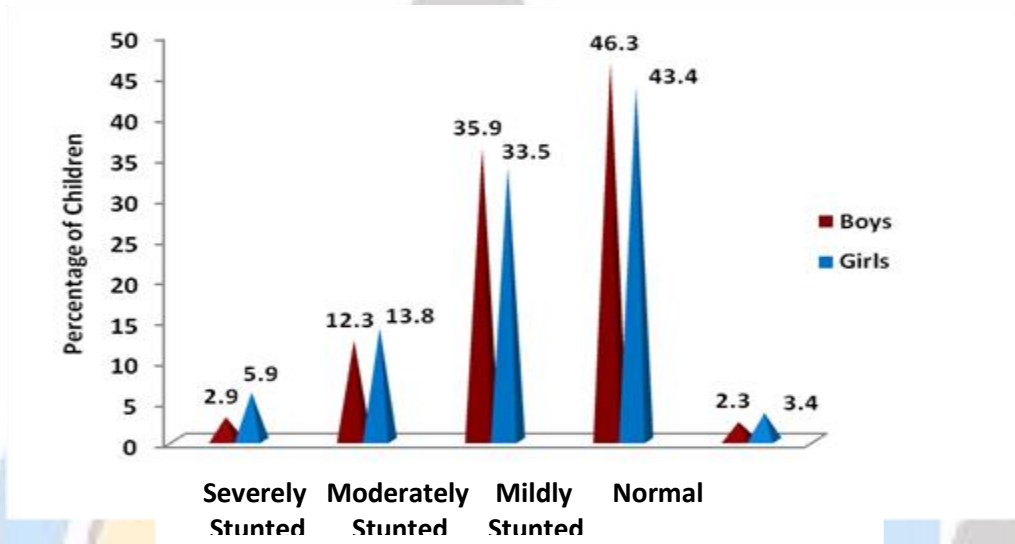


Figure 3- Categorization of Children by Height for Age

Table IV and Figure 4 present the gender wise data on Height for age Z scores for 397 children in Tuticorin District.

Table IV
Gender wise data on Height for Age (Z score) N=397)-Tuticorin District

| Category | Classification | Boys N (%) | Girls N (%) | Pooled Data |
|----------------|----------------------------|------------------|------------------|------------------|
| < = - 3SD | Severely stunted | 8 (3.6) | 8(4.6) | 16(4.0) |
| - 2.99 to -2SD | Moderately stunted | 35 (15.7) | 42(24.1) | 77 (19.4) |
| -1.99 to 1SD | Mildly underweight stunted | 82 (36.8) | 56 (32.2) | 138 (34.8) |
| 0.99 to 1SD | Normal | 93 (41.7) | 68 (39.1) | 161 (40.6) |
| >1SD | | 5 (2.2) | - | 5 (1.2) |
| | Total | 223 (100) | 174 (100) | 397 (100) |

It is observed that 40.6 percent of children had normal height whereas 34.8 percent of children were mildly stunted in Tuticorin District. Children with moderate stunting comprised 19.4 per cent and severe stunting was seen among 4.0 per cent of children.

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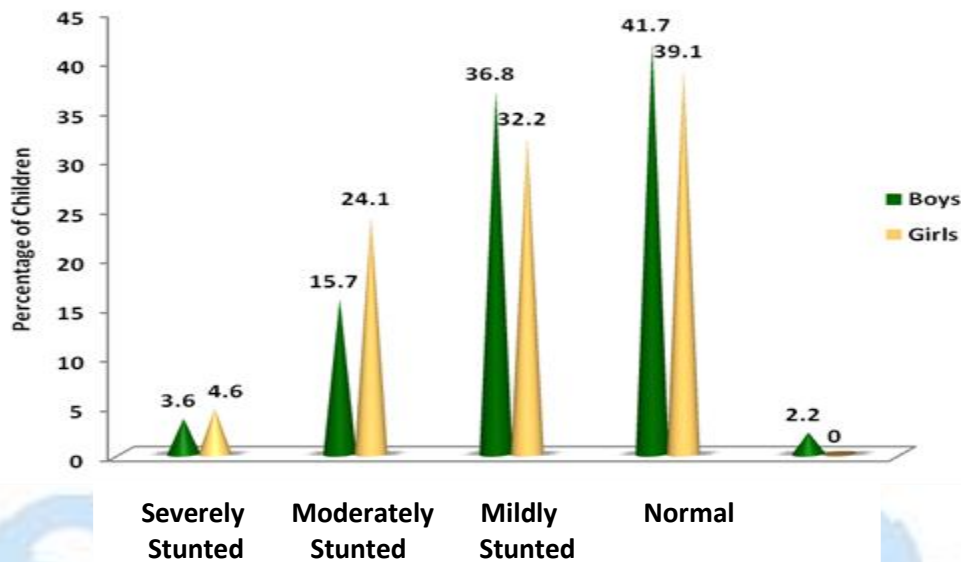


Figure 4- Categorization of Children by Height for Age

c. Body Mass Index (BMI)

The gender wise data on BMI for age Z scores for 406 children in Ramanathapuram District is presented in Table V and Figure 5.

Table V
Gender wise data on BMI for Age Z score (N=406) - Ramanathapuram District

| Category | Classification | Boys n (%) | Girls n (%) | Pooled n (%) |
|---------------|-------------------------|-----------------|-----------------|-----------------|
| <=-3SD | Severely Malnourished | 60(29.6) | 35(17.3) | 95(23.4) |
| -2.99 to -2SD | Moderately Malnourished | 76(37.5) | 64(31.6) | 140(34.5) |
| -1.99 to 1SD | Mildly Malnourished | 43(21.2) | 66(32.6) | 109(26.8) |
| 0.99 to 1SD | Normal | 22(10.9) | 34(16.7) | 56(13.8) |
| >1SD | Overweight/Obese | 2(0.8) | 4(1.8) | 6(1.5) |
| Total | | 203(100) | 203(100) | 406(100) |

Body Mass Index for children of Ramanathapuram District revealed that only 13.8 per cent of children had normal BMI whereas a majority of children (34.5%) were moderately malnourished. It is also noted that 23.4 per cent of children were severely malnourished which is very alarming. Low percentage (1.5) of children was overweight/obese.

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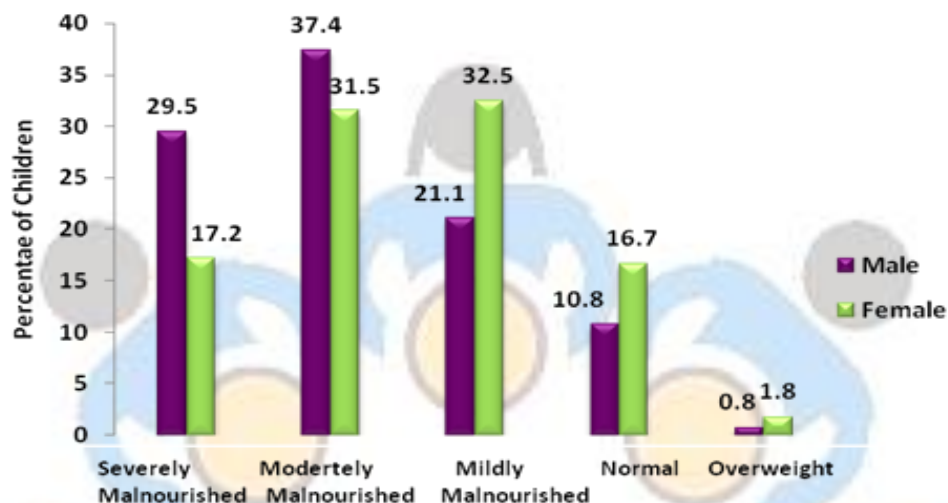


Figure 5 - Categorization of Children by Body Mass Index - Ramanathapuram District

The gender wise data on BMI for age Z scores for 397 children in Tuticorin District is presented in Table VI and Figure 6.

Table VI
Gender wise data on BMI for Age Z score (N=397)-Tuticorin District

| Category | Classification | Boys n (%) | Girls n (%) | Pooled Data n (%) |
|---------------|-------------------------|------------------|------------------|-------------------|
| <=-3SD | Severely Malnourished | 46 (20.6) | 18 (10.4) | 64 (16.2) |
| -2.99 to -2SD | Moderately Malnourished | 62 (27.9) | 46 (26.5) | 108 (27.3) |
| -1.99 to 1SD | Mildly Malnourished | 66(29.6) | 56 (32.2) | 122 (30.3) |
| 0.99 to 1SD | Normal | 38 (17.0) | 52 (29.8) | 90 (22.8) |
| >1SD | Overweight/Obese | 11 (4.9) | 2 (1.1) | 13 (3.4) |
| | Total | 223 (100) | 174 (100) | 397 (100) |

Based on BMI data for age Z scores it is observed that 22.8 per cent (nearly 1/4th) of children were in the normal category. Mild malnutrition was found among 30.3 per cent followed by moderate malnutrition by 27.3 per cent. Among the children 16.2 per cent were severely malnourish revealing the fact that 73.8 per cent (nearly 3/4th) of children suffer from one or other form of malnutrition in Tuticorin District.

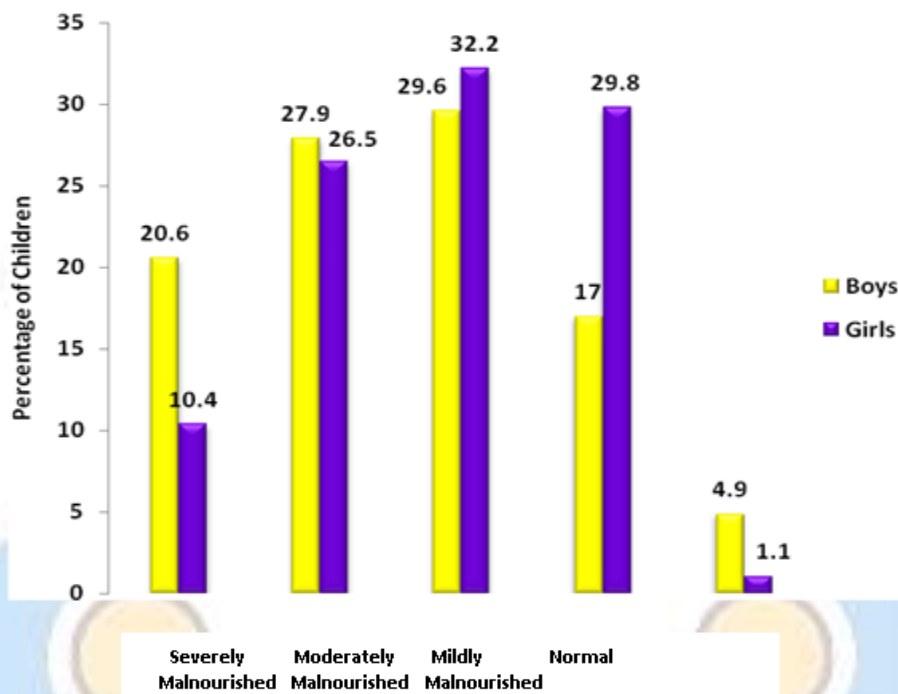


Figure 6 - Categorization of Children by Body Mass Index -Tuticorin District

ii. Comparison of Anthropometric Profile of Children between two Districts

Table VII and Figure VII highlight the comparison of weight for age Z scores between two districts.

Table VII
Comparison of weight for Age Z Scores between Districts (N=504)

| Category | Classification | Ramanathapuram (n=279) | Tuticorin (n=225) | Pooled Data (N=504) |
|------------------|---------------------------|------------------------|-------------------|---------------------|
| < - 3SD | Severely undernourished | 55(19.8) | 31(13.8) | 86(17.1) |
| -2.99 to -2SD | Moderately undernourished | 97(34.8) | 68(30.2) | 165(32.7) |
| -1.99 SD to 1 SD | Mildly undernourished | 86(30.9) | 87(38.7) | 173(34.3) |
| 0.99 to 1 SD | Normal | 34(12.1) | 38(16.9) | 72(14.3) |
| >1 SD | | 7(2.4) | 1(0.4) | 8(1.6) |
| Total | | 279(100) | 225(100) | 504(100) |

WAZ available only for children upto 10 years (WHO, 2007)

Number in parenthesis indicates percentage

The weight for age Z score for 504 children upto 10 years of age of the two Districts revealed that the percentage of normal weight children was found to be more (16.9%) in Tuticorin district than in Ramanathapuram district (12.1%). Mildly underweight children were

more in Tuticorin (38.7%) than Ramanathapuram district (30.9%), where as moderately underweight children were more in Ramanathapuram (34.8%) than in Tuticorin District(30.2%).

Children with severe underweight were found more in Ramanathapuram district (19.8%) than Tuticorin district (13.8%). Over all observation is very alarming that only 14.3 percent children were in the normal weight category

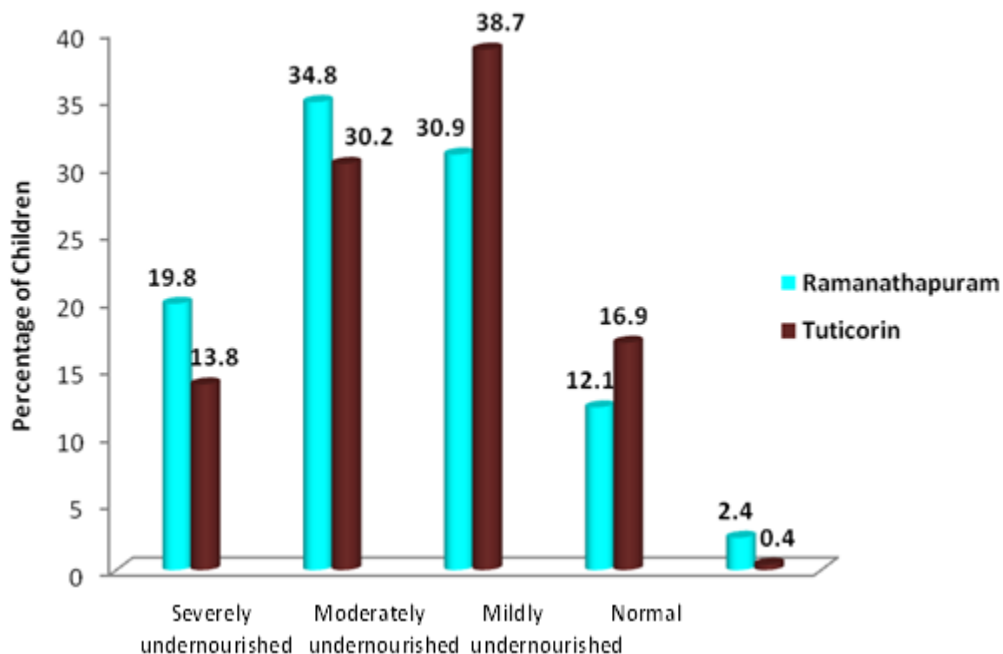


Figure 7-Comparison of weight for Age between Districts

A comparison of height for age Z scores between the two Districts is presented in Table VIII and Figure 8.

**Table VIII
Comparison of Height for Age Z Scores between Districts**

| Category | Classification | Ramanathapuram (n=406) | Tuticorin (n=397) | Pooled Data (n=803) |
|------------------|--------------------|------------------------|-------------------|---------------------|
| < - 3SD | Severely Stunted | 18 (4.5) | 16 (4.0) | 34 (4.2) |
| -2.99 to -2SD | Moderately Stunted | 53 (13.0) | 77 (19.4) | 130 (16.1) |
| -1.99 SD to 1 SD | Mildly Stunted | 141 (34.8) | 138 (34.8) | 279 (34.8) |
| 0.99 to 1 SD | Normal | 182 (44.9) | 161 (40.5) | 343 (42.8) |
| >1 SD | | 12 (2.8) | 5 (1.3) | 17 (2.1) |
| Total | | 406 (100) | 397 (100) | 803 (100) |

Number in parenthesis indicates percentage

The percentage of normal children based on height for age found to be more in Ramanathapuram District (44.9%) than Tuticorin District (40.5%). An equal percentage of children was seen for mildly stunted category where as moderately stunted was found to be more in Tuticorin District (19.4%) than in Ramanathapuram (13.0 %). The percentage of severely stunting ranged from 4.0 to 4.4.

Over all it was found that children of Ramanathapuram District exhibited more stunting in height than Tuticorin District and 42.8% was found to have normal height in both Districts.

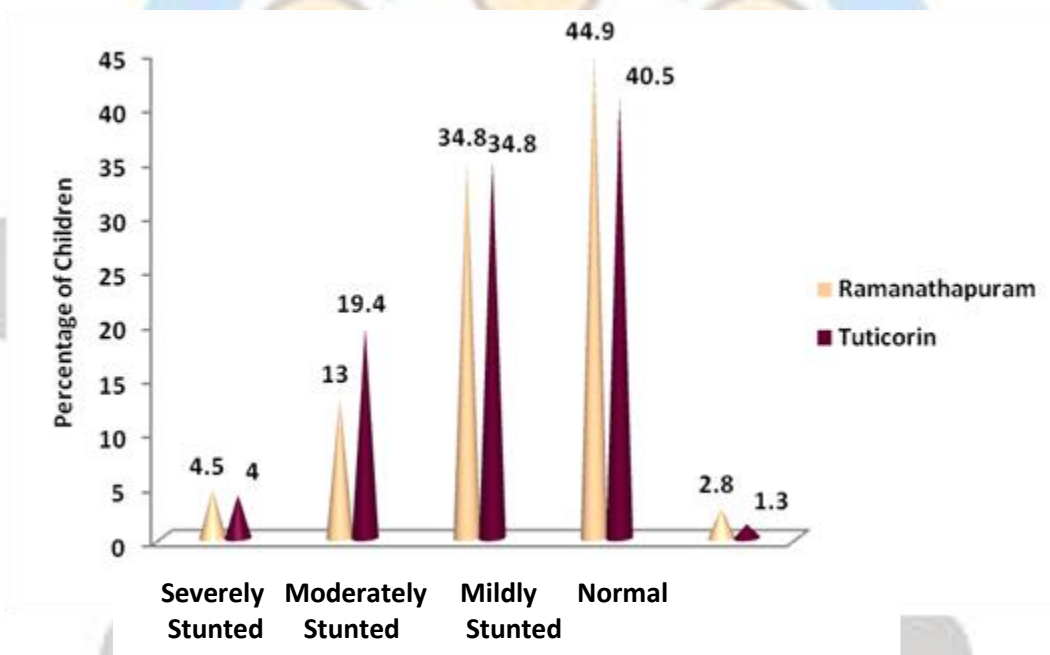


Figure 8-Comparison of Height for Age between Districts

Table 9 and Figure 9 present the BMI for age Z scores of children of the two Districts

Table IX
Comparison of BMI for Age Z Scores between Districts

| Category | Classification | Ramanathapuram (n=406) | Tuticorin (n=397) | Pooled data (N=803) |
|------------------|-------------------------|------------------------|-------------------|---------------------|
| < - 3SD | Severely Malnourished | 95(23.4) | 64(16.2) | 159(19.8) |
| -2.99 to -2SD | Moderately Malnourished | 140(34.5) | 108(27.3) | 248(30.8) |
| -1.99 SD to 1 SD | Mildly Malnourished | 109(26.8) | 122(30.3) | 231(28.8) |
| 0.99 to 1 SD | Normal | 56(13.8) | 90(22.8) | 146(18.2) |
| >1 SD | Overweight/Obese | 6(1.5) | 13(3.4) | 19(2.4) |
| Total | | 406(100) | 397(100) | 803(100) |

Number in parenthesis indicates percentage

The percentage of children with normal BMI was found to be more (22.8 %) in Tuticorin District compared to only 13.8 per cent in Ramanathapuram District. Mildly under nourished children were more (30.3%) in Tuticorin than Ramanathapuram (26.8%) District. Based on BMI values moderately and severely malnourished children were more in Ramanathapuram District than Tuticorin District.

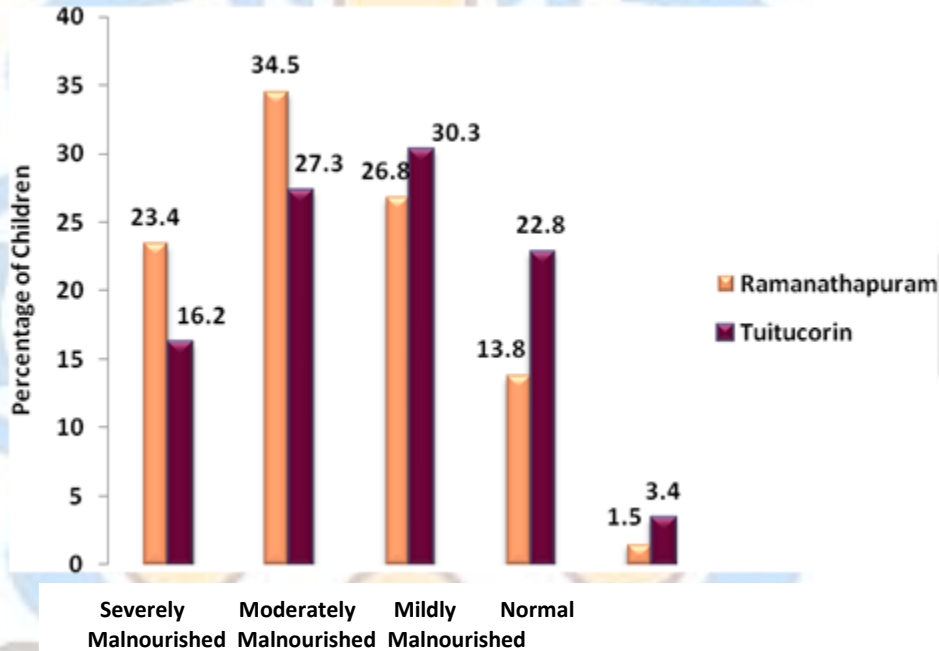


Figure 9 - Comparison of BMI for Age Z Scores between Districts

iii. Clinical Symptoms of Selected Children

Out of a total sample of 803 children, clinical symptoms were absent among 176 children in Ramanathapuram District and 203 children in Tuticorin District.

Table X depicts the percentage of clinical symptoms observed among the 230 children from Ramanathapuram and 194 children from Tuticorin Districts.

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Table X
Clinical Symptoms of Selected Children

| Deficiency Symptoms* | Ramanathapuram n=230 | | Tuticorin n=194 | | Total n=424 | |
|-----------------------------|-------------------------|------|--------------------|------|----------------|------|
| | No. | % | No. | % | No. | % |
| Dental Caries | 152 | 66.0 | 109 | 54.0 | 261 | 62.0 |
| Mild Anaemia | 45 | 20.0 | 21 | 11.0 | 66 | 16.0 |
| Bitot's Spot | 8 | 3.0 | 10 | 5.0 | 18 | 4.0 |
| Xerosis of Conjunctiva | 18 | 8.0 | 20 | 10.0 | 38 | 9.0 |
| Dry Skin | 17 | 7.0 | 10 | 5.0 | 27 | 6.0 |
| Poor Musculature | 10 | 4.0 | 54 | 27.0 | 64 | 15.0 |
| Angular Stomatitis | 1 | 0.4 | 1 | 0.5 | 2 | 0.5 |
| Red Tongue | 27 | 12.0 | 0 | 0 | 27 | 6.0 |
| Deficit of Subcutaneous fat | 1 | 0.4 | 5 | 2.5 | 6 | 1.4 |

***Multiple Symptoms**

Among the children, no symptoms of protein deficiency was observed. Mild anaemia, Xerosis Conjunctiva, Raw red tongue and bitot's spots were found among 16.9,9,6 and 4 per cent of children respectively. Few cases of dry skin, angular stomatitis, deficit subcutaneous fat and poor musculature were also found. Dental caries was found among 62 per cent of the surveyed children which may not directly due to nutritional deficiency but might due to poor eating habits which may influence food intake.

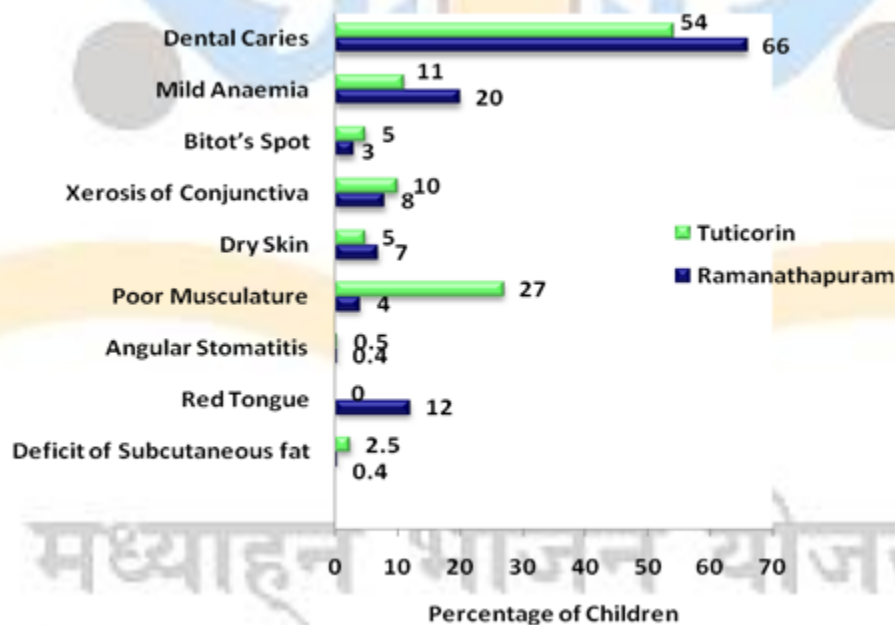


Figure 10- Clinical Symptoms of selected children

iv. Food Pattern

Breakfast was consumed by majority (99%) of the children before coming to school. The most common items for breakfast included rice with sambar/ Kulambu, left over rice and Kanji with pickle. Nearly 10 per cent of children brought pickle to eat along with noon meal. Few children took noon meal or egg to home to be shared with the family members.

The benefits derived by consuming noon meal as expressed by children included – concentration in studies (56%), regularity in school attendance (32%), growth promotion (25%), satisfies hunger (23%) and good for eye sight (12%).

iv. Quality of the Mid Day Meal

Sensory evaluation of the MDM meal among 14 schools revealed that cooked rice was found to be good in 7 schools and fair (slight yellow in colour) in 7 schools. Sambar was tasty in 8 schools and inadequate in vegetables and consistency in 6 schools. Mixed vegetables were used in Sambar by most of the schools. Eggs were properly cooked and served in all the surveyed schools. However, children expressed that eggs can be given with some masala (chilli/pepper powder) to improve the flavor. Quality of green gram and Bengal gram served was poor due to infestation and inadequate cooking.

Millet based recipes suitable for noon meal are given in Appendix III.

v. Quantity- Findings of Weighment survey

Food Intake

The mean food intake among 32 children from the selected two Districts compared with MDM norms are presented in Table XI.

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Table XI
Comparison of Mean Food intake with MDM Norms (N=32)

| S.No | Foods | MDM Norms (g) | Mean Intake (g) | | MDM Norms(g) | Mean Intake (g) | |
|------|------------|---------------|-----------------|---------------|--------------|-----------------|---------------|
| | | I-V Std | Ramanathapuram | Tuticorin | VI-VIII Std | Ramanathapuram | Tuticorin |
| 1 | Rice | 100 | 60 (26-125) | 77 (47-126) | 150 | 108 (90-140) | 100 (84-164) |
| 2 | Dhal | 15 | 7 (3-15) | 18 (9-22) | 15 | 13 (11-17) | 18 (14-24) |
| 3 | Oil | 3 | 2 (0.9-2.1) | 2 (1.6-3.8) | 3 | 3 (2.3-3.3) | 4 (3.4-5.8) |
| 4 | Salt | 1.9 | 1.9 (0.9-2.9) | 2.3 (0.9-3.6) | 1.9 | 3 (2.2-3.2) | 2.5 (2.1-3.5) |
| 5 | Vegetables | 70 | 42 (18-87) | 18 (6-26) | 80 | 75 (63-98) | 21 (17-29) |
| 6 | Egg | 46 | 36 | 50 | 46 | 36 | 40 |
| 7 | Whole gram | 20 | - | 19 | 20 | - | - |
| 8 | Potato | 20 | 27 (23-32) | 20 | 20 | 26 (23-27) | - |

Number in parenthesis indicate the range of intake

It is observed from the table that the rice intake ranged from 60-77 g which was found to be lesser than the MDM norms among I-V standard children, might be due to the intake of eggs. This is also found to be less than the 1/3rd RDA of 40-100g for primary school children.

In the case of upper primary children, again the cereal intake was found to be 100-108 g, less than the MDM norms and 1/3rd RDA of 80-140 g of cereals.

Children of Ramanathapuram District consumed a mean of 18 g of pulses found to be slightly more than the MDM norms of 15g. Whereas in Tuticorin, the intake of pulses was found to be 7-13 g among children against the MDM norms of 15 g.

Oil intake was less among the primary school children in both Districts compared to upper primary children. Except the primary school children of Ramanathapuram District, all others consumed relatively higher amount of salt (2.3-3g) against the MDM norms of 1.9 g. The vegetable intake was found to be very less (18-21g) among children of Tuticorin District against the MDM norms of 70-80g. However, the intake was found to be relatively higher among the upper primary children of Ramanathapuram District (75g) against the MDM norms. Depending upon the size of the egg supplied, the intake varied from 36-50 g among children. Potato intake was found to be slightly more than the MDM norms.

Nutrient Intake

The mean nutrient intake of the selected 31 children in comparison with 1/3rd of RDA (2010) for nutrients (Energy, Protein, Fat and Iron) are presented in Table XII.

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Mid Day Meal Scheme

Table XII
Mean Nutrient intake of the beneficiaries through the Mid Day Meal (N= 31)

| Age group | 1/3 rd of RDA* | Energy(Kcal) | | 1/3 rd of RDA* | Protein (g) | | 1/3 rd of RDA* | Fat(g) | | 1/3 rd of RDA* | Iron (mg) | |
|------------------|---------------------------|-----------------|-----------|---------------------------|-----------------|-----------|---------------------------|-----------------|-----------|---------------------------|-----------------|-----------|
| | | Ramanatha puram | Tuticorin | | Ramanatha puram | Tuticorin | | Ramanatha puram | Tuticorin | | Ramanatha puram | Tuticorin |
| 4-6 years (5) | 450 | 296 | 473 | 6.7 | 10 | 19 | 8.3 | 7 | 10 | 4.3 | 3.0 | 6.2 |
| 7-9 years (12) | 563 | 383 | 473 | 9.8 | 13 | 17 | 10 | 7 | 10 | 5.3 | 4.0 | 5.0 |
| 10-12 Male (6) | 730 | 392 | 551 | 13.3 | 13 | 17 | 11.7 | 7 | 11 | 7 | 4.0 | 5.3 |
| 10-12 Female (5) | 670 | 482 | 443 | 13.5 | 15 | 14 | 11.7 | 8 | 10 | 9 | 5.0 | 4.4 |
| 13-15 Male (1) | 917 | 603 | - | 18.1 | 18 | - | 15 | 9 | - | 10.6 | 5.8 | - |
| 13-15 Female (2) | 777 | 695 | 509 | 17.3 | 20 | 16 | 13.3 | 9.5 | 11 | 9 | 7.0 | 2.5 |

Number in parenthesis indicate the sample size * ICMR (2010)

With regard to the intake of nutrients, the data was collected from a small sample of 31 children. The Energy intake of children was found to be inadequate in most of the age groups compared to 1/3rd of the RDA. The protein intake ranged from 10 to 20 g as against the 1/3rd RDA of 6.7 to 18.1 g per day which is found to be satisfactory and might be due to egg and pulse intake.

The fat intake among children ranged from 7-11 g whereas 1/3rd of the RDA is 8.3-15 g. Hence, if possible the amount of fat supplied through the noon meal can be increased since the home diet may not supply the remaining day's requirement. The intake of Iron ranged from 2.5-7 mg among the children compared to 1/3rd of the RDA ranging from 4.3-10.6 mg. Inclusion of more vegetables or greens will help to increase the Iron intake

vi. Observations

Infrastructure related to storage, cooking and serving of MDM as observed among 25 schools in both Districts is given in Table XIII.

Table XIII
Infrastructure related to storage, cooking and serving of MDM (N=25)

| Aspects | Very Good | Good | Fair | Poor |
|-------------------------------|-----------|------|------|------|
| Kitchen area | 2 | 12 | 5 | 6 |
| Dining hall | 2 | 6 | 10 | 5 |
| Store room | 2 | 9 | 8 | 6 |
| Food items storage | 2 | 10 | 7 | 6 |
| Condition of cooking utensils | - | 16 | 6 | 3 |
| Cleanliness of utensils | 1 | 17 | 5 | 2 |
| Personal hygiene of cook | - | 13 | 7 | 5 |

All the schools which were observed by JRM were having separate kitchen but maximum number of kitchens were lacking in ventilation/ lighting/ smoke outlet/ proper flooring/water facility and proper choola.

With regard to the dining area, in maximum number of schools, the food was served in the corridor which is prone to dust exposure. In some schools, there was a hindrance by the dogs, goats and crows in the dining areas.

A majority of the schools had separate store rooms and the food items were stored in good condition in the containers which were supplied by state Government. Cleanliness of the cooking utensils and the condition of the utensils were satisfactory in maximum number of schools. The personal hygiene of the cooks should be further improved.

Impact of MDM scheme as expressed by teachers/NMP organizers/Head Masters (HM)

Out of 25 schools, only 8 teachers/ NMP organizers/HM expressed that there was an improvement in the enrollment due to MDM and 13 functionaries expressed that there was an increase in regularity of attendance.

Among 25 schools, 22 schools displayed the logo of MDM and 10 schools displayed the menu of MDM. It was also noted that 13 schools had maintained the health record and the details were mainly on weight and height of the child (with only one entry). From none of the schools, the food was taken for analysis. The noon meal functionaries advised the children not to buy foods from hawkers.



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Areas of concern under Mid-Day Meal Scheme

- Cooking Cost: Serving only 95gms of pulses per child per week both for primary and upper primary children against 100gms and 150 gms respectively.
- State provide funds @ 0.32 paisa and 0.36 paisa for primary and upper primary for vegetables against the recommended quantity of 50gms and 75gms.
- 3gms of Oil is used per child per day for preparing MDM against the recommended quantity of 5gms and 7.5 gms for primary and upper children per day.
- Eggs are not provided on Saturdays in NCLP schools
- Oil packets beyond 'best before three months from date of packaging' were found in 9 schools and were taken away by the State authorities for replacement with fresh packets.
- Poor convergence between Department of Social welfare and NMP and Department of School Education with regard to enrolment of Children.
- Provision of RTE Act 2009 not followed while fixing Enrolment.
- MDMS is also served to 9th and 10th Class children from State Resources but there is no separate account for this purpose.
- Vegetables not provided as per MDM norms.
- Less quantity of oil in the meals
- Bengal gram and Green gram is of Poor quality and Pest infested in some schools.
- Insufficient Storage facilities for Food Grains and other ingredients
- Usage of fire wood instead of LPG in the schools.
- No dedicated Toll free number for NMP for GRM.
- MDM LOGO either not painted on prominent wall or not found in the school in Ramanathapuram.
- No Standardized record registers.
- Food Norms and weekly Menu: The food norms and weekly Menu was not found displayed in any of the visited schools in both the districts.
- Poor Convergence under School Health Programme.
- No GRM cell available in the State.
- Non recording of Tasting of meals by Teacher as well as Organiser.
- Monthly meetings of the DLSMC are not held.
- Poor or no community participation.
- Community and school authorities were not aware of Social audit process.
- Acute Water Scarcity in Ramanathapuram
- Assistance is not provided for construction of Kitchen cum-store in the Govt. aided school.
- Poor MIS data entry for 2012-13 and 2013-14

Recommendations

B. Nutritional Assessment

1. Nutrition and health education should be part of the noon meal programme in which the organizers and teachers can be trained and they can impart education during noon meal time. *Fog eg:* Importance of vegetables that is included in the menu, washing the hands and plates before meal, not keeping the food materials on the floor and avoiding wastage of vegetables.
2. Cooked food samples should not be stored in plastic containers instead it should be kept in glass containers for sampling.
3. Marking of the egg is a very good practice but it should be insisted that all eggs should be marked.
4. Some spices like chilli powder or pepper powder can be added to boiled egg to improve the taste and flavour.
5. Home science colleges in the particular areas could be associated in training the personnel, implementation and monitoring of the noon meal programme.
6. Food weighment survey can be carried out with more number of children to arrive at the amount of salt to be included in the menu.
7. Noon meal distribution should not be done on the corridor of school to avoid the dust and the disturbance by the dogs, goats and crows.
8. Safe and clean drinking water should be made available and water drums should be fixed with tap connections to avoid contamination by children.
9. The funds allotted for purchase of vegetable could be increased due to hike in cost of the vegetables.
10. Awareness should be created on the aspects like, proper preparation and cooking methods and storage of cooked food among the cooks, helpers and organizers.x
11. Proper storage facilities should be provided in all the schools to preserve the shelf life and quality of the raw ingredients. The organizers should be oriented about the usage of authorized food products like oil, salt and spices for cooking.
12. Practice of raising the kitchen garden should be encouraged wherever there are facilities for water and space.

13. Bringing of food items to be taken along with noon meal by few children should be discouraged.


B. Implementation of Mid Day Meal Scheme.


1. The funds may be released in Tuticorin district through e-transfer on monthly basis as is being done in Ramanathapuram district where funds were released in April, May, June and July, 2013. This may also be scaled up in other districts.
2. Meetings of the State Level Steering-cum-Monitoring Committee, District Level Vigilance and Monitoring Committee, District Level Monitoring Committee, Block Level Monitoring Committees should be held regularly
3. Mid day Meal should be served as per the food norms indicated in the MDM Guidelines, 2006 and revised from time to time. Egg should also be served to NCLP schools on Saturdays.
4. State Government's Policy note 2013-14 on Social Welfare and Nutritious Meal Department may be corrected as per the observation given under para 3.1 on page 26.
5. JRM recommends that '*First in First out*' principle should be followed diligently by TNCSC while supplying Palmolein packets to NMCs. Palmolein stocks should reach NMCs well in advance of the prescribed 'best before' date of packaging. It should also be ensured that the Palmolein oil is consumed by all the Noon Meal Centers within three months from the date of its packaging. The Noon Meal Organizers Cooks and Helpers should be sensitized to '*First in First out*' principle.
6. Usage of LPG and smokeless chullas in the schools should be encouraged. Cooking is done mainly by firewood which not only denudes the forests but also produces a lot of health hazard smoke.
7. Storage bins may be provided for storing food grains in moisture free containers. Bengal Gram and Green Gram may be supplied in small packets.
8. Taste Register should be maintained in all schools. The MDM Guidelines prescribe the mid day meal should be tasted by 2-3 persons one of them should be Teacher and the other Cook-cum-helper. They should sign in the Taste Register after tasting the mid day meal. Necessary instructions may be issued in this regard.
9. Convergence with School Health Programme, Department of Drinking Water and Sanitation, Department of Rural Development, Social Welfare and Nutritious Meal Programme, Education etc. may be scaled up for ensuring regular health checks ups, supply of drinking water in the schools, infrastructure facilities in the school and pro-active role by the teachers in the schools.
10. The construction of 14,130 Kitchen-cum-stores sanctioned during 2012-13 should be undertaken in a time bound manner so as to avoid cost overrun. Modalities for providing assistance to Government aided schools for the construction of kitchen-cum-stores should also be finalized at the earliest. Procurement of Kitchen devices may also be expedited since the order is being issued shortly.

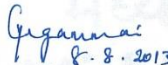
11. All the vacancies of Noon Meal Organizers, Cooks and Assistant cooks may be filled up urgently.
12. Separate accounts may be maintained for the Mid Day Meal served to children and elementary classes and 9th and 10th classes.
13. Fire extinguishers should be installed at fire prone areas and got refilled regularly after the expiry of validity period of last filling
14. The Annual and Monthly entries in the MIS web portal should be completed in a time bound manner
15. Community participation should be encouraged for ensuring transparency and accountability in the scheme.
16. Instead of having different toll free numbers for each district, Common Toll Free Number may be installed for all the districts for Greivance Redressal.
17. Awareness about the scheme may be generated through advertisement and publicity on the entitlements of the children under food norms. Logo and Toll Free Numbers should be displayed at prominent places in the schools and market places also.
18. Emergency Plan may be finalized along with the "Dos and Don'ts" in case of emergency. THE Public Health Centres should also be equipped suitably to handle cases of food poisoning.
19. The savings in the cooking cost on account of less pulses, less vegetables and less oil may be ploughed back for serving MDM as per norms.
20. State Level Joint Review Missions may be constituted to visit the poor performing districts in the State
21. The provisions of RTE Act may be followed while finalising the enrolment for NMP.
22. Hand Wash may be encouraged amongst the children before and after taking mid day meal.

The action taken report may be submitted to MHRD within three months from the date of submission of report.



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8/8/13


Mr. B.D. Shivani


Mr. V.M. Xavier
Nayagam


Dr. C. Yegammai
8.8.2013


Dr. V. Suresh


Dr. Milind Brahma
8/8/13

Trends of Enrolment and Availed MDM

Annexure- I

| District | Block | School | Enrolment | Total No of children availed MDM | Average No of children availed MDM | % of children availed against |
|-----------|--------------|--|-----------|----------------------------------|------------------------------------|-------------------------------|
| Tuticorin | Tirchandur | Tirukudum HS , Alanthalai | 115 | 900 | 90.0 | 78.26 |
| Tuticorin | Uttankudi | PUPS, Seerudaipuram | 25 | 222 | 22.2 | 88.80 |
| Tuticorin | Uttankudi | PSM Ms, Kulasekhar Ranpatnam -Govt.Aided | 236 | 1692 | 169.2 | 71.69 |
| Tuticorin | Uttankudi | PUMS, Manaduthanputhu | 77 | 707 | 70.7 | 91.82 |
| Tuticorin | Tirchundur | Holy Family MS, Alanthali | 108 | | 0.0 | 0.00 |
| Tuticorin | Tirchundur | PUPS, TB Road | 100 | 640 | 64.0 | 64.00 |
| Tuticorin | Ottapidaram | PUMS, Anathanamadampacheri | 158 | 1515 | 151.5 | 95.89 |
| Tuticorin | Ottapidaram | PUPS, Melaarasadi | 41 | 393 | 39.3 | 95.85 |
| Tuticorin | Karungulam | Govt. H S, Anavareathanallur | 112 | 939 | 93.9 | 83.84 |
| Tuticorin | Karungulam | PUPS, Anavareathanallur | 91 | 720 | 72.0 | 79.12 |
| Tuticorin | Thoothukudi | PUPS, Vakaikulan Variety Rice | 59 | 510 | 51.0 | 86.44 |
| Tuticorin | Karungulam | PUMS, Vallanadu south | 174 | 1638 | 163.8 | 94.14 |
| Tuticorin | Thoothukudi | NCLP TMSSS, MGR Nagar | 39 | 298 | 29.8 | 76.41 |
| Tuticorin | Vilathikulam | GHS, Melmathai | 195 | 1645 | 164.5 | 84.36 |
| Tuticorin | Vilathikulam | HNES, Vembar | 190 | 1935 | 193.5 | 101.84 |
| Tuticorin | Vilathikulam | PUPS, Melmanthai | 128 | 1238 | 123.8 | 96.72 |
| Tuticorin | Vilathikulam | SPMS, Vembar | 340 | 3400 | 340.0 | 100.00 |
| Tuticorin | | TNDDTA PS | 81 | 767 | 76.7 | 94.69 |
| Tuticorin | Srivaikundam | GHSS, Umaikadu | 84 | 657 | 65.7 | 78.21 |
| Tuticorin | Srivaikundam | GHSS, Mavadipannai | 141 | 1312 | 131.2 | 93.05 |
| Tuticorin | Sathankulam | PUMS, Pannamparai | 160 | 1402 | 140.2 | 87.63 |
| Tuticorin | Sathankulam | PUPS, Puthukinaru | 34 | 340 | 34.0 | 100.00 |
| Tuticorin | Sathankulam | SMHSS, Sathankulam | 90 | 318 | 31.8 | 35.33 |
| Tuticorin | Sathankulam | TNDDTA RMP Pulamathan CHS | 80 | 800 | 80.0 | 100.00 |
| Tuticorin | Sathankulam | SHMS, Viyayaramapuram | 280 | 2620 | 262.0 | 93.57 |
| Tuticorin | Sathankulam | PUMS | 94 | 940 | 94.0 | 100.00 |

| | | | | | | |
|----------------|------------------|--------------------------|------|------|-------|--------|
| Tuticorin | Sathankulam | TNDDTA PS, Mudulure | 70 | 602 | 60.2 | 86.00 |
| Tuticorin | Sathankulam | TNDDTA SMPS, Mudulure | 35 | 350 | 35.0 | 100.00 |
| Tuticorin | Alvarthirunagiri | PUPS, Sethukkuvaithan | 52 | 491 | 49.1 | 94.42 |
| Ramanathapuram | Ramanathapuram | PUMS, kalugurani | 100 | 934 | 93.4 | 93.40 |
| Ramanathapuram | Ramanathapuram | GHS, Peravur | 181 | 1775 | 177.5 | 98.07 |
| Ramanathapuram | Ramanathapuram | PUPS, Devipattinam | 130 | 1179 | 117.9 | 90.69 |
| Ramanathapuram | Mandapam | PUMS, Kuyavankudi | 73 | 616 | 61.6 | 84.38 |
| Ramanathapuram | Thirupulani | PUPS, Thirupulani | 77 | 707 | 70.7 | 91.82 |
| Ramanathapuram | Thirupulani | PUPS, Panchanthaki | 30 | 300 | 30.0 | 100.00 |
| Ramanathapuram | Kadaladi | PUPS, Melaselvanur | 72 | 698 | 69.8 | 96.94 |
| Ramanathapuram | Kadaladi | PUPS, Sekkal | 42 | 341 | 34.1 | 81.19 |
| Ramanathapuram | Kadaladi | GHS, Melaselvanur | 90 | 769 | 76.9 | 85.44 |
| Ramanathapuram | Bogalur | PUMS, Pottithy | 209 | 2026 | 202.6 | 96.94 |
| Ramanathapuram | Bogalur | PUPS, Dvendranallur | 14 | 205 | 20.5 | 146.43 |
| Ramanathapuram | Tirupulani | PUPS, Thirupulani | 77 | 704 | 70.4 | 91.43 |
| Ramanathapuram | Nainakavoli | PUPS, Anthankuti | 50 | 492 | 49.2 | 98.40 |
| Ramanathapuram | Nainakavoli | Govt.HS, Anthangaudi | 80 | 710 | 71.0 | 88.75 |
| Ramanathapuram | Nainakavoli | PUPS, Karadaranthakudi | 67 | 644 | 64.4 | 96.12 |
| Ramanathapuram | Nainakavoli | PUPS, Kuyavanendal | 15 | 150 | 15.0 | 100.00 |
| Ramanathapuram | R.S. Mangalam | Govt. girls HS | 145 | 1355 | 135.5 | 93.45 |
| Ramanathapuram | R.S. Mangalam | PUPS, East R.S. Mangalam | 92 | 768 | 76.8 | 83.48 |
| Ramanathapuram | Nainakavoli | Govt HS, Veppalodali | 110 | 963 | 96.3 | 87.55 |
| Ramanathapuram | Bogalar | PUPS, Bogalar | 60 | 460 | 46.0 | 76.67 |
| Ramanathapuram | Bogalar | PUPS, Ettivayal | 90 | 890 | 89.0 | 98.89 |
| Ramanathapuram | Thiruvadanai | Govt HSS, SP Pattinam | 20 | 58 | 5.8 | 29.00 |
| Ramanathapuram | Thiruvadanai | PUPS, SP Pattinam | 19 | 179 | 17.9 | 94.21 |
| Ramanathapuram | Thiruvadanai | GBHSS, Thondi | 28 | 260 | 26.0 | 92.86 |
| Ramanathapuram | Baramakudi | PUMS, Thelichathanallur | 130 | 1142 | 114.2 | 87.85 |
| Ramanathapuram | Baramakudi | PUPS, Sarashwathi nagar | 27 | 269 | 26.9 | 99.63 |
| Total | | | 5417 | | 4191 | 87.92 |

मध्याह्न भोजन योजना Mid Day Meal Scheme

Annexure- II

| District Name | Block Name | Name of School | Availability | | | Infrastructure Facilities | | | | | | Fire Extinguisher |
|---------------|-------------|--|--------------------|-----------------|--------|---------------------------|----------------|------------------|-------------------|-----------------------------|----------------|-------------------|
| | | | Kitchen cum stores | Kitchen Devices | | Cooking Gas | | | Toilet Facilities | | Drinking Water | |
| | | | | Cooking | Eating | LPG | Kerosene Stove | Firewood/ Chulha | Yes/No | Separate for Boys and Girls | Yes/No | |
| Tuticorin | Tirchandur | Tirukudum High School Alanthalai | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Uttankudi | PUPS Seerudaipuram | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Uttankudi | P.S.M Middle school Kulasekhar Ranpatnam -Govt.Aided | Small | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Uttankudi | PUMS Manaduthanputhu | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Tirchundur | Holy Family Middle School Alanthali | temporary | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Tirchundur | PUPS TB Road | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | ottapidaram | PUMS Anathanamadampacheri | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | ottapidaram | PUPSMelaarasadi | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Karungulam | Govt. High School Anavareathanallur | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |

| | | | | | | | | | | | | |
|-----------|--------------|---------------------------------|--------------------|----|-----------|----|----|-----|---------------|-----|-----|-----|
| Tuticorin | Karungulam | PUPS Anavareathanallur | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Thoothukudi | PUPS Vakaikulan Variety Rice | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Karungulam | PUMS Vallanadu south | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Tuticorin | Thoothukudi | NCLP TMSSS,MGR Nagar | Yes | S | S | No | No | Yes | Yes | Yes | Yes | No |
| Tuticorin | Vilathikulam | GHS Melmathai | store only | NS | NS | No | No | Yes | Yes(No Water) | Yes | HP | No |
| Tuticorin | Vilathikulam | HNES Vembar | temporary | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Vilathikulam | PUPS Melmathai | Yes | S | S | No | No | Yes | Yes(No Water) | No | HP | Yes |
| Tuticorin | Vilathikulam | SPMS Vembar | temporary | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Srivaikundam | T.N.D.T.A.PS | Yes(T) | S | less (11) | No | No | Yes | Yes | yes | yes | Yes |
| Tuticorin | Srivaikundam | GHSS Umaikadu | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Srivaikundam | GHSS Mavadipannai | under construction | NS | S | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Sathankulam | PUMS Pannamparai | Yes | S | less (50) | No | No | Yes | Yes | no | yes | Yes |
| Tuticorin | Sathankulam | PUPS Puthukinaru | Yes | S | less(9) | No | No | Yes | Yes | no | yes | Yes |
| Tuticorin | Sathankulam | SMHSS Sathankulam | Yes | S | less(35) | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Sathankulam | TNDTA RMP Pulamathan CHS | temporary | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Sathankulam | SHMS Viyayaramapuram | temporary | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Sathankulam | PUMS | Yes | S | S | No | No | Yes | Yes | uc | yes | Yes |

| | | | | | | | | | | | | |
|----------------|------------------|-----------------------------|--------------------|----|----------|----|----|-----|------------------|-----|---------|-----|
| Tuticorin | Sathankulam | TNDTA PS Mudulure | temporary | S | less(10) | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Sathankulam | TNDTA SMPS Mudulure | temporary | S | less(10) | No | No | Yes | Yes | Yes | yes | Yes |
| Tuticorin | Alvarthirunagiri | PUPS Sethukkuvaithan | Yes | NS | less(10) | No | No | Yes | Yes(boys | No | yes | Yes |
| Ramanathapuram | Ramanathapuram | PUMS kalugurani | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Ramanathapuram | GHS Peravur | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Ramanathapuram | PUPS Devipattinam | Yes | S | S | No | No | Yes | Yes | Yes | yes | No |
| Ramanathapuram | Mandapam | PUMS Kuyavankudi | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Thirupulani | PUPS Thirupulani | temporary | S | S | No | No | Yes | Yes | Yes | no | Yes |
| Ramanathapuram | Thirupulani | PUPS Panchanthaki | Yes | NS | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Kadaladi | PUPS Melaselvanur | Yes | NS | S | No | No | Yes | Yes(ww Damedged) | Yes | yes | Yes |
| Ramanathapuram | Kadaladi | PUPS Sekkal | no | S | S | No | No | Yes | Yes | Yes | no(1km) | Yes |
| Ramanathapuram | Kadaladi | GHS Melaselvanur | Yes | S | S | No | No | Yes | Yes(ww) | Yes | yes | Yes |
| Ramanathapuram | Bogalur | PUMS Pottithy | Yes(Small) | S | S | NO | No | Yes | Yes | Yes | Yes | Yes |
| Ramanathapuram | Bogalur | PUPS Dvendranallur | Yes | S | S | No | No | Yes | Yes(WW) | Yes | no(1km) | Yes |
| Ramanathapuram | Tirupulani | PUPS Thirupulani | Yes | NS | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Nainakavoli | PUPS Anthankuti | under construction | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Nainakavoli | Govt.High School Anhangaudi | under construction | S | S | No | No | Yes | Yes | Yes | yes | Yes |

| | | | | | | | | | | | | |
|----------------|---------------|------------------------------------|-----|----|---|----|----|-----|-----|-----|-----|-----|
| Ramanathapuram | Nainakavoli | PUPS Karadarntakudi | Yes | S | S | NO | No | Yes | Yes | Yes | Yes | Yes |
| Ramanathapuram | Nainakavoli | PUPS Kuyavanendal | Yes | S | S | No | no | Yes | Yes | Yes | Yes | Yes |
| Ramanathapuram | R.S. Mangalam | Govt. girls High School | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Ramanathapuram | R.S. Mangalam | PUPS East R.S. Mangalam | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Ramanathapuram | Nainakavoli | Govt High School Veppalodali | Yes | S | S | No | No | Yes | Yes | Yes | Yes | Yes |
| Ramanathapuram | Bogalar | PUPS Bogalar | Yes | NS | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Bogalar | PUPS Ettivayal | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Thiruvadanai | Govt High Sec. School, SP Pattinam | Yes | S | S | No | No | Yes | Yes | Yes | yes | no |
| Ramanathapuram | Thiruvadanai | PUPS, SP Pattinam | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Thiruvadanai | GBHSS, Thondi | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Baramakudi | PUMS Thelichathanallur | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| Ramanathapuram | Baramakudi | PUPS Sarashwathi nagar | Yes | S | S | No | No | Yes | Yes | Yes | yes | Yes |
| | | | | | | | | | | | | |

Annexure - III

Schools Visited for Nutritional Assessment

| Ramanathapuram District | |
|--------------------------------|---|
| S.NO. | Name of the Schools |
| 1. | P. U. Elementary School, Sayalkudi |
| 2. | P. U Middle Bopandiyapuram |
| 3. | P.U. Middle School, Kadaladi |
| 4. | P. U. Middle School, Kalukurani |
| 5. | P. U. Middle School, Peravur |
| 6. | P.U. Middle School, KuyavanKudi |
| 7. | P.U. Elementary school, Thirupillani |
| 8. | P.U. Middle School, Muthuvayal |
| 9. | P.U. Elementary School, Saraswathi Nagar |
| 10. | P.U. Elementary School, Thelichanallur |
| 11. | P.U Elementary School, Pandikanmai |
| Tuticorin District | |
| 12. | P.U Primary School, Sirudayarapuram |
| 13. | Thirukkudumbam High School, Alanthalai |
| 14. | P.U. middle School, Vallanadu |
| 15. | Pandaram Sivan Memorial Senthil Arumugam Middle School, Kulasekarappattinam |
| 16. | NCLP School, MGR.Nagar, Membalam |
| 17. | P.U. Middle School, Manaduthanduppatthu |
| 18. | P.U. Middle School, Anavaradhanallur |
| 19. | P.U Elementary School, Sethukkuvailthan |
| 20. | Govt. Hr. Sec. School, Umarikkudi |
| 21. | Govt. Hr. Sec. School, Mavadippennai |
| 22. | TNTDDA Elementary school, Rachanayapuram |
| 23. | P.U Elementary School , Pannamparai |
| 24. | Mutharamman Middle School, Vijayarapuram |
| 25. | P.U Elementary School, Vaipar |

मध्याह्न भोजन योजना
Mid Day Meal Scheme

Annexure –IV

Proforma for Clinical Assessment

Name of the child:

Class:

| | |
|---|--|
| I | Healthy and free from any deficiency symptoms |
| | a. Poor musculature |
| | b. Deficient subcutaneous fat |
| | c. Mild anaemia |
| | d. Lack of interest in surroundings |
| e. Mild signs of not more than one of the specific nutritional disorders or deficiencies mentioned under (3) of III | |
| II | 1. a. Nutritional oedema |
| | b. Gross muscular wasting |
| | c. Marked anaemia |
| | d. Xerosis of the cornea |
| | 2. a. Tenderness of the calf |
| | b. Red and / or Raw tongue / Glazed tongue |
| | c. Angular stomatitis |
| | d. Bleeding gums |
| | e. Angular conjunctiva |
| | 3. a. Xerosis of pigmentation of conjunctiva |
| | b. Bitot's spots |
| | c. Caries |
| | d. Dry / or rough skin |
| | e. Crazy pavement skin |
| | f. Hyperkeratosis |

Special Remarks:

Date:

Signature of the Examiner

मध्याह्न भोजन योजना
Mid Day Meal Scheme

Annexure – V
Millet Based Recipes for Noon Meal

1. SORGHUM OR MILLET "RICE"

Ingredients

Dehulled or whole grain: 100 g
Water : 400 ml

Method

1. Soak the millet overnight in water and rinse it clean if whole grain is used.
2. Boil or steam the dehulled or soaked whole grain until soft (20 to 40 minutes).
3. Serve with sambar/ kulambu.

2. SORGHUM OR MILLET GRAINS PONGAL

Ingredients

Whole or broken cereal grain - 200 g
Green gram dhal - 50 g
Water - 600 ml
Pepper - 5 g
Cumin seeds - 5 g
Green chillies - 10g
Curry leaves- - Few
Salt - To taste
Oil - - 30 ml

Method

1. Bring water to boil.
2. Add pulse and boil until partially done.
3. Add sorghum or millet grain and continue boiling until tender.
4. Season with pepper, cumin seeds, curry leaves, green chillies as desired.

3. VEGETABLE MILLET KICHIDI

Ingredients

Dehusked sorghum or millet -100g
Carrot/Beans - 10g
Small onions - 10 g
Vegetable oil - 50 g
Pepper, Asafoetida and cumin seeds -10g
Green chillies -5g

Turmeric
Salt to taste

Method

1. Heat oil in a pan
2. Add spices, onion and vegetables and fry
3. Add water and boil slightly
4. Add dehusked millet and salt
5. Cover and cook until done.

4. PLAIN VARAGU RICE

Ingredients

Dehulled or whole varagu – 100 g
Water - 400 ml

Method

1. Soak the millet overnight in water and rinse it clean if whole grain is used.
2. Boil or steam the dehulled or soaked whole grain until soft (20 to 40 minutes).
3. Serve with sambar/ kulambu.

5. VARAGU UPMA

Ingredients

Varagu - 60 g
Suji - 40 g
Big Onion - 50g
Green Chillies - 2 No.
Curry leaves - few
Oil - 15 ml
Salt - to taste
Water - 3 times

Method

Roast the broken varagu and suji separately and keep aside. Add oil in a cooking vessel and season with onions, green chillies and curry leaves, then add water and salt. Bring it to boil. Add varagu and suji, mix thoroughly without any lumps. Cook till done. Add coriander leaves and serve.

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Mid Day Meal Scheme

6. VARAGU PULAV

Ingredients

| | |
|-------------------------|-----------|
| Varagu | - 100g |
| Carrot, Beans, Potato | - 30 g |
| Big Onion | - 10 g |
| Tomato | - 20 g |
| Mint leaves | - 10 g |
| Garlic and ginger paste | -10g |
| Green Chillies | - 5 g |
| Oil | -15 ml |
| Spice powder | -5 g |
| Salt | -to taste |
| Water | - 3 times |

Method:

Heat oil in a vessel. Add ginger garlic paste, cut onions, tomatoes, green chillies and mint leaves. Then sauté properly. Add vegetables and spice powder and fry. Cook slightly covering with lid. Add varagu and the required amount of water. Add salt and cook till done.

7. VARAGU TOMATO RICE:

Ingredients:

| | |
|----------------------------|------------|
| Varagu | -100g |
| Tomato | -20 g |
| Onion | -20g |
| Green Chillies | - 5 g |
| Curry and coriander leaves | - 5g |
| Ginger Garlic paste | -5 g |
| Oil | -15 ml |
| Salt | - to taste |

Method

Heat oil in a Pan. Add mustard, onion, curry leaves, green chillies, ginger garlic paste. Saute well. Add cut tomatoes and sauté again. Add water and bring to boil. Add the varagu to the boiling mixture and cook till done. Garnish with coriander leaves.

8. VARAGU CARROT RICE

Ingredients

| | |
|--------|--------|
| Varagu | - 100g |
| Carrot | - 20 g |

Tomato – 5 g
Onion – 20g
Green Chillies- 5 g
Curry and coriander leaves- 5g
Ginger Garlic paste -5 g
Oil -15 ml
Salt to taste

Method

Heat oil in a Pan. Add mustard, Onion, curry leaves, green chillies, ginger garlic paste. Saute well. Add cut carrots and tomatoes and sauté again. Add water and bring to boil. Add the varagu to the boiling mixture and cook till done. Garnish with coriander leaves.

9. DHAL VARAGU RICE

Ingredients

Varagu- 100g
Red gram dhal – 20 g
Onion – 10 g
Green chillies- 5g
Tomato - 15g
Curry and coriander leaves- 5g
Cumin seeds – 5 g
Oil – 10 ml

Method

Heat oil in a vessel. Add mustard, onions, chillies, tomato, cumin seeds, curry leaves and finally add salt and red gram dhal and cook slightly. Add varagu and required amount of water and cook till done. Garnish with curry leaves.

10. GREENS MILLET RICE

Ingredients

Varagu/Cholam – 100g
Any greens - 30g
Onion - 10g
Red/Green chillies -10 g
Garlic – 5 g
Oil - 10ml
Cumin Seeds - 5 g

Method

Heat oil in a vessel. Add Cumin seeds, garlic and onion and chopped greens. Saute well. Add required amount of water. Bring to boil. Then, add varagu/cholam and salt to taste. Cook till done.

मध्याह्न भोजन योजना
Mid Day Meal Scheme

Observations of the 5th Joint Review Mission to Tamil Nadu from 29th July-8th August, 2013 under the leadership of Dr. U.K Lakshmi, Prof and Head, Food Science and Nutrition Department, Avinashilingam Institute for Home science and Higher Education for Women, Coimbatore

1. The JRM has appreciated the following best practices observed by the State in the implementation of Nutritious Meal Programme :

- i) Nutritious meal is being served to 88% of the enrolled children on an average.
- ii) Government of Tamil Nadu is providing four sets of School Uniforms, school Bags, chappals and Geometry box to each student.
- iii) Egg is being served to all students on all the school days by the State Government from its own resources. The eggs are marked in different colours on each day so that stale egg is not served to the children on the next day.
- iv) State Government has introduced Variety Meal in one block of all districts on pilot basis. This variety meal is very popular amongst the children.
- v) State Government is making e-transfer of funds at all levels.
- vi) State Government has set up an administrative structure and posted regular staff for effective implementation and monitoring of the scheme at State, District, Block and School levels.
- vii) Noon meal functionaries consisting of Noon Meal Organisers, Cooks and Assistant Cooks are available in all the visited schools. The State Government has appointed them as regular employees and they get their salaries regularly as per their pay scales. State Government is also paying *Pension, Lump sum payment at the time of their retirement, Special Provident Fund besides giving them Promotional Opportunities to become office assistants*, teachers in Schools.
- viii) All the Cooks have been trained by the State Government.
- ix) Tamil Nadu Civil Supplies Corporation (TNCSC) procures pulses, oil and salt in bulk quantity through a centralised tender process and delivers them up to Noon Meal Centres (NMCs). Buffer Stock of food grain, pulses, oil and Salt for more than one month was available at all Noon Meal Centres.
- x) The State Government has made route charts for supplying Pulses, Oil, Salt to all Noon Meal Centres between 15 and 25 date of the previous month. The food grain lifted from FCI is also delivered with the above ingredients.
- xi) Kitchen Devices available in Government and Local Body Noon Meal Centres.
- xii) All the Noon Meal Centres were keeping Food Samples in air tight containers for testing.
- xiii) State Government is also serving mid-day meal to the school children studying in 9th and 10th Class from its own resources.
- xiv) Dr. Raj Jeevan now settled in USA has donated ₹ 50 lakh to his alma mater (TNDTA RMP Pulamadan Chettiar National Hr. Sec. School, Sathankulam). Physics and Chemistry Laboratories have been constructed in the school with this donation. He has promised to donate additional donation of ₹ 100.00 lakh to the school. Similarly, six rooms have been constructed in Sri Muthuraman Hindu Middle School, Vijayaramapuram, Sathankulam through ₹ 38.00 lakh donation from local people.

2. **The JRM appreciated the above initiatives of the State Government. But there is a scope for further improvement in the implementation of the scheme through following interventions:--**

i. Serving of Pulses, Vegetables and Oil under Nutritious Meal Programme as per food norms prescribed under MDM guidelines

The State Government is serving 95gms of pulses per child per week both for primary and upper primary children against admissible quantity of 100 gms and 150 gms respectively under MDM food norms. Similarly, ₹ 0.32 and ₹ 0.36 are released to Noon Meal Centres for purchase of vegetables for primary and upper primary classes respectively. The MDM guidelines prescribe serving of 50gms and 75gms of vegetables for the above classes respectively because they are a rich source of micro-nutrients. Further, only 3gms of Oil is used per child per day for preparing MDM against the recommended quantity of 5 gms and 7.5 gms for primary and upper primary children per school day. The State Government officials informed JRM that the less quantity of pulses and oils in the meal is compensated by the serving of an egg.

Agreed that egg is a rich source of protein and fats but that should not be the basis for reducing the food norms prescribed under MDMS. The JRM was informed that the children may not be able to consume full quantity of mid-day meal with pulses, oil and vegetables in prescribed quantity along with egg. In that case, egg can be served after some time. This will help the State to improve the undernourishment which has been reported under Nutrition Assessment by Food & Nutrition experts of JRM.

ii. Egg should be served on Saturday also to the children in NCLP Schools

The Government, Government-aided, Local Body Schools observe five days week and egg is served accordingly in these schools. The NCLP schools open for six days in a week but the children in these schools do not get egg on Saturday. These children should be given egg on Saturday also.

iii. Need for more convergence between Department of Social Welfare and Department of School Education

Nutritious Meal Programme (NMP) is implemented by the Department of Social Welfare but the administrative control of Teachers lies with the Education Department. JRM observed that teachers do not own NMP and showed indifference towards it. Noon Meal Organisers, Cooks and Assistant Cooks prepare, serve and also taste the meal. Teachers, barring a few exceptions, did not taste the meal nor do they maintain the Taste register because they have no written instructions from the Education Department to do so.

The MDM guidelines explicitly state that mid-day meal should be tasted by 2-3 persons including one Teacher, Cook or members of School Management Committee at least half an hour before its serving to the students. The role of teacher for tasting the meal cannot be undermined. The deaths of innocent students

in Bihar could have been avoided had the teacher tasted the meal. I would request you to impress upon the Department of Education to issue instructions to the teachers for tasting of meal and sign the Taste Register also. A roster of teachers can be prepared for this purpose.

iv. Need to follow the Provisions of Right to Free and Compulsory Education (RTE) Act 2009.

Joint Review Mission observed that enrolment as on 30.09.2012 is being followed under the Nutritious Meal Programme during 2013-14. The JRM observed that a few students had been enrolled after that date. These children were not getting mid-day meal because Department of Education had not revised the enrolment. It must be ensured that all children attending the school should get mid-day meal.

You will appreciate that the Right to Free & Compulsory Education (RTE) Act 2009 has done away with the system of freezing the enrolment as on 30 September of the academic session. The schools may enroll any child as and when he comes for admission during the academic session. This issue should be with the Department of Education, Government of Tamil Nadu.

v. Need to maintain separate record for meal served to Elementary classes and children of 9th& 10th Classes

State Government is serving mid-day meal to the children studying in 9th and 10th Classes from its own resources. Separate record of food grain, pulses, oil, salt, vegetables, condiments etc. utilised for serving meal to the children of these classes is not maintained due to which there is ambiguity about the transparency and accountability in the utilisation of food grain and funds for elementary classes and 9th-10th classes. Separate records should be maintained for these classes.

vi. In adequate Storage facilities at Noon Meal Centres

JRM observed that three varieties of pulses (Toor dal, Green Gram and Bengal Gram) are supplied by Tamil Nadu Civil Supplies Corporation to all Noon Meal Centres under Nutritious Meal Programme. Whereas sufficient storage bins are available for pulses, the food grain was not stored in containers in 98% of the visited schools. The rice was kept in the gunny bags and kept either in the store room or class room. I shall appreciate if storage bins of adequate capacity are issued to the schools for proper storage of food grain and other ingredients.

vii. Need to promote pollution free Cooking.

JRM observed that wood is principal fuel for cooking of mid-day meal. LPG was found in one or two visited schools only. You will appreciate that the use of wood as fuel not only depletes our scarce forest resources but poses potential respiratory health hazards also to the cooks. I would request that use of safe fuel such as LPG may be promoted for cooking. The expenditure on the use of 9 subsidized LPG cylinders will have to be borne by the State Government from the funds allocated for cooking cost. The additional expenditure incurred by the State for procuring unsubsidized cylinders after withdrawal of subsidy on 18th September, 2012, would however, be reimbursed to the State Government.

viii. Creating Awareness through Advertisement & Publicity of the scheme

JRM observed that community members were not aware of the entitlements of food norms, weekly menu, Toll Free Number. The Logo was either absent or very small size Logo was pasted in one corner of the school. Only 5% of the schools had painted logo on their walls.

In order to promote awareness amongst the community, It is essential that publicity of the scheme is made by putting banners, hoardings at prominent places in the villages/city on the entitlement of food norms under the scheme, weekly menu etc. It should be made mandatory to display the Logo, Food norms, weekly menu, Toll Free number at prominent places at easily accessible places in the schools. Television, Radio and Print media may also be utilised for this purpose.

Noon Meal Functionaries may be advised to follow FIFO (First-in-First-out) principle for utilising ingredients of mid-day meal.

ix. Setting up of Grievance Redressal Cell

JRM observed that Grievance Redressal Mechanism needs to be set up at State, District, Block and School level. A Toll Free Number had been installed in Namakkal and Coimbatore districts only. State Level Toll Free Number is yet to be set up for redressing the grievances of the people. The State may install Toll Free Number and also keep 'Suggestion Box'/Complaint Box in all the schools to enable the people to submit their grievances. Each complaint received on Toll Free Number and the Suggestion/Complaint Box may be disposed in a time bound manner under intimation to the complainant.

x. Need for maintaining Uniformity in Record Management

JRM noted that the record keeping by Noon Meal Organiser varied from school to school. In order to have uniformity in record keeping, the State Government may provide printed registers to each school for maintenance of record of food grains, pulses, oil, vegetables etc. A brief orientation programme may be organised for Noon Meal Organisers on Record Management.

xi. Need for better Convergence under School Health Programme.

A child symbolises hope. He/she is the rarest and noblest gift of God to the mankind. The prenatal care of the child is taken by the God himself but post natal care is the responsibility of the State/Society. The health care of pre-school children (0-6 years of age) is provided under Integrated Child Development Service (ICDS) Scheme and health care between the age of 6-14 years is to be provided under School Health Programme (SHP) in convergence with State Health Department/National Rural Health Programme.

Various studies show that level of anaemia increases during the adolescent age, which is the age when the child is in the school. It becomes all the most important to provide them balanced diet and supplement it with provision of Iron, Folic Acid, Vitamin A, and de-worming tablets under SHP.

Although the schools had School Health Cards (SHC) yet no entry had been made in these cards about the distribution of Iron-Folic Acid Tablets, Vitamin A or de-worming Tablets. SHCs indicated that children had been vaccinated but type of vaccine was not mentioned. During the discussions with the doctors, it was found that children up to the age of five years were vaccinated for DPT etc. The children in higher age group had not received any medicine. Spectacles were distributed to children in 6 to 8 classes. The doctor informed that children of 1-5 classes are not provided spectacles even if they suffer from refractive error. Spectacles should be provided to all elementary class children suffering from refractive error.

xii. Motivating Community for participation under Nutritious Meal Programme.

JRM did not observe community participation in the implementation and monitoring of the programme. The SMC consists of six parents whose children are studying in the schools. They rarely express themselves openly.

The parents may be motivated especially the mothers of the children studying in the school, to play pro-active role in monitoring the programme. The mothers can be encouraged to take turns to oversee the feeding of the children thus ensuring quality and regularity of the meal. This simple intervention of '*mothers watch*', gives them a voice and a role and greater ownership of the programme.

Reports from Chattisgarh's Baster district indicate that the involvement of mothers "MITANIN (means friend – a female friend in Chhatisgarh)" has not only led to a significant improvement in cooking and hygiene but also a change in attitude on the part of the teachers with the decline in absenteeism. More and more States/UTs are including mothers in supervision committee as well. In Kerala mothers have been involved for supervision and duty rosters are being maintained. Similar rosters have been introduced in Madhya Pradesh. In Uttrakhand mothers are appointed as Bhojan Mata and Sahayika in all primary schools. Community may be empowered for undertaking Social *audit* of the scheme.

xiii. Acute Water Scarcity in Ramanathapuram

There is acute shortage of water in Ramanathapuram district. The cooks found it difficult to manage cooking due to the shortage of water. Toilets were also unusable due to shortage of water. You may like to take up the matter with Department of Drinking Water for ensuring provision of potable water in the schools. The issue may also be flagged in the next meeting of State Level Steering-cum-Monitoring Committee.

xiv. Assistance is not provided for construction of Kitchen cum-store in the Govt. aided school.

The provision of Kitchen-cum-stores is essential for cooking of the meal under safe condition and storage of food grain, pulses, oils, condiments etc. under moisture free conditions.

MHRD is providing non-recurring central assistance for construction of kitchen-cum-stores on plinth area norms at Schedule of Rates approved by State's PWD or Technical Authority. Government-aided schools are also eligible for non-recurring financial assistance for the construction of kitchen-cum-stores. But the State Government is yet to finalise the modalities for providing financial assistance to such schools. These modalities may be finalised urgently.

xv. Improper MIS data entry for 2012-13 and 2013-14

The State Government has not made annual entries and monthly entries for all the schools in the MIS web portal. Viluppuram, Thiruvarur, Sivaganga, Namakkal, Dindigul, Chennai, Madurai, Tutricorin have not made any annual data entry in the web portal during 2013-14. No monthly data entry for 2013-14 has been made by Viluppuram, Tirunelveli, Nilgiris, Ramanathapuram, Madurai, Kancheepuram, Cuddalore, Ariyalur, Salem districts. These entries may be got completed immediately along with the pending monthly data entries for 2012-13.

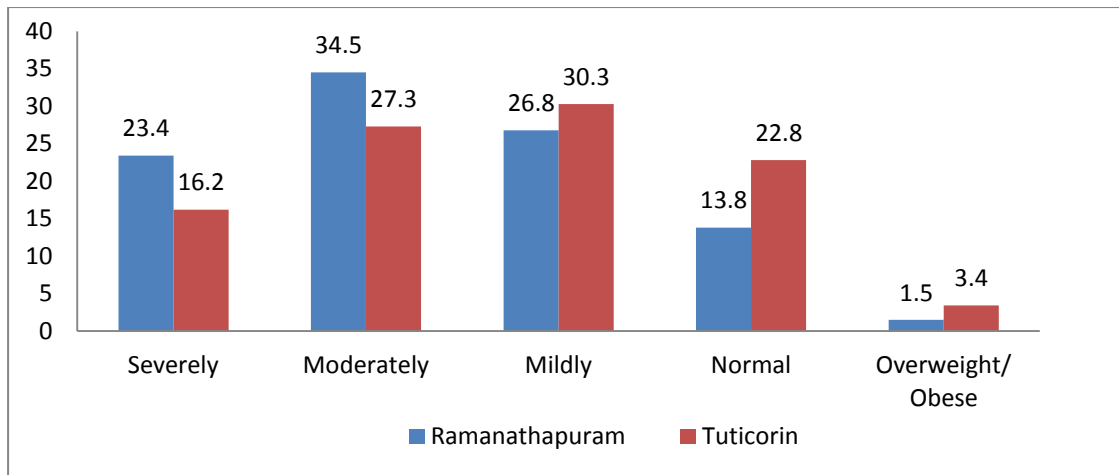
xvi. Nutritional Profile

Anthropometric data (height and weight) have been gathered from 803 children aged 5-13 years (Boys-426; Girls-377) covering 25 schools.

The weight for age for 504 children upto 10 years of age, (WHO weight for age Z scores are available only upto 10 years) revealed that the percentage of normal weight children was found to be more (16.9%) in Tuticorin district than in Ramanathapuram district (12.1%). Mildly underweight children were more in Tuticorin (38.7%) than Ramanathapuram district (30.9%), whereas moderately underweight children were more in Ramanathapuram (34.8%) than in Tuticorin district (30.2%).

The percentage of normal children based on height for age were found to be more in Ramanathapuram district (44.9%) than Tuticorin district (40.5%). An equal percentage of children was seen for mildly stunted category whereas moderately stunted was found to be more in Tuticorin district (19.4%) than in Ramanathapuram (13.0 %). The percentage of severely stunting ranged from 4.0 to 4.4. Over all it was found that children of Ramanathapuram district exhibited more stunting in height than Tuticorin district and 42.8% was found to have normal height in both Districts.

The percentage of children with normal BMI was found to be more (22.8 %) in Tuticorin District compared to only 13.8 per cent in Ramanathapuram district. Mildly under nourished children were more (30.3%) in Tuticorin than Ramanathapuram (26.8%) district. Based on BMI values moderately and severely malnourished children were more in Ramanathapuram district than Tuticorin district.



Mild anaemia, Xerosis Conjunctiva, Raw red tongue and bitot's spot were found among 16.9, 9.6 and 4 per cent of children respectively. Few cases of dry skin, angular stomatitis, deficit subcutaneous fat and poor musculature were also found. Dental caries was found among 62 per cent of the surveyed children which may not directly due to nutritional deficiency but might be due to poor eating habits which may influence food intake.

Sensory evaluation of the MDM meal among 14 schools revealed that cooked rice was found to be good in 7 schools and fair (slight yellow in colour) in 7 schools. Sambar was tasty in 8 schools and inadequate in vegetables and consistency in 6 schools. The inclusion of vegetables in the mid day meal may be increased to get more nutrients. Children expressed that eggs can be given with some masala (chilli/pepper powder) to improve the flavour. Quality of green gram and Bengal gram served was poor due to infestation and inadequate cooking.

4. I would also like to take this opportunity to remind you that action is also required to be taken by the State Government on the following issues discussed by Secretary (SE& L) during July, 2013:

- i) Convening monthly meetings of the District Level Vigilance and Monitoring Committee for MDM under the Chairmanship of Member of Parliament from the District. JRM team had also brought this to the notice of Shri Ashish Kumar, District Collector, Tuticorin and Shri Nantha kumar, District Collector, Ramanathapuram. Kindly take follow up action in this regard and instruct the district authorities to convene this meeting regularly on monthly basis.
- ii) Safe Storage of food grains in the Silos to avoid its contamination.
- iii) Setting up of Administrative Structure at State, District, Block and School Level for MDM. Although State Government has well established structure at each level yet JRM observed that there are some vacancies to be filled up particularly the 19487 vacancies of Noon Meal functionaries. Action Plan may be drawn up to fill the vacant posts in a time bound manner.

- iv) Vigorous inspections of schools by State Officials, Community's involvement for Social Audit so as to bring transparency and accountability in the scheme.

Apart from the observations of the JRM, I would also like to draw your attention to the observations of Monitoring Institute, Indian Institute of Technology, Madras for the period 01.04.2012 to 30th September, 2012 for Madurai, Virudhanagar, Sivaganga, Pudukotta districts. The MI pointed out the following points:

- The quantity of food grain supplied was not as per the marked indicated weight in few schools.
- Improper maintenance of health cards in most of the visited districts.
- Cooking in open space in some of the visited schools.
- There has been no instance of visit by State Level Officers in any schools in Virudhunagar district.
- The cooking cost and Salary to MDM staff had delayed for the last two months in most of the schools of Sivaganga district and Pudukottai district.
- The same type of food is served daily in all the visited schools in all the 4 visited districts.
- Parents or community participation was reportedly unsatisfactory. No school had roster being maintained by the community members for supervision of the MDM.
- In most schools, the cooks and helpers engaged in the schools was not as per GOI norms in all the districts.
- The number of cooks and helpers are inadequate to meet the requirements in some of the schools due to vacancies in all the districts.
- Most of the schools have not displayed the menu anywhere in all the districts.
- No prompts from the teachers/organisers were noticed during the field visits.

Action taken on the above, attached JRM report as well as MI's observations may be submitted to the MHRD within a period of three months from the date of submission of JRM report.