An Exploratory Study on Large-scale Feeding Programmes and the Possibility of Linkage with Small and Marginal Farmers

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Preface

This study on investigating the feasibility of linking small and marginal farmers to the two large scale public feeding programmes, namely MDMS (Mid-day Meal Scheme) and ICDS (Integrated Child Development Service) and to Institutions such as hospitals, hostels and prisons as well as to private commercial feeding centres such as the industrial canteen, was undertaken with support from the Bill and Melinda Gates Foundation. It was carried out in six states, namely Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and West Bengal. The study comes at a time when there is dire need for policy support by the State to farmers to make agriculture economically viable and intellectually rewarding to ensure food security in an era of globalization and climate change.

The results of the study point to the need for improvement in the overall agricultural scenario and facilities to farmers for storage of grains and formation of farmers' marketing federation. These as well as a comprehensive set of recommendations for improving the lives and livelihoods of farm women and men are contained in the Reports of the National Commission on Farmers. Besides suggestions for marketing support, the report highlights the lacunae in the implementation of the two major feeding programmes namely MDMS and ICDS and the lesser known institutional feeding as in hospitals, hostels and prisons, which, when addressed, can provide local marketing opportunities for farmers.

The preparation of this report has been led by Ms. Bhavani, Former Director, Food Security and Dr. Rama Narayanan, Ford Foundation Chair for Women and Sustainable Food Security, in association with well known NGOs and Academic Institutions. Notwithstanding the several limitations of the study, it is hoped that it would be a starting point for policy support in the areas of producers' oriented marketing and household nutrition security.

Sign

M S Swaminathan
Chairman
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Sign

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- AAY - Antyodaya Anna Yojana
- ACDPO - Additional Child-Development Project Officer
- AIE - Alternative Innovative Education
- ANM - Auxiliary Nurse Midwife
- AO - Administrative Officer
- APL - Above Poverty Line
- APS - Annapurna Yojana
- ART - Antiretroviral Treatment
- ARWSP - Accelerated Rural Water Supply Programme
- ASHA - Accredited Social Health Activist
- AWC - Anganwadi Centre
- AWH - Anganwadi Helpers
- AWW - Anganwadi Workers
- BCC - Behavioural Change Communication
- BDO - Block Development Officer
- BEO - Block Education Officer
- BPL - Below Poverty Line
- BPNI - Breastfeeding Promotion Network of India
- BRGF - Backward Region Grant Fund
- BSUP - Basic Services for Urban Poor
- CACP - Commission for Agriculture Cost and Prices
- CAP - Cover and Plinth
- CARE - Co-operative Agency for Relief Everywhere
- CD - Community Development
- CDPO - Child Development Project Officer
- CES - Centre for Environmental Studies
- CEO - Chief Executive Officer

- CHIOD - Children Indian Ordinary Diet
- DD - Diabetic Diet
- DANIDA - Danish International Development Agency
- DEAR - Department of Evaluation and Applied Research
- DIGP - Deputy Inspector General of Police
- DISE - District Information System on Education
- DM - District Magistrate
- DPO - District Programme Officer
- DRDA - District Rural Developmental Agency
- DWCRA - Development of Women and Children in Rural Areas
- EAS - Employment Assurance Scheme
- ECCE - Early Childhood Care and Education
- ECS - Essential Commodities Supply
- ECSC - Essential Commodities Supply Corporation
- EGS - Education Guarantee Scheme
- EO - External Officer
- FAO - Food and Agriculture Organisation
- FAQ - Fair Average Quality
- FCI - Food Corporation of India
- FNB - Food and Nutrition Board
- FPS - Fair Price Shops
- GDP - Gross Domestic Product
- GH - General Hospital
- GoI - Government of India
- GoK - Government of Karnataka
- GoMP - Government of Madhya Pradesh
- GoJ - Government of Jamaica
- GR - Green Revolution

- HRD - Human Resource Development
- ICDS - Integrated Child Development Scheme
- ICUD - Intensive Care Unit Diet
- IEC - Information, Education and Communication
- IFPRI - International Food Policy Research Institute
- IHSDP - Integrated Housing and Slum Development Programme
- IMNCI - Integrated Management of Neonatal and Childhood Illnesses
- IOD - Indian Ordinary Diet
- ISHR - India State Hunger Report
- ITC - Information Technology and Communication.
- IYCF - Infant and Young Child Feeding
- JRY - Jawahar Rozgar Yojana
- KSY - Kishori Shakti Yojana
- LHV - Lady Health Visitor
- LHRW - Local Health Resource Worker
- M&BD - Milk and Bread Diet
- MDM - Mid Day Meal
- MDMS - Mid Day Meal Scheme
- MEO - Mandal Education Officer
- MIS - Management Information Systems
- MME - Management Monitoring and Evaluation
- MO - Mothers
- MOU - Memorandum of Understanding
- MPR - Monthly Progress Report
- MRO - Mandal Revenue Officer
- MSCCF - Maharashtra State Co-operative Consumer Federation
- MSP - Minimum Support Price
- MT - Million Tonnes

- MTF - Modified Therapeutic Food
- NAFED - National Agricultural Co-operative Marketing Federation
- NCAER - National Council of Applied Economic Research
- NCCF - National Co-operative Consumer's Federation
- NCCFI - National Co-operative Consumers' Federation of India
- NCDC - National Co-operative Development Corporation
- NCHS - National Centre for Health Study
- NCMP - National Common Minimum Programme
- NCUI - National Co-operative Union of India
- NDDB - National Dairy Development Board
- NER - North Eastern Regions
- NFHS - National Family Health Survey
- NGO - Non-governmental Organisation
- NHE - Nutrition and Health Education
- NIPCCD - National Institute of Public Co-operation and Child Development
- NM - Noon Meal
- NMC - Noon Meal Centres
- NMP - Noon-Meal Programme
- NNMB - National Nutrition Monitoring Bureau
- NOAPS - National Old Age Pension Scheme
- NPAG - Nutritional Programme for Adolescent Girls
- NP NSPE - National Programme of Nutritional Support to Primary Education
- NRHM - National Rural Health Mission
- NSSO - National Sample Survey Organisation
- OBC - Other Backward Classes
- OMFED - Odisha State Co operative Milk Producers Federation
- OPOLFED - Odisha State Poultry Products Co operative Marketing Federation
- PAB - Programme Approval Board

- PDS - Public Distribution System
- PHC - Primary Health Centres
- PIA - Project Implementing Agencies
- PMGY - Pradhan Mantri Gramodaya Yojana
- PPCP - Public Private and Community Partnership
- PRI - Panchayati Raj Institutions
- PSE - Pre-school Education
- PTA - Parent - Teachers Association
- RCH - Reproductive Child Health
- RDA - Recommended Dietary Allowances
- RDT - Rural Development Trust
- RNTCP - Revised National Tuberculosis Control Programme
- RPDS - Revamped Public Distribution System
- RTF - Right to Food
- RVO - Refined Vegetable Oil
- SC - Scheduled Caste / Supreme Court
- SDMC - School Development and Monitoring Committee
- SDO - Sub-divisional Officer
- SFP's - School Feeding Programmes
- SGRY - Sampoorna Grameen Rozgar Yojana
- SHG's - Self -Help Groups
- SJSRY - Swarna Jayanti Shahari Rozgar Yojana
- SMP - Statutory Minimum Price
- SN - Supplementary Nutrition
- SNP - Supplementary Nutrition Programme
- SSA - Sarva Shiksha Abhiyan
- SSK - Sishu Siksha Kendra
- ST - Scheduled Tribes

- SUM - Scaling Up Management
- TBD - Tuberculosis Diet
- TDPS - Targeted Public Distribution System
- TECERS - Tamil Nadu Early Childhood Environment Rating Scale
- THR - Take Home Ration
- TINP - Tamil Nadu Integrated Nutrition Project
- TLM - Teaching Learning Material
- TNCSC - Tamil Nadu Civil Supplies Corporation
- ULB - Urban Local Bodies
- UN - United Nations
- UNICEF - United Nations International Childrens' Emergency Fund
- UT - Union Territory
- UWEP - Urban Wage Employment Programme
- VEC - Village Education Committee
- VKC - Village Knowledge Centres
- VRC - Village Resource Centre
- WB - World Bank
- WCD - Ministry of Women and Child Development
- WFP - World Food Programme
- WHO - World Health Organisation
- WSGH - Women Self Help Group
- ZP - Zilla Panchayat

Executive Summary

An exploratory study was undertaken to investigate the possibility of linking small and marginal farmers directly to large-scale public feeding programmes for market access. The feeding programmes studied were the Mid Day Meal Scheme (MDMS) and the Integrated Child Development Services (ICDS). Feeding operations in Government hospitals, hostels and prisons were also studied. A supplementary feeding programme run by an Non Governmental Organisation (NGO) and that of a private industrial canteen was also included in the study. The investigation was carried out in six states namely Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and West Bengal.

The major objectives of the study were

1) To estimate the requirement of food grains for the various programmes
2) To assess the local capacity for supply
3) Explore the economic advantage to farmers in linking with the programmes
4) Understand the policy and implementation aspects of such a linkage.

The study was carried out in three phases. The first comprised of review of literature for the MDMS and fieldwork for the MDMS and the ICDS schemes. The second consisted of review of literature about the ICDS. The third phase covered the feeding operations in large institutions like prisons, hospitals, hostels, an industrial canteen and a supplementary feeding programme by an NGO.

A total of 36 villages were covered that included tribal and non tribal belts and represented varied socio-economic and ecological characteristics offering a diversity of context in which the implementation of the scheme and the role of farmers could be studied. Data collection on food grain requirement and their procurement for the various programmes was done through a pre-tested structured questionnaire suitably modified for the different locations. Method of computing potential local supply of food materials varied for each state depending upon local scenario and information already available. Group discussions were held with local stakeholders such as Self-Help Group members, school authorities and parents. Focus group discussions were held with farmers on marketing of agricultural goods.

With regard to the MDMS and the ICDS, even though no cooked meal was served in the ICDS programmes in Andhra Pradesh and Madhya Pradesh at the time of the study, there was sufficient demand for food grains throughout the year in all the six states to warrant a group of farmers, in theory, to undertake supply to these programmes in rural areas. In Andhra Pradesh the annual requirement for rice in all the three study villages was 157 q (quintals), in Odisha and Tamil Nadu it was of the order of 115 q and 621 q respectively and in West Bengal it was 10,544 q for twenty-one villages. In Madhya Pradesh where wheat is used in the MDMS, 5,443 q were needed annually for the six study villages.

With regard to local supply of food grains, in Andhra Pradesh the farmers had the capacity to supply 266 q of rice annually. In Madhya Pradesh there appeared to be a net marketed surplus of 500 kg of wheat and 300 kg of rice per farmer. In Maharashtra there was no agricultural production in the local area where the population was predominantly hunter-gatherers whereas in Odisha the households in the study area were engaged in agriculture and grew surplus food grains which could be supplied to the programme. In Tamil Nadu, farmers in the study areas grew fruits and commercial crops. In West Bengal, the production of paddy in the study households in the twenty one villages was 1, 06,931 q of which 44.5 percent was sold.

The MDMS and the ICDS programmes are implemented jointly by the Central and the State Governments. The Central Government supplies food grains and bears the transportation and cooking costs. Both centralised and local procurement of food materials are undertaken. In all the six states rice or wheat is supplied to the noon-meal centres either at the doorstep or through the PDS shops.

With regard to supply of other food materials there is tremendous variability among states in the items that are provided and the method of procurement. In Andhra Pradesh, Madhya Pradesh and West Bengal all other items such as pulses, oil, spices, vegetables etc. have to be purchased locally. In Tamil Nadu except for vegetables, spices and condiments that are purchased locally, procurement of all items is centralised and is supplied in kind to the centres. In Odisha dal, oil and eggs are supplied directly to the centres while vegetables have to be purchased locally. In Maharashtra except for rice all other items have to be bought locally. Accordingly, the financial allocation per child for purchasing the rest of the items locally varies for each state.

The economic viability to farmers for linking directly with the programmes was considered. In all the study states the unanimous complaint of the local functionaries was the inadequate allocation per day for a child for local purchase of other ingredients. It was impossible for those in charge of cooking and serving the meal to be able to provide a balanced meal according to the norms prescribed with the current fund allocation, leading to a supply of poor quality and quantity of food. They were found to adopt several coping strategies. Hence attempts at local linkage for those food materials that are purchased locally would be possible only when the cost allocation is enhanced such that there would be economic viability to farmers.

This applies equally to other public institutions such as hospitals, hostels and prisons where large-scale cooking is undertaken. In the public hospital in Odisha the per day allocation of Rs 20 (US$ 0.43) per patient was inadequate. In Tamil Nadu too though no fixed rate was allocated for a patient, the open tender method with fixed rates of supply for a specific time period was viewed with misgiving by farmers, since costs could escalate at any time beyond the ability of the supplier to cope. In the hospital in Maharashtra food materials were procured from the State-run Co-operative Society that had not been reimbursed to the extent of Rs 1.5 crore (US$ 336,602) at the time of the study.

With regard to educational hostels for tribal children, in Maharashtra and Madhya Pradesh the budgetary allocations were Rs 600 (US$ 12.98) and Rs 150 – 270 (US$ 3.36 – 6.05) respectively for one student. Food items were bought from local grocery shops at local prices. Hence there was some scope for linking farmers with the programme. In the case of prisons in Maharashtra except for grains and vegetables, all other items were purchased through a tender process. Though per day cost allocation for each patient was not available it is possible that traders find economies-of-scale to be viable.

In the case of prisons, in Maharashtra, except for grains and vegetables all other items were purchased through a tender process. Though per day cost allocation for each prisoner was not available it is possible that traders find some economic viability to supply food materials. In Odisha an amount of Rs 35 (US$ 0.73), Rs 27 (US$ 0.60) and Rs 58 (US$ 1.30) were earmarked for undertrial, young child and pregnant women prisoners respectively. Since the prisons were situated in semi-urban areas with no farming activity in nearby places direct linkage with farmers was not a viable proposition. In the Puzhal Prison in Tamil Nadu where most of the food items were supplied at a subsidised cost by the State-owned Co-operative Society, possibility of linkage existed only for vegetables.

Economic viability of linkage was the best for private industrial canteen since the procurement prices were very competitive at market rates. Procurement was done through wholesale dealers in and around the organisation. Except for vegetables which were grown in the suburbs for which direct linkage with farmers could be made, other items have to be purchased through traders.

Besides economic viability to farmers, there are several policy implications to be considered in linking farmers directly to local feeding programmes. At present the Government purchases paddy directly from the farmers at a Minimum Support Price (MSP) through its procurement centres for running its feeding programmes and maintaining a buffer stock. In this scenario the question arises at to why at all should a decentralised method of purchase be attempted. The procurement centres are present only in limited areas and a majority of small and marginal farmers with limited production capacity may not find it economically feasible to transport the grains to the centres. Hence linking farmers directly to the programmes at the village level seems sensible.

On the other hand, each state has its own agricultural policies and programme implementation strategies such that the issue of linkage has to be considered in the diversity of contexts. In Tamil Nadu, where programme implementation is highly streamlined, the Government prefers a centralised procurement system to prevent leakage. Farmers also were not in favour of a fixed price since sometimes market prices exceeded the MSP. However the reverse was true in West Bengal where the farmers had sold rice at a price much lower than that of the MSP. In Maharashtra, even though there were several operational difficulties there exists a huge scope for linkage. In contrast, in Andhra Pradesh, the attitude was one of providing a ready-to-eat food through the use of a centralised production system that tackles micronutrient deficiencies and the scope of ensuring it in decentralised production and procurement is not seen as feasible. In Maharashtra and Odisha further investigations are needed before clear-cut recommendations can be made.

The third important aspect is that the issue of linkage should be seen in the context of the macro-agrarian scenario. Rural Development Trust the Non-Governmental Organisation (NGO) that ran a massive feeding programme in rural Andhra Pradesh, reported the lack of local supply of millet though the programme generated a huge demand. This was due to the drought condition and over exploitation of ground water. Marketing support and linkages to farmers have to be integrated with overall stimulation for agricultural development, facilities for storage of grains locally and economic viability.

Given the diversity of contexts in which the programmes are placed and the conditions of farmers and support by State, some general as well as state-specific recommendations have been made. While specific recommendations have been made for Andhra Pradesh, Madhya Pradesh, Tamil Nadu and West Bengal, further investigations are needed for Maharashtra and Odisha before any conclusions can be arrived at.

General Recommendations

1. The financial allocation for local purchase of food materials in any of the large-scale feeding programmes across states has to be increased, and particularly so for the MDMS and the ICDS.
2. The issue of linkage has to be seen from the larger agrarian context of shift by farmers to commercial cultivation, shrinking land base and lack of economic return.
3. Marketing support to farmers by the state has to be enhanced for a number of crops. Federation of small and marginal farmers at the local level would be a useful strategy to promote marketing.
4. Local procurement of food grains has to be stepped up through setting up of more procurement centres. Storage facilities for farmers have to be created in villages where groups of small and marginal farmers can store surplus grain for marketing.

State Specific Recommendations

A. Andhra Pradesh

1. There is scope for linking up small and marginal farmers with the MDMS for supply of vegetables.
2. Advocacy is needed to increase financial allocation for local procurement in the MDMS on par with current market rates.
3. The instant 'ready-to-cook' mix has to be replaced by a hot cooked meal in the ICDS to conform to Supreme Court specification for meeting nutrient requirements.

B. Madhya Pradesh

1. There is a huge scope for linking small and marginal farmers with public feeding programmes based on available number of users, demand and supply of food grains.
2. Small and marginal farmers will have to be organised into groups of primary producers, through SHG, farmers' groups etc.
3. The existing financial allocations have to be stepped up and the system of fund transfer has to be streamlined.

4. Local procurement and storage systems have to be strengthened. A new system of local food reserve could be proposed under which capacities are created at the block level to procure, store and allocate food grains to schools within the area.
5. Current provision under the ICDS of providing ready-to-eat food has to be changed to facilitate the provision of varied weekly menu of hot cooked meals.
6. Coverage under the ICDS is unsatisfactory and should include all needy population including pregnant and lactating mothers and children under six years.
7. Small farmers should be linked with tribal hostels to supply food materials. At the block level a Federation of 300 farmers could be linked up with the programme.

C. Tamil Nadu

1. There is scope for linking up small and marginal farmers with the MDMS and the ICDS for supply of vegetables since they are procured locally.
2. Increased financial allocation for procurement of vegetables is needed to make it economically viable and to meet nutrition norms.
3. Since bananas are supplied in the noon-meal, a group of farmers can be formed into a Co-operative for supplying bananas to the centres.

D. West Bengal

1. All the schools and the ICDS centres should get adequate financial allocation to procure raw materials.
2. Food materials not available locally can be grown if there is guarantee of viable economic return. This would open up possibility of growing newer crops such as pulses.
3. Farmers' SHGs should be formed to encourage them to supply to schools, the ICDS centres, hospitals etc.
4. Farmers should get a minimum support price for their produces. A series of consultative discussion should be initiated before a consensus is arrived on the best possible way to work this out.

CHAPTER I
INTRODUCTION

Background

India is the seventh largest country geographically, second most populated and the twelfth largest economy in the world.The economy of India is diverse, with a number of major sectors including manufacturing industries, agriculture, textiles, handicrafts and services. Agriculture is a major component of the Indian economy. More than 75 percent of Indians have their livelihoods in agriculture and agriculture-oriented works. Mahatma Gandhi said, *"Indian economy lives in rural villages" and* many of the industries get their raw materials from the agricultural sector (Saravanan, 2009).

The first task of independent India was to gain self-sufficiency in food production. The Green Revolution (GR) was a step in this direction. The movement resulted in a record grain output from 56 million tonnes to 131 million tonnes in 1978 - 1979 (IFPRI, 2002). Yield per unit of farmland improved by more than 30 percent between 1947 (when India gained political independence) and 1979 when the GR was considered to have delivered its goods (ibid). This established India as one of the world's biggest agricultural producers. The level of success reached its peak and India became an exporter of food grains. Today, India ranks second worldwide in farm output with agriculture and allied sectors accounting for 16.6 percent of the Gross Domestic Product (GDP) in 2007 and employing 60 percent of the total workforce. Though agriculture's share of the GDP declined substantially since the 1950s, there was minimal decrease in the number of persons dependent on agriculture (FAO, 2003). Till date it stands as the largest economic sector and plays a significant role in the overall socio-economic development of the country (Library of Congress Country, 2007).

India has also made tremendous progress in several fronts. The literacy level has increased from 18.33 percent in 1951 to 64.84 percent in 2001 (GoI, 2001). The Global Peace Index of 2009 suggests that the life expectancy has increased to 64.5 years from 63.4 in 2007. As India marches ahead with policy and programmatic interventions for achieving the Millennium Development Goals, there is increasing recognition of achieving a truly 'Food Secure India'. However, India is a poignant example of how food sufficiency at the aggregate level has not translated into nutrition security at the household level (Ramachandran, 2008). The India State Hunger Report (Menon, 2008) is another grim reminder of India's failure to combat hunger and malnutrition. India has added more people to the 'newly hungry' in the planet than the rest of the world together and has achieved the dubious 65th rank in the Global Hunger Index out of 118 countries (IFPRI, 2009).

According to the National Sample Survey (2001), people who did not have two square meals a day in India constituted 19 percent of the population in 1983 and were reduced to 7 percent in 1993. However, the NSS 61st round (2004 – 2005) yields a poverty ratio of 27.5 for the country as a whole. This provides a strong indication of the existence of an unacceptably high level of hunger population in the country. Even while recognizing difficulties in interpreting the meaning of a 'square meal' - a culturally, socially and psychologically determined notion, hunger in different forms is still a reality in the country.

Malnutrition is a widely prevalent problem in India and one of astonishing magnitude. India shares a place with countries like Yemen and Timor, in having the highest prevalence of underweight children (i.e. more than 40 percent). But what distinguishes India is not just the numbers but what has been called its *Silent Emergenc*y: an astonishingly high rate of child malnutrition. One in 3 of those children born in India is of low birth weight (Ramachandran, 2003) and is denied the best possible start in life. India's track record in respect of infant and child nutrition security leaves a lot to be desired. According to NFHS-3 data, close to 80 percent of India's children in the age group of 6 - 12 months are anemic. One in three is stunted and the percentages in the individual states range from 21 percent in Kerala to 46 percent in Uttar Pradesh. Forty-six percent of children below 3 years of age are underweight. The consequences of early malnutrition include mental and physical impairment that severely affect a child's growth and development.

The State's Initiative for Children

A. *Constitutional Provisions*

Recognizing that children's well-being is crucial to India's well-being, the Constitution of India states, "The State shall direct its policy towards ensuring that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom, dignity and that children and youth are protected against abandonment" (Directive Principle of State Policy). In particular,

- **Article 2** states that the state parties shall take all appropriate measures to ensure that the child is protected against all forms of discrimination or punishment on the basis of the status, activities, expressed opinions or beliefs of the child's parents, legal guardians or family members.
- **Article 6** states that the state shall ensure to the maximum extent possible the survival and development of the child.
- **Article 39(e)** directs the state to ensure that the health and strength of workers, men and women and the tender age of children are not abused.

- **Article 45** directs the state to endeavour to provide for free and compulsory education for all children until they complete 14 years of age.
- **Article 47** embodies the commitment that the state shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among the primary duties.

While the constitution of India guarantees to provide for and protect the health of all its citizens it has specifically enacted policies for the well-being of the young child since independence. Some of the key policies that provided an impetus to the implementation of various schemes are

- **National Policy for Children 1947,** which provides the conceptual basis for an integrated approach to addressing the whole child % which commits the state to provide adequate services to children, both before and after birth and through the period of growth to ensure their full physical, mental and social development.
- **National Policy on Education 1986 and its National Plan of Action,** which has a full section on Early Childhood Care and Education. It clearly recognises the holistic nature of child development and that ECCE is the crucial foundation for human resource development. It is viewed as a feeder and support programme for universal elementary education and an important support service for working mothers and girls
- **National Health Policy 2002** accords primacy to preventive and first-line curative care at the primary health level, and emphasises convergence, and strategies to change 'care behaviour' in families and communities.
- **National Common Minimum Programme (NCMP) 2004** recognises the criticality of improving young child survival, growth and development outcomes, and emphasises the need to accord priority to children – especially the girl child. It stipulates a commitment to *Universalize the ICDS scheme to provide a functional anganwadi in every settlement and ensure full coverage for all children.*
- **National Plan of Action for Children 2005** is a comprehensive multi-sectoral plan to ensure child survival, development, protection and participation to achieve child-related national and Millennium Development Goals and fulfill national and global commitments to children.

B. Programmatic Response

To ameliorate hunger and undernutrition, the Government of India (GoI) has undertaken several initiatives (Annexure 1). One approach is through price control (e.g. the Public Distribution System (PDS). It makes some staple foods such as food grains and sugar available at affordable prices through 'Fair Price Shops'. Another thrust has been through Food for Work Programmes entailing part payment in food grain and the recent Mahatma Gandhi National Rural Employment Guarantee Act which stipulates that the State Government provides 100 days of work to an adult member of every rural household who seeks work.

A third approach is the large-scale feeding programmes such as the Integrated Child Development Services (ICDS) for children in the 0 - 6 year age group and pregnant and lactating mothers and the Midday Meal Programme (MDMS) for school-going children. The different food-based programmes are

- Price control
  - Public Distribution System (PDS)
  - Antyodaya Anna Yojana (AAY)
  - Annapoorna Yojana (APS)
- Employment generation
  - Food for Work (FFW)
  - Sampoorna Grameen Rozgar Yojana (SGRY)
- Institutional feeding
  - Integrated Child Development Services (ICDS)
  - Mid Day Meal Scheme (MDMS)

A brief description of the food-based programmes is given below.

1. Public Distribution System

The Public Distribution System (PDS) for food grains in India operating through a network of 4.78 lakh Fair Price Shops (FPS) is perhaps the largest distribution machinery of its type in the world. Introduced as a wartime rationing measure in urban and select areas during the Second World War period, it was made universal in 1970 after the Green Revolution. The intention behind the system is to ensure that food grown in some parts of the country is made available throughout the country to ensure food security at the household level. However, there was a shift from universal to a targeted approach in 1997. Under the Targeted PDS, families identified as Below Poverty Line

(BPL) are entitled to 35 kilograms of food grains (rice and wheat) per month at subsidised prices (Report on Food Insecurity in Rural India, 2008). The identification of beneficiaries is done by the state, based on state wise poverty estimation of the Planning Commission of the GoI. The PDS system covers all the needy families by supplying grains at a price much lower than the market price.

Tamil Nadu, however, has continued with the universal PDS. Rice is sold at Re. 1/- per Kg from October 2008 to cardholders. The State has introduced an option for households that do not want to purchase rice from the PDS of buying more sugar or kerosene. As the state is buying grains from the centre at higher prices, it is incurring an additional subsidy to maintain a universal system with rice at specially subsidised low price. Another interesting feature of Tamil Nadu's distribution network is that there are no private FPS. The co-operative sector runs 96 percent of ration shops and the remaining are managed by *panchayats* and self-help groups (Swaminathan, 2008). These Co-operative societies purchase the grains for the PDS from the cash support provided by the District Central Co-operative Bank.

2. Antyodaya Anna Yojana (AAY)

This scheme launched in 2000 by the Ministry of Consumer Affairs, Food and Public Distribution covers the poorest of the poor in rural and urban areas. The aim of Antyodaya Anna Yojana is to provide special food-based assistance to destitute households. The identified households are given a special ration card, the *Antyodaya card,* and are entitled to special grain quotas at highly subsidised prices. Against each card, beneficiary households and individuals are entitled to 35 Kg of subsidised rice or wheat per month from designated local ration shops. The subsidised price charged is Rs 2 per Kg for wheat (0.04 USD) and Rs 3 (0.06 USD) per Kg for rice. Under no circumstances can the FPS charge additional price.

3. Annapurna Yojana Scheme (APS)

The *Annapurna Anna Yojana* started in the year 2000 - 2001 aimed at providing food security to meet the requirement of those senior citizens who though eligible have remained uncovered under the National Old Age Pension Scheme (NOAPS). The Ministry of Social Justice and Empowerment has held that the following provisions be made available to the beneficiaries: that is, 10 Kg of food grains free of cost to people living in welfare institutions like beggar homes, orphanages etc. Funds for this scheme are provided by the GoI. Identification of the old and destitute is done in the 'Gram Sabhas' (village meetings) in the rural areas and the local bodies in the urban areas.

The food grains are supplied by the Food Corporation of India (FCI) at BPL rates. However, the scheme has not taken off as intended due to reasons like preference for cash not grains, indifference of the local bodies to the programme, lack of storage and transportation facility and loss in food grains (Murthy and Ramanayya, 2007).

4. National Food For Work & Sampoorna Grameen Rozgar Yojana:

National Food for Work (FFW) Programme was launched by the Prime Minister during November 2004 for providing food grains in 150 of the most-backward districts identified in the country and is mentored by the Ministry of Rural Development. The food grains are given as part of wage under the scheme at the rate of 5 Kg per *man-day* (work performed by an average worker during one day) (Press Information Bureau, 2008). The programme targets labourers engaged by the state government in developmental works. Through payment in kind, the programme ensures that there is no starvation and there is increased availability of food grains for the dependent members of the family. Under this programme the Centre issues the food grains to the State/ Union Territories (UT's) free of cost. However, due to bottlenecks in the administration, the poor are not able to get full benefit of the scheme (Saxena, 2009).

The Sampoorna Grameen Rozgar Yojana (SGRY), a centrally sponsored scheme, was introduced by the Prime Minister on 25th September 2001 as a Universal Food for Work Programme in all states and UT's. Under the programme every employed worker will be provided with 5 Kg of food grains (in kind) per day as part of wages. The balance of the wages will be paid in cash so that they are assured of the notified minimum wage. The overall supervision of the programme rests on the Zila Parishad, the implementing agency at the district level. However, responsibility and accountability of programme implementation is vested on the Department of Rural Development.

5. Integrated Child Development Services:

The Integrated Child Development Services (ICDS) Programme is the world's largest early childhood development program (Lal, 2003). It was launched in 1975 by the Ministry of Women and Child Development (WCD), as a small beginning in 33 Blocks (units at the village level), and has grown into a nationwide programme for the overall development of children below 6 years, expectant and nursing mothers. It provides a package of six services viz:

- Supplementary Feeding
- Immunization
- Health Check Ups

- Referral Services
- Pre-school Education
- Health and Nutrition Education

It is a centre-based scheme and the supplementary feeding consists of a nutritive supplement provided to pregnant mothers during the last trimester of pregnancy and to children between 6 months – 5 years of age who attend the centre for pre- school education. There is considerable variation among states with regard to the composition of the supplement. Today the ICDS reaches out to about 8.75crore children in December 2010 in comparison to 7.05 crores in 2008 (Press Information Bureau, 2010). A Government of India report (2007) indicates a very positive impact of ICDS on the health and nutritional status of pre-school children. However, large gaps still exist especially in reaching out to children below 3 years for ICDS to become a universally meaningful programme in improving nutrition.

6. Mid Day Meal Scheme:

The Mid Day Meal Scheme (MDMS) first started as a pilot project in the state of Tamil Nadu in 1956. The success of the scheme prompted its launch as a national scheme by the Ministry of Human Resource Development (Department of Education) with effect from 15th August 1995 for the benefit of students in primary schools. It was then expanded to cover students of Class I-V in the Government Primary Schools / Primary Schools aided by the Government and the Primary Schools run by local bodies. In 2007 the Central Government extended the coverage to cover students up to class VIII (Sharma, 2008). Under this scheme, children studying in class I to V are entitled to 100 gm of rice/wheat per day for 10 months and those in the upper primary (class VI – VIII) get 150gm of rice/wheat per day for 10 months (GoI, 2006). MDM today covers 12-crore children between the age group of 6 – 14 years.

The key objectives of the programme are protecting children from classroom hunger, increasing school enrolment and attendance and thereby fostering improved socialisation among children belonging to all castes, addressing malnutrition, and social empowerment through provision of employment to women. It helps to do away with the evils like child labour and illiteracy

Rationale for the Study

For all the food-based programmes, the government buys stocks of grains directly from the farmers for which purpose procurement centres have been set up in several places in every state. The FCI was created for the purpose of procurement and storage of food grains from where the distribution is made to all the feeding centres. The FCI stocks up the food grains at the warehouses and supplies it at affordable rates. However, it has been argued that it is mainly the better-off farmers who are benefited by

this arrangement while the small and marginal farmers are left out of the process and they often have to resort to distress sale (National Commission on Farmers, 2006).

Given the huge nationwide coverage of the population under the various feeding programmes, MDMS alone had a food grain allocation of 30 lakh metric tones in 2008 (Press Information Bureau, 2008). Given the economic conundrum over agricultural marketing and profitability for small farmers, it was considered worthwhile to undertake an exploratory study to find out the feasibility of linking farmers to the large-scale feeding programmes at the grassroot level for a mutually beneficial relationship.

Objectives of the Study

1. To study the implementation of MDMS and ICDS with special reference to the 'cooked meal' in selected villages of six Indian States.
2. To study the feeding pattern and food that is served in selected Government institutions and non-Government institutions.
3. To understand about the procurement and supply of food grains and other food items served in all the above programmes and institutions.
4. To study the existing marketing strategies of small farmers.
5. To explore the feasibility of directly linking the smallholder farmers to the large-scale feeding programmes at the local level.

Organisation of the Report

The report has been organised as follows:

Chapter 2: This chapter consists of the review of literature of the Mid Day Meal Scheme and the Integrated Child Development Services detailing the implementation and the impact aspects. It also includes a review of the agricultural marketing scenario in India and the state's role in improving farmers' marketing strategies.

Chapter 3: This chapter deals with the methodology of research. It outlines the process of data collection, tools and techniques used and the time schedule for the study.

Chapter 4: This chapter titled 'Observations and Discussion' analyses the findings of the Study by the six partner states. This chapter is divided into two – the first part deals with the demand and supply of food grains for the Mid Day Meal Scheme and the Integrated Child Development Services while the second part deals with the findings of the other large-scale feeding programmes and whether it is feasible and economically advantageous to link farmers with the feeding programmes.

Chapter 5: Dealing with conclusions it discusses the results and provides some general and state-specific recommendations for linking the smallholder farmers with the large-scale feeding programmes.

CHAPTER II

REVIEW OF LITERATURE

Mid Day Meal Scheme

Since Indian children suffer not only from educational neglect, but also from undernourishment on a scale that makes India a world beater in an unenviable role, the effectiveness of mid day meals can be very large indeed, in jointly addressing several pivotal problems. (Amartya Sen, 2005)

The review of Literature on Mid Day Meal Scheme undertaken in this document provides an overview of the schemes origin, its administration, financial allocation and impact.

A. History

The School Lunch Programme is not a recent phenomenon. At the global level, Victor Hugo introduced the school lunch programme in France in 1885. Since then the school lunch programmes have been introduced in various parts of the world – US and Switzerland (1946), Australia (1950), and Singapore (1975). It has also received the attention of developing countries like Thailand (1970) and Korea (1973). The Global School Feeding Report of the United Nation's World Food Programme (2006) endorses that school feeding programmes have often doubled enrolment within a year and produced improvements in academic performance. There are countries where food is distributed during breakfast and pre-lunch period. The school feeding programmes are government assisted, sponsored by National, International and Non-Governmental Organisations and at times Student's Participatory Schemes (GoJ, 2003).

Till date, a wholesome meal continues to be the most powerful incentive for children to come to schools (increasing enrolment), retaining them in schools (reducing dropouts) and helping them to perform better in schools (effective learning experience). Documented evidence in different states of India show that cooked midday meal programmes have been most effective in promoting and fostering primary and secondary education in rural areas. In the state of Odisha, the attendance rate and enrolment rate of students have shown significant increases in post-midday meal programme scenario as compared to the pre-midday meal programme (Patnaik, 2007).

The midday meal programmes in India have been in existence for more than three quarters of a century now. One of the pioneers of the scheme is the Madras Presidency that started providing cooked meals to children in corporation schools in the Madras City in 1923. Subsequently, it was

started in Calcutta, Kerala and Bombay. The 1950s witnessed a rise in the adoption of the school lunch programme by various Indian states. In the initial stages, the school lunch programme was launched as anti-poverty cum hunger programme. India was assisted by many International agencies such as CARE (Cooperative for American Relief Everywhere), UNICEF (United Nations International Children's Emergency Fund) and WHO (World Health Organization).

Though begun in 1923 in Tamil Nadu (then known as Madras Presidency), the programme was expanded to a large scale in 1960s under Chief Minister K. Kamaraj. There is an interesting story about how Mr. K. Kamaraj got the idea of a noon-meal scheme. The spark is said to have occurred in a small village called *Cheranmahadevi* in Tirunelveli District of Tamil Nadu. Once, while traveling in a car, he had to stop at the railway intersection in *Cheranmahadevi* and got out of the car and waited. He saw a few boys grazing their cows and goats. The Chief Minister asked one small boy as to why he was not in school and the boy immediately answered, "If I go to school, will you give me food to eat? I can learn only if I eat". The boy's retort sparked the entire process of establishing the Mid Day Meal Programme. But the first major thrust came in 1982 when the then Chief Minister of Tamil Nadu, Dr. M. G. Ramachandran, decided to universalise the scheme for all children in government schools in primary classes. Later the programme was expanded to cover all children up to class 10 (GoTN,2006). Tamil Nadu's midday meal programme is among the best known in the country and remains a pioneering model of 'welfare measure' by the State.

The midday meal programme was launched as a two-pronged strategy – to lower the widespread incidence of hunger and to improve attendance and access to education. The scheme has a long history in Tamil Nadu and Gujarat. The introduction of the scheme in some of the other Indian states is provided in table 2.1.

Table 2.1 Time schedule for the implementation of MDMS across states

Sl No.	Period	MDMS Functioning States
1	Before 1980	Tamil Nadu
2	1980 – 1990	Gujarat
3	1990 – 2000	Karnataka, Kerala, Madhya Pradesh, Odisha, Rajasthan, Tripura, Uttar Pradesh, west Bengal
4	November 28, 2001 onwards	Supreme Court order to implement MDMS in all states

Source: Government of India (2006)

Following the pioneering initiatives of Tamil Nadu and Gujarat, the number of states implementing MDMS had increased by 1990 – 1991. The programme was running smoothly with central assistance. Seeing the positive impact of the programme on school enrolment and attendance, the Central Government launched it as a National Programme of Nutritional Support to Primary Education (NP NSE) in August 1995.

The overall responsibility for implementing the scheme rests with the state government. However, the central government provides part financial assistance. Initially, most of the state governments claimed that they had no money to provide the midday meals in the primary schools. In 2001, a public interest petition was filed by the People's Union for Civil Liberty, a civil society organisation, in the Supreme Court against distribution of uncooked grains to school children and against states not implementing the MDMS. This provoked the Supreme Court to take a firm stand and issue an 'interim order' in November 2001 for providing a hot cooked meal. Campaigns for the midday meals sprang up all over the country. Today, the 'Midday Meals' are in operation all over the country though it is to be noted that what was supposed to happen within six months of the Interim Order took nearly 4 years to be implemented but was finally achieved by converting the provision of the midday meals into a legal entitlement for all school-going children. The Supreme Court's order recognised school meals as an important means of protection of the rights of children.

B. Objectives of the Midday Meal in Schools

The objectives of the Mid Day Meal Scheme are

- Improving the nutritional status of children in classes I – VIII in Government, local body and Government-aided schools, and Employement Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) centres.
- Encouraging poor children, belonging to disadvantaged sections, to attend schools more regularly and help them concentrate on classroom activities.
- Providing nutritional support to children of primary stage in drought-affected areas during summer vacation.

C. Rationale

- *Promoting school participation:* Mid Day Meal Schemes have big effect on school participation, not just in terms of getting more children enrolled in the registers but also in terms of regular pupil attendance on a daily basis.

- *Preventing classroom hunger:* Many children reach school on an empty stomach. Even children who have a meal before they leave for school get hungry by afternoon and are not able to concentrate. Mid Day Meal Scheme can help to overcome this problem by preventing "classroom hunger".
- *Facilitating the healthy growth of children:* Mid Day Meal Scheme can also act as a regular source of "supplementary nutrition" for children and facilitate their healthy growth.
- *Intrinsic educational value:* A well-organised Mid Day Meal Scheme can be used as an opportunity to impart various good habits to children and educate them about the importance of clean water, good hygiene and related matters.
- *Fostering social equality:* Mid Day Meal Scheme can help spread egalitarian values, as children from various backgrounds learn to sit together and share a common meal. Appointing cooks from Dalit communities is another way of teaching children to overcome caste prejudices.
- *Enhancing gender equity:* The gender gap in school participation tends to narrow as the Mid Day Meal Scheme helps to erode the barriers that prevent girls from going to school. Mid Day Meal Scheme also provides a useful source of employment for women, and helps liberate working women from the burden of cooking for children at home during the day.
- *Psychological beliefs:* Psychological deprivation leads to low self-esteem, and consequent insecurity, anxiety and stress. The Mid Day Meal Scheme can help address this and facilitate cognitive, emotional and social development.

D. Salient Features

Under the scheme, free cooked meals are to be provided to all children studying in government and government-aided primary schools or those run by elected local bodies (GoI, 2006). The cereal (rice or wheat) is provided free of cost by the centre. All the centres run under the EGS and the AIE can also participate in the Mid Day Meal Scheme.

The Mid Day Meal Scheme has undergone periodic change in its scope and provisions, especially since the Supreme Court's order in 2001. New guidelines were issued in 2006. The guidelines noted the impact it was having on addressing social and gender inequalities. Noting that, " today the NP NSE is the world's largest school feeding programme reaching out to about 12 crore children in over 9.50 lakh schools/EGS centers across the country", the Guidelines identified two important grounds for revising the norms and modalities of the MDMS since the previous amendments in 2004.

1. The lack of kitchen sheds was a major problem, leading to use of classrooms for storage and even, in some instances, for cooking, thus disrupting the educational process significantly, besides being fraught with risk.
2. Professional opinion strongly suggested the need for revision of the nutritional norms upwards and adding the components of micronutrient supplementation and de-worming.

Following the recommendations made in this regard by the Steering and Monitoring Committee for the NP NSPE, the Central Government revised the scheme and its norms. The nutritional norm in respect of calories/student/day was increased to 450 g from 300 g in 2004. Protein intake norms per child per day were also increased from 8-12 g to a minimum of 12 g. In order to meet the new norms for nutrition, a minimum of Rs 2 (US$ 0.04) per child per day was allotted for cooking expenses for Primary school. Of this the centre would contribute Rs 1.80 (US$ 0.035) to the Northeastern states and Rs 1.50 (US$ 0.03) to the other states. The States would meet the rest of the 20 paise (US$ 0.004) and 50 paise (US$ 0.01) respectively per child per day. The allocation per child per day is depicted in Table 2.2.

Table 2.2 Central Government norms for per child allocation under the MDMS

Sl No.	Category	2004 guidelines (per child per day)	2006 guidelines (per child per day)	
		Primary	Primary	Upper Primary
1	Calorie	300 Kcal	450 Kcal	700 Kcal
2	Protein	8 -12 g	Minimum 12 g	20 g
3	Micronutrients	Not prescribed	Adequate quantities of micronutrients like Iron, Folic Acid, Vitamin-A etc	Adequate quantities of micronutrients like Iron, Folic Acid, Vitamin-A etc

Source: Report on the State of Food Insecurity in Rural India, 2008

E. Implementation

1. Structure and Coverage

There is a central structure governing the smooth implementation of the Mid Day Meal Scheme though there is wide variation in the programme's implementation from state to state. The

MDMS is implemented by the Department of Education, Ministry of HRD at the central level. The 2006 guidelines vest the overall responsibility for the scheme with the States/UTs. However, they also provide for a detailed programme management structure, from the national level to that of local bodies, as well as the guidelines for associating NGO's in the scheme. The guidelines also provide for systematic concurrent monitoring and evaluation, using detailed formats and reporting systems.

The National Programmeme of Mid Day Meals in Schools covers approximately 11.74 crore children (Primary Stage: 8.24 crores, Upper Primary Stage: 3.50 crores), studying in Classes I-VIII in Government (including Local Body) and Government- Aided Schools as well as the Centres run under EGS and AIE. The programme, which was extended w.e.f. 1.10.2007, to cover children of upper primary stage of education (Classes VI-VIII) in 3,479 Educationally Backward Blocks (EBBs) from 2008 - 09 covers all areas across the country. In some of the states, the '*Sishu Siksha Kendras'* (SSKS) run by the Department of Panchayat and Rural Development in the socially and geographically remote areas, are also covered under this programme (Jan Sanskriti, 2009).

2. Personnel and infrastructure

In spite of universalisation of MDMS, many schools still lack infrastructure facilities like kitchens, storerooms, latrines and sufficient classrooms. Water facility is also not available in many schools (Cheriyan et al, 2007). Moreover, there has been some opposition to the MDMS on the ground that it detracts from the teaching activities at school (Singh, 2004). But this happens only when teachers are expected to cook and supervise. As far as possible, the responsibility for cooking and supply of cooked midday meal should be assigned to either

1. Local women/ mothers / SHGs
2. Local youth club affiliated to Nehru Yuva Kendras
3. A Voluntary Organisation
4. Personnel engaged directly by the VEC (Village Education Committee) / SMDC (School Monitoring and Development Committee) / PTA (Parent - Teachers Association), Gram Panchayat or Municipality.

In the urban areas, it is possible to have centralised kitchens for a cluster of schools. The hot cooked meal can then be transported under hygienic conditions through reliable transport system to various schools. There may be one or more such nodal kitchens in urban areas.

Lack of adequate staff and adequate funds were the biggest challenges faced by many states in introducing a changed menu. The Supreme Court's order of 2001 stated that the main attention should be focused on women especially while appointing cooks and helpers. Another order, dated 20th April 2004, emphasised on the appointment of Scheduled Castes and Scheduled Tribes as cooks and helpers for the Mid Day meal Scheme.

Dogra and Dogra (2003) have further suggested that the work of preparing the meals should be given to the Self-Help Groups (SHGs) or Co-operatives of women from the weaker sections. The MDMS employs women as cooks and helpers and as local organisers to contribute to the empowerment of women.

F. Finances for the Mid Day Meal Scheme

To understand the effectiveness of the midday meal programme, we need to analyse the various components of its expenditure. Rajivan (2001) has pointed out that over the past nine years; the state's budgetary commitment to nutrition has increased significantly in absolute terms. Being a centrally sponsored scheme, the MDMS gets its supply of grains (wheat or rice) from the central government free of charge, at the rate of 100 g and 150 g per day for primary and upper primary student. The detail of the cost allocation is given in the table below:

Table 2.3 Central assistance towards cooking cost

Net Content	Primary (I-V)	Upper Primary (VI-VIII)
Food grain (Wheat/Rice) from Central Government	100 g per child/school day	150 g per child/school day
Cooking costs North Eastern Regions (NER)	Rs 2.00 per child/school day (Central share of Rs 1.80 and State share minimum of 20 paise)	Rs 2.50 per child/school day (Central share of Rs 2.30 and State share minimum of 20 paise)
Non-NER States/UTs	Rs 2.00 per child/school day (Central share Rs 1.50 and State share minimum of 50 paise)	Rs 2.50 per child/school day (Central share Rs 2.00 and State share minimum of 50 paise)

Source: Ministry of HRD, GoI (2010)

The Guidelines issued in 2006 also provide for Rs 125 (US$ 2.47) per quintal for 11 special category states and Rs 100 (US$ 2) per quintal for other states towards meeting the cost of transport of grains. Finally, the State and UT governments provide 1.8 percent of scheme cost for Management and Evaluation, with the centre spending 0.2 percent of scheme cost towards Management and Monitoring (GoI, 2007). The central government also provides for the transportation of grains from the nearest FCI depot to the primary schools.

For the year 2008 – 2009, the annual approved Work Plan and Budget of Mid Day Meal Scheme by the Programme Approval Board (PAB-MDM) for all the 35 States/UTs for Midday meal headed by Secretary (SE&L) is presented in Table 2.4.

Table 2.4 Annual work plan and budget 2008 - 2009 of the MDMS

Features	Up to primary class	Upper primary class	Total
Number of children covered	8,23,90,147	3,50,42,987	11,74,33,134
Food grain allocated	17,47,923.53 MTs*	11,12,504.26 MTs	28,60,427.79 MTs
Cost of food grain to be reimbursed to FCI	Rs 9,613.6 million	Rs 6,118.8 million	Rs 15,732.4
Cooking cost	Rs 27,855.3 million	Rs 15,730.5 million	Rs 43,585.8
Transport assistance	Rs 1,372.6 million	Rs 887.9 million	Rs 2,260.5
Management, Monitoring and Evaluation (MME)	Rs 699.1 million	Rs 409.3 million	Rs 1,108.4
Assistance for cooked MDM during summer vacations in drought-affected areas in MP.	Rs 447.3 million	Nil	Rs 447.3

Source: Press Information Bureau, 2009 *MTs - Metric Tonnes

Table 2.4 gives us the magnitude of the scale of operation of the scheme at the national level. The total cost of delivering the meal at the school level works out to be Rs 63,134.4 million. Though the MDMS is run by the Department of Education under the Ministry of Human Resource Development, the various components of the scheme are supported by other schemes of the various Government departments. Hence, it may not be possible to capture the actual total expenditure for the programme. The fund support to MDMS from other schemes is presented in Table 2.5.

Table 2.5 Convergence of MDMS with other development programmes

Sl No.	Item	Scheme/Programme under which funds are available
1	Construction of kitchen-cum-store	Ministry of Rural Development • Sampoorna Grameen Rozgar Yojana (SGRY) Ministry of Housing and Urban Poverty Alleviation • Basic Services for Urban Poor (BSUP), Integrated Housing • Slum Development Programme (IHSDP) for urban areas • Urban Wage Employment Programme, a component of Swarna Jayanti Shahri Rozgar Yojana (SJSRY) for urban areas outside slums Ministry of Panchayat Raj • Backward Region Grant Fund (BRGF) available as untied funds for 250 districts for gap filling and augmentation Ministry of HRD • Sarva Shiksha Abhiyan (SSA) for new school construction
2	Water Supply	Ministry of Rural Development, Department of Drinking Water Supply • Accelerated Rural Water Supply Programme (ARWSP) • Swajaldhara (Community-based rural drinking water supply) Ministry of Panchayat Raj • Devolution of block grants to panchayats on the recommendation of the 12th finance commission.

		• Backward Region Grant Fund (BRGF) available as untied funds for 250 districts for gap filling and augmentation Ministry of Human Resource Development • Sarva Shiksha Abhiyan (SSA) for new school construction
3	Kitchen Devices	Ministry of Human Resource Development Funds available under SSA • From annual school grant of Rs 2,000/- per annum per school • Rs 1,000/- per annum for EGS Centres
4	School Health Programme	Ministry of Health and Family Welfare • Necessary intervention, like regular health check-ups, supplementation of micro nutrients, de-worming medicines, etc. can be taken up under the National Rural Health Mission (NRHM).

Source: Department of Education, 2006

The infrastructural requirements continued to be met through the convergence with other development programme including inter alia Sampoorna Grameen Rozgar Yojana (SGRY), Basic Services for Urban Poor (BSUP), Urban Wage Employment Programme (UWEP) for the construction of kitchen–cum–stores. Water supply requirements were met through convergence with Acclerated Rural Water Supply Programme (ARWSP), Swajaladhara and Sarva Shiksha Abhiyaan (SSA). Table 2.5 shows that as many as fourteen schemes implemented by nine other ministries extend support to 4 components of the MDMS. Except for water supply which would be on a daily basis, the rest of the items are periodically replaced due to damage as well as from wear and tear.

The cost of physical infrastructure, which includes a kitchen-cum-store, adequate water supply for drinking and washing, cooking devices (stove) and utensils for cooking and serving were to be taken care of by the state government. The state government was entitled to use funds from centrally funded schemes. Funds from the Sampoorna Grameen Rozgar Yojana could be utilised for construction of kitchen sheds. However, the urban set-up could make use of the funds available

under the National Slum Development Programme or Urban Wage Employment Programme. The funds of the Sarva Shiksha Abhiyan (Education for All Mission) or the Accelerated Rural Water Supply Programme were to be used for drinking water. Finally, utensils can be brought from the annual Sarva Siksha Abhiyan school grant of Rs. 2,000/- (US$ 43.23). Central support was provided up to a maximum of Rs 60,000 (US$ 1,184.82) per head where the state governments were unable to meet the cost through convergence with other centrally funded programmes.

G. Monitoring Mechanism

The Department of School Education and Literacy, Ministry of Human Resource Development has prescribed a comprehensive and elaborate mechanism for monitoring and supervision of the Mid Day Meal Scheme. The monitoring mechanism includes the following:

- **Arrangements for local level monitoring**

Representatives of Gram Panchayats/Gram Sabhas, members of Village Education Committee (VECs), PTAs, SDMCs as well as Mothers' Committees are required to monitor the (i) regularity and nutritional adequacy of the midday meal served to children, (ii) cleanliness in cooking and serving of the midday meal, (iii) timeliness in procurement of good quality ingredients, fuel, etc. (iv) implementation of varied menu, (v) social and gender equity. This is required to be done on a daily basis.

- **Display of information under right to information Act**

In order to ensure that there is transparency and accountability, all schools and centres where the programme is being implemented are required to display information suo-moto. This includes information on

  - Quality of food grains received, date of receipt.
  - Quantity of food grains utilised.
  - Other ingredients purchased, utilised
  - Number of children given midday meal.
  - Daily menu.
  - Roster of community members involved in the programme.

- **Inspections by the State Government Officers**

Officers of the State Government/UTs belonging to the Departments of Revenue, Rural Development, Education and other related sectors, such as Women and Child Development, Food, Health are also required to inspect schools and centres where the programme is being implemented. It has been recommended that 25 percent of primary schools/EGS & AIE centres be visited every quarter.

- **Responsibility of the Food Corporation of India (FCI)**

The FCI is responsible for the continuous availability of adequate food grains in its Depots (and in Principal Distribution Centres in the case of the North East Region). It allows lifting of food grains for any month or quarter, up to one month in advance, so that the supply chain of food grains remains uninterrupted.

For the National Programme of Nutritional Support to Primary Education (NP NSPE) 2006, the FCI is mandated to issue food grains of best available quality, which will in any case be at least of Fair Average Quality (FAQ). The FCI appoints a Nodal Officer for each State to take care of various problems in supply of food grains under the MDMS programme.

The District Collector/ Chief Executive Officer (CEO) of Zila Panchayat ensures that food grains of at least FAQ are issued by the FCI. This is carried out by means of a joint inspection by a team consisting of FCI and the nominee of the Collector and/or Chief Executive Officer, District Panchayat, and confirmation by them that the grain conforms to at least FAQ norms.

- **Periodic returns**

The State Government/UT is also required to submit periodic returns to the Department of School Education and Literacy, Government of India, to provide information on: (i) coverage of children and institutions, (ii) Progress in utilisation of Central assistance, including cooking costs, transportation, construction of kitchen sheds and procurement of kitchen devices.

- **Monitoring by institutions of Social Science Research**

Forty one Institutions of Social Science Research, identified by the Ministry of Human Resource Development, Government of India, for monitoring the Sarva Shiksha Abhiyan (Education for all), have also been entrusted with the task of monitoring the Mid Day Meal Scheme.

H. The Supreme Court's Directives

The Supreme Court of India in one of its landmark decisions linked the feeding programme to the government's quality education programme. This was to encourage poor families to enrol their children into government schools so that the children would be guaranteed at least one square meal a day (Nutrition Foundation of India, 2003). The Supreme Court has been issuing 'interim orders' on midday meals from time to time, starting with the landmark order of 28 November 2001. The key orders are summarised here.

- **Basic entitlement**

"Every child in every government and government assisted primary school should be given a prepared mid day meal; with a minimum content of 300 calories and 8-12 g of protein each day of school for a minimum of 200 days a year".

(Order dated 28 November 2001)

- **No charges**

"The conversion costs for a cooked meal, under no circumstances shall be recovered from the children's parents".

(Order dated 20 April 2001)

- **Central assistance**

"The central government shall allocate funds to meet with the conversion costs of food grains into cooked mid day meals".

(Order dated 20 April 2004)

- **Kitchen sheds**

"The central government shall make provisions for construction of kitchen sheds"

(Order dated 20 April 2004)

- **Priority to Dalit cooks**

"In the appointment of cooks and helpers, preference shall be given to Dalits, scheduled castes and scheduled tribes".

(Order dated 20 April 2004)

- **Quality safeguards**

"Attempts shall be made for better infrastructure, improved facilities (safe drinking water, etc), close monitoring (regular inspection) and other quality safeguards as also the improvement of the contents of the meal so as to provide nutritious meal to children of the primary schools"

(Order dated 20 April 2004)

- **Summer holidays**

"In drought affected areas, midday meals shall be supplied even during summer vacations" (Order dated 20 April 2004)

- **Joint quality monitoring**

"We direct the Union of India and the Food Corporation of India to ensure provisions of fair average quality grain for the scheme on time. The states/Union Territories and the Food Corporation of India are directed to do joint inspection of food grains. If the food grain is found, on joint inspection, not to be of fair average quality, it will be replaced by the Food Corporation of India prior to lifting".
(Order dated 28 May 2001).

Thus the judiciary in India has played an active role in ensuring that MDMS becomes the right of every school-going child. It has attempted at social engineering by issuing specific orders for the appointment of cooks from the most downtrodden section of the society. It has also made provisions for the minimum infrastructure needed, such as the kitchen, and most importantly it has transformed the goal of the scheme from one of combating hunger to one of improved nutritional status for school children.

As per information available, all States/UTs are providing cooked midday meals to children of classes I-VIII studying in the above categories of schools, irrespective of the fact that whether these are run/managed by Panchayati Raj Institutions (local self-government bodies) or not. It is evident that, over the last decade or so, the midday meals programme, namely MDMS, has come to stay, thanks to the governmental initiatives, the judicial interventions and the social movements for the right to food (MSSRF and WFP, 2008).

I. Review of MDMS in Selected States in India

While there are broad central guidelines for the implementation of the scheme, there is nevertheless tremendous diversity at the state level. A comparative study of the implementation of the MDMS in six states namely Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and West Bengal is done in the following section.

1. Operationalisation of the Scheme

Following the central government's decision to universalise the scheme as a national programme in 1995, Madhya Pradesh was one of the first states to initiate the midday meal. But after a pilot beginning in a few blocks, the programme was discontinued in 1997 in non-tribal blocks. Even in tribal blocks the programme floundered and remained largely on paper till 2002. Most of the schools provided raw grains during this period. However, thanks to the Supreme Court of India[1], on whose sustained insistence cooked '*daliya'* (broken wheat) was introduced to cover the whole of the state from 2002 - 2004.

Another programme was the introduction of *'Ruchikar'* (delicious) midday meal in primary schools. This scheme was launched in 120 blocks identified as 'backward blocks' on 1 February 2004 on a pilot basis. The scheme was quickly extended to cover the rest of the state from 1 July 2004 onwards. This revamped MDMS with a new menu, which replaced *daliya* by *roti* (unleavened bread) / rice along with pulses and vegetables.

The state of Odisha started the scheme in 1995. Andhra Pradesh, Maharashtra and West Bengal started it in 2003. Initially, most of the state governments claimed that they had 'no money' to provide the midday meals in the primary schools. However, repeated Campaigns by activists of the 'Right to Food' campaign saw a public interest litigation filed in the Supreme Court. The situation changed in 2001, when the Supreme Court directed all the state governments to implement the scheme by providing all the children in the government and the government-aided schools with prepared midday meals.

Thus, due to the Supreme Court's firm stand, campaigns for the midday meals sprang up all over the country. Today, the midday meals are in operation all over the country.

2. Coverage of MDMS

Though MDMS was made a universal programme, there were differences among the states with regard to reach and coverage of eligible children. In Andhra Pradesh, in the year 2006 – 2007, about 55 lakh children were beneficiaries of the midday meal programme. The number of beneficiaries under the scheme was expected to reach 70 lakhs covering more than seventy two thousand primary and upper primary schools in the year 2008 – 2009. Among them 7 lakh students were expected to be in primary schools. However, the scheme is extended to children in Std. I to V in government schools, schools run by

[1] Hereafter referred to as the Supreme Court.

local governing bodies, government-aided private schools and students enrolled in Education Guarantee Scheme Centre (i.e. Vastishala) and Alternative & Innovative Education Centre (Mahatma Phule Education Guarantee Scheme).

In Odisha, though the scheme was initiated in 1995, till August 2004 dry ration alone was being provided to children in 157 out of 314 blocks in the state. However, as per the direction of the Supreme Court, cooked meal is provided to all children since September 2004. The details of children covered by the scheme are provided in Table 2.6.

Table 2.6 MDMS and students strength in Odisha

Sl No.	Classes	Institutions	Children who participated in the programme
1	I-V	Goverment	41,84,577
2	I-V	Government -aided	1,20,622
3	I-V	Local body	1,16,981
Total Strength			**44,22,180**

Source: Annual work plan and budget, Odisha (2009)

In Tamil Nadu, which was the pioneering state in introducing the scheme on July 1,1982, the programme was initially implemented in Child Welfare Centres for preschool children in the age group of 2 - 5 years and primary school children in the age group of 5 - 9 years. Within two months, from 15 September 1982, the scheme was extended to urban areas and from September 1984 onwards it was further extended to cover school students in the age group of 10 - 15 years in both urban and rural areas.

Children in the age group of 2 – 5 years, and students in classes I to V receive nutritious meal throughout the year (365 days). Those in the classes VI to X receive the meal on all the school working days (220 days). The total number of noon-meal centres in the state for 2008 is given in Table 2.7

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Table 2.7 Noon-meal centres and coverage of services in Tamil Nadu, 2008 - 2009

Sl No.	Name of the Scheme	No. of Centres
1	*Puratchi Thalaivar* MGR Nutritious Meal Programme (Rural)	39,853 (96%)
2	*Puratchi Thalaivar* MGR Nutritious Meal Programme (Urban)	1,810 (4%)
	Total	**41,663**

Source: Social Welfare and Nutrition Meal Programme Department, Government of Tamil Nadu, 2008 – 2009

In states like Madhya Pradesh, West Bengal etc, the '*Sishu Siksha Kendras'* (SSK) run by the Department of Panchayat and Rural Development in the socially and geographically remote areas, are also covered under this programme (Jan Sanskriti, 2009). In West Bengal, the total number of primary school children (both primary and SSK) covered under the MDMS was 83, 92,800 (as on December 2008). Apart from the primary schools the programme is now extended to the upper primary children. The progress on this has been rather slow. The government had declared that it would make an attempt to cover 44, 89,638 upper primary children under the programme by the end of March 2009. Therefore, the total number of children who were provided with the midday meal in the state by the end of 2009 is 1,28,82,438.

3. Implementation

Each state has evolved its own mechanism of implementing and monitoring the MDMS (Table 2.8).

Table 2.8 Implementation of MDMS in six selected Indian states

Sl No.	State	Nodal agency
1	Andhra Pradesh	Department of Education
2	Maharashtra	Department of Women and Child Development
3	Madhya Pradesh	Food and Civil Supplies Department
4	Odisha	Department of Women and Child Development
5	Tamil Nadu	Social Welfare and Nutritious Noon Meal programme Department
6	West Bengal	Department of Education

In Odisha and Maharashtra the nodal agencies for implementing MDMS are the Department of Women and Child Development. In West Bengal and Andhra Pradesh, it is the Department of Education. Tamil Nadu has a separate Nutritious Noon Meal Programme Department attached to the Social Welfare Department which is dedicated to overseeing the delivery of services. In Madhya Pradesh, it is the Food and Civil Supplies Department which implements the programme.

4. Procurement of Raw Materials

At the school level the procurement of ingredients for the meal is organised in various ways in the different states. While some of the raw ingredients needed for cooking such as rice and wheat are directly supplied by the Government, for others vegetables and cash is given to the MDMS organisers in the school for purchasing them locally. Details about the supply of actual raw ingredients and cash allocation for MDMS in the different states are provided in Table 2.9.

Table 2.9 Supply of raw materials to MDMS in six states in India

Ingredients	AP	MP	Maharashtra	Odisha	TN	WB
Wheat			NA	NA	NA	NA
Rice						
Pulses						
Vegetables						
Egg						
Oil						

Notes: *NA – Not Applicable*

- Supplied by the Government directly to the schools

- Rest of the items are purchased locally.

Except for Madhya Pradesh which provides a wheat-based diet, all the other states serve rice in the noon meals. In all the states, the staples are supplied directly by the State Government to the schools. In Odisha and Tamil Nadu, other ingredients such as pulses, oil and eggs are also supplied in kind, while cash is provided to buy spices, condiments and vegetables locally. In the other states, except for the staples such as rice or wheat, the rest of the ingredients have to be bought locally at the prevailing market prices.

5. Supply of Staples / Food Items to the School

With regard to the supply of food grains to the schools, the Central Government receives the total requisite from the States and grants the needed quantity through the FCI. From the FCI godown, the grains are transported to the schools. The strategy adopted by the states to transfer the raw materials to the schools again varies. A schematic presentation of the structural mechanism for the delivery of raw ingredients to the midday meal centres in the schools for the different states is provided in Annexure2

In Andhra Pradesh, the schools prepare the indent for the quantity of rice needed and forwards it to the Education Officer of the 'mandals' which is the basic administrative unit in the state. The Mandal Education Officer (MEO) forwards it to the Mandal Revenue Officer (MRO) who in turn gives direction to the PDS shops to make the grains available to the schools. The FCI supplies the grains to the PDS Shops (Ration) in the village from where it is distributed to the schools.

In Madhya Pradesh the distribution channel is slightly different. The demand for wheat is calculated by the individual schools by multiplying 90 percent of the number of children enrolled with the quantity of daily consumption per child. The school prepares its demand estimate and forwards it to the Jan Siksha Kendra (one for 15 schools), which in turn sends it to the Cluster Centres for the primary and middle schools. This estimated demand is then forwarded to the BEO (Block Education Officer) and reaches the Zilla (District) Panchayat (ZP) through *Janpad* (Block) Panchayat. The ZP allocates the required quantity from the FCI godown to the lead co-operative society, from where the grain moves to the local PDS shop. The school hands over the permit to procure grain to the SHG involved in preparing the midday meals. The SHG procures the required quantity of grain from the PDS shop.

The money to purchase other items like pulses, oil, milk etc. is directly transferred by the ZP (via Block Panchayat) to the account of the Self-Help Group on the basis of the estimated number of children present in the schools. The SHG maintains a separate bank account for this purpose. The cost norm for fund transfer is fixed per child per day at Rs 2.08 for primary schools and Rs 2.60 for middle schools and the total amount to be transferred is worked out on the basis of 90 percent of the number of children enrolled. With these funds, the SHG procures food material from the local market and prepares meals in schools.

In Maharashtra, mainly in the rural areas, the indent is prepared by the schools and is forwarded to the Village Education Committee, which in turn forwards it to the Block Development Officer (BDO) since the block is the basic administrative unit. The BDO consolidates the total requirement for the block and passes it on to the Chief Executive Officer of the Zilla Parishad (a unit of several blocks), who in turn passes it on to the Directorate of Primary Education. In the urban areas, the indent from the schools reach the Mumbai Municipal Corporation which in turn forwards the consolidated requirement to the Regional Deputy Director of Education and then it moves to the Directorate of Primary Education. Finally the total requirement for rice reaches the Food and Civil Supplies Department, which makes the arrangement for transportation through the District Supply Officers and *Tahasildar* (Revenue Department official) with the help of transport contractors to the ration shops. Food grains are directly bought by the School Headmaster from the nearby ration shop. A register is maintained at the school level

showing details about the quantity of rice used every day. The schools alone store the food grains for the midday meals.

In Odisha, rice, pulses and eggs are supplied directly to the schools while spices, oil and vegetables are procured locally. Rice is lifted from FCI Depot, delivered to the Block Office on the same day without any storage during transit by the transporting agent appointed under the MDMS progamme. From the Block Office, rice is supplied to different schools by the transporting agent appointed at the block level for door delivery of foodstuff at the school. Pulses are procured centrally at the district level. Suppliers for *Dal* are finalised by floating tenders. The suppliers supply *Dal* directly to the School. Sample of approved pulses is supplied to all the schools for checking the quality at the time of receipt of the stock from the supplier. Previously, Pamolin Oil was procured for MDMS programme centrally at the district level in order to avoid adulteration and poor quality of oil. Suppliers were finalised by inviting quotation. Since September 2006 the schools purchase Pamolin Oil locally. Previously eggs were procured at the block level through quotations. However, in order to ensure smooth and timely supply of eggs an agreement has been made with OPOLFED (Odisha Poultry Federation, Bhubaneswar and NCCF (National Co-operative Consumer's Federation) of India Ltd, Bhubaneswar for supply of eggs in four blocks each. NCCF Ltd supplies egg in Dhekanal, Odapada, Gondia, Hindol & Dhenkanal Muncipality and OPOLFED supplies egg in Kamakhyanagar, Bhuban, Parjang & Kankadhada Block including ULBs (Urban Local Bodies) of Kamakhyanagar Sub-Division. Eggs are supplied directly to the schools. The vegetable, condiments & salt are procured locally by the WSHGs (Women Self-Help Groups) who are managing the MDMS Programme in different schools. The cost of the vegetables, condiments, salt etc. is released to the WSHGs through the BDOs/EOs (External Officers).

In Tamil Nadu except for vegetables, spices and condiments the rest of the ingredients are directly supplied by the Government at the doorsteps of the school. The FCI procures food grains such as paddy, rice and wheat from farmers at a Minimum Support Price and stores it in its godowns. From this source, allocation is made to all food-based state programmes

1. Rice is supplied free of cost by the Ministry of Human Resource Development from the FCI godowns. From here it passes on to the TNCSC (Tamil Nadu Civil Supplies Corporation) which then passes it on to the Noon Meal Centres (NMC).

2. *Dal,* gram and oil pass through the same hands. The TNCSC pushes the required quantity to the taluk godowns and the NMC's acquire it.
3. Salt for the programme is received from the Tamil Nadu Salt Corporation Yard. It is sent to the TNCSC District godowns from where it is passed on to the TNCSC Taluk godowns ultimately reaching the NMC's. Since the urinary iodine levels were found to be low in 7 districts of Tamil Nadu (eg: Trichy, Salem, Namakkal, Coimbatore, Karur, Perambalur and the Nilgris), iodised salt for combating iodine deficiency was introduced. The government later introduced Double Fortified Salt to all districts with effect from 20 June 2007 to combat the twin problems of Iodine deficiency and anemia.
4. Egg was introduced as a part of the noon meal from June 1989 with one boiled egg being supplied to the children and students in the age group of 2 - 15 years. From 15 July 2006, the birthday of the late chief minister, Mr K. Kamaraj, which was declared as the 'Educational Development Day', the number was increased to two boiled eggs every week to the children and students in the age group of 2 – 15 years. This was increased to thrice weekly, to be provided on Mondays, Wednesdays and Thursdays, from 15 July 2007. One egg is given to 1 – 2 year-old children from 15 July 2010 on a weekly basis. The eggs for the programme are procured from the Egg Manufacturers Co-operative in Namakkal town of Namakkal District of Tamil Nadu through the process of floating tenders.
5. The vegetables, condiments and firewood/fuel are procured by the noon meal organisers themselves from the local markets.
6. Tamil Nadu has made impressive changes in the structure of the centres through its modernisation efforts. Concerted efforts are being made through the setting up of single burner stoves, improved stainless steel vessels, electrical provisions etc. About 6,940 centres have been upgraded and efforts at modernisation are being implemented on a large scale. This reduces the drudgery of the workers and saves their time (Communication with the State Programme Officer, Taramani as on 2 February 2010).

In West Bengal only rice is supplied by the FCI. All the other items are procured locally. The Department of School Education furnishes the details of requirement to the central government and accordingly the allocation is made. The FCI procures the food from the public procuring agencies, namely, the Essential Commodities Supply Corporation, and BENFED which is West Bengal's State Co operative Marketing Federation.

As per the indent of the Nodal agency, the FCI supplies the rice to the district-level distributors, from where the sub-division level wholesalers lift the supply. The dealers of the Public Distribution System then lift the rice and supply it to the schools and SSKs. The transportation cost is borne by the Nodal agency, which is reimbursed through District Magistrate (DM) and BDO. The DM, the Sub-divisional Officer (SDO) and the Block Development Officer (BDO) are responsible for ensuring the supply at the district, sub-division and block level respectively. The state government has no precise role in procuring the rice required for the programme. Its role is largely restricted to co ordinate with the FCI.

There is no centralised guideline for procuring the vegetables and other ingredients. In some places the SHGs have been devolved the responsibility of procuring the ingredients from the local market. In some areas it's the head-teacher or an assistant teacher who is in the charge of procuring the materials. As a general trend, vegetables are procured from the villages or local market, but pulses, oil and spices are bought from the grocer's shop.

6. Cooking and Serving of the Meals

In the states of Andhra Pradesh, Madhya Pradesh, Odisha and West Bengal, the cooking of the food at the schools is entrusted to the women members of the SHGs. Women are given priority while appointing cooks and helpers, presumably for empowerment. In AP, the women belonging to the DWCRA (Development of Women and Children in Rural Areas) group cook the food. The cooks are paid at the rate of Rs 3.25 per student out of which Rs 3 is towards the purchase of all items and 25 paise for the services rendered! In MP, when the MDMS was first introduced, the implementation was vested on the Parent-Teacher Association (PTA). Funds relating to the scheme are kept in a bank/post office account to be jointly administered by the non-official head of the PTA and the teacher-in-charge of the school. The empowerment of the PTAs appears to be a very positive step forward. However, the effectiveness of the PTA depends critically on how actively parents participate in it. In the absence of an active PTA, teachers have to shoulder almost the entire responsibility, as a result of which children's studies get neglected.

An estimation of the time spent by the teacher in MDMS showed that the number of hours came to nearly 76 person-hours a month; say an average of around 3 person-hours per day (Jain and Shah, 2005). Given that schools have an average of just two teachers, this is a major encroachment on the teaching time available. The concentration of the teachers is also heavily diverted from teaching to administrative matters concerning the midday meal, further compromising the already poor quality of teaching.

Possibly on account of these problems, Madhya Pradesh recently adopted a major innovation of assigning women SHGs a central role in the day to day running of the MDMS. The teachers have thus, by and large, been exempted from the responsibility of organizing the MDMS. The cook could be a member of the SHG itself or hired from outside for this purpose. SHGs maintain separate bank accounts for receiving funds for the procurement of foodstuffs (other than grains) and keep books of accounts for the money received from the Zilla Panchayat. In Maharashtra too the women SHGs or needy women or NGOs are engaged in cooking and serving the meal at the NMC's in the presence of the teacher.

In Odisha, since January 2005, the responsibility for cooking and distribution of foodstuff was entrusted only to WSHGs in all the Primary Schools. The Project Implementing Agency (PIA) have deposited a Security Deposit for the cost of foodstuff for 45-days feeding, in the form of NSC, Term Deposit, and Pass Book duly pledged in favour of concerned BDOs. They have signed the Memorandum of Understanding (MOU) with the concerned BDOs to implement the programme smoothly in the prescribed format. However, since October 2005, the entire management of MDMS programme has been entrusted to different WSHGs in the rural areas and to NGOs in ULBs. The WSGHs are now working as PIAs and shoulder the responsibility for storing the foodstuff, preparation of tasty food, ensuring its quality and distribution of prepared food to the beneficiaries. By doing so it is felt that the teachers who were assigned the responsibility concerned with the MDMS programme are free from it now and the duration and quality of teaching is unaffected.

Tamil Nadu is the only state where the Government has appointed regular staff on a fixed regular monthly remuneration for cooking and serving food. Practically every school in Tamil Nadu has a noon meal centre which is staffed by one noon-meal organiser, a cook and an assistant. Where the number of children is more than 500, one additional cook and an additional assistant are provided. Since, there are about 41,663 noon-meal centres the scheme provides employment opportunities for women, both in urban and rural areas preference being given to widows and destitutes. Table 2.10 gives details of the current staffing pattern.

Table 2.10 Total number of people employed in noon-meal centres in Tamil Nadu

No. of Centres	Category	No. of Employees
41,663	Noon-meal organisers	41,178
	Cook	41,424
	Noon-meal assistant	41,127
	Central kitchen cook	31
	Total	**1,23,760**

Source: Social Policy Note, Social Welfare and Nutritious Meal Programme Department, 2008 - 2009

About one lakh and twenty-three thousand odd employees are engaged in the process of cooking and serving the meals! It can be seen from Table 2.10 that the staffing pattern in each category of personnel is slightly inadequate to the requirement. Even presuming that each centre caters to only 500 students which requires the appointment of only one noon meal officer and cook, there is a shortfall of about 200 - 500 employees in the noon meal centres.

With regard to remuneration, the noon-meal staffs are paid on a non-standard scale of pay. The employees are covered under Family Security Fund and Special Provident Fund Schemes. The organiser is given Rs.50, 000/- (US$ 1,076.46) (Policy Note 2008 - 2009) and the cook and the noon meal assistant are given Rs.20, 000/- (US$ 430.57) as a lump sum towards terminal benefit at the time of retirement. Table 2.11 depicts the remuneration of the noon-meal staff.

Table 2.11 Salaries of the NMP employees in Tamil Nadu

Name of the Category	Remuneration Scale (Non- Standard)	Total pay as on 01-01-09
Noon-meal organiser	Rs 1,300-20-1,500-25-2,000 (US$ 40)	Rs 3,346
Cook	Rs 660-15-810-20-1,010 (US$ 20.32)	Rs 1,661
Cook assistant	Rs 500-10-600-20-800 (US$ 16)	Rs 1,255

Source: *Policy Note, GoTN, 2009 – 2010*

In West Bengal too the cooking of the meal is done by the SHGs. The headmaster of the school is responsible for maintaining the accounts. With regard to infrastructure, kitchen sheds are being constructed in the schools so that the cooking process can be carried out without any interruption and hygienic measures can be followed. For the construction of the kitchen sheds, funds are made available from the *'Sarva Siksha Abhiyaan'* (SSA). Under the SSA, proposed new school buildings with kitchen sheds have been planned. The District Collectors have been entrusted with the task of supervising the construction of the kitchen sheds from the funds available through the District Rural Development Agency (DRDA). The status regarding requirement of kitchen sheds and kitchen devices for Primary Schools as on 1.4.2006, kitchen sheds/kitchen devices sanctioned during 2006 - 2007 and 2007 - 2008 and balance to be sanctioned during 2008 - 2009 is given in Table 2.12.

Table 2.12 Estimated need and sanctioned amount for kitchen sheds / kitchen utensils in West Bengal, 2008 – 2009

Item	Kitchen Sheds (Rs)	Kitchen Devices (Rs)
Total requirement as on 1.4.2006	5,61,289	7,40,393
Sanctioned during 2006 - 2007 and 2007 -2008	4,43,789	7,34,338
Balance to be sanctioned during 2008 - 2009 and onwards	1,17,500	6,055

Source: Department of School Education, GoWB, 2008

Since the construction of sheds and supply of devices are not commensurate with need, several schools are put into hardship to provide a clean and safe environment for cooking.

7. *Monitoring Mechanism for the Mid Day Meal Scheme*

The Department of School Education and Literacy, Ministry of Human Resource Development has prescribed a comprehensive and elaborate mechanism for monitoring and supervision of the Mid Day Meal Scheme (Press information Bureau, 2009). The monitoring mechanism includes the following: Representatives of Gram Panchayats/Gram Sabhas, members of Village Education Committes, Parent-Teachers Association as well as Mothers' Committees are required to monitor the (i) regularity and wholesomeness of the midday meal served to children, (ii) cleanliness in cooking and serving of the midday meal, (iii) timeliness in procurement of good quality ingredients, fuel, etc.

(iv) implementation of varied menu, and (v) social and gender equity. This is required to be done on a daily basis.

In Odisha a guardian committee has been formed in all the schools to look after the quality of food, distribution of food to the students, safe and hygienic storage of foodstuff and proper utilisation of the stock. Schools are also being visited by Extension Officers and the Collector and the concerned officials record their observation in the visitors' book. Monthly target has been given to the Sub-Collector/BDOs/ Extension Officers/CDPOs/Supervisors of Schools to visit the MDMS centres in a specified manner so that majority of the schools are visited in a month.

Doctors of PHCs are to check the quality of food at random to know whether the food being provided will promote good health or not and are to advise the guardian committee in this regard. Review of MDMS is being held in the district level Committee meeting headed by the Collector on the 12th of each month.

In Tamil Nadu, a State Level Steering-Cum-Monitoring Committee has been constituted in 2004 - 2005 (Children and Work, 2004 - 2005) to ensure that the food served is of adequate quantity as well as of good quality. With reference to the enrollment of beneficiaries, District / Block / Corporation / Municipality and Panchayat level committees have also been formed to monitor the functioning of School Nutritious Meal Programme Centres. Elected representatives of people have been nominated to the above Committees along with officials. However, the effectiveness of these committees and community participation and control over the scheme are not known clearly.

C. Evaluation of MDMS Implementation

Microlevel studies undertaken in various states have shown several lacunae in the implementation of the MDMS. The schools lack in infrastructure facilities like kitchens, storerooms, latrines and sufficient classrooms. Water facility is also not available in many schools (CART, 2006). Moreover, there has been some opposition to the MDMS on the ground that they detract from the teaching activities at school (Singh, 2004). However, most states have got around this problem by entrusting the task to SHG's. Tamil Nadu has specifically appointed cooks and helpers for this purpose. In the appointment of cooks, preference is given to widows and destitute women There are several circumstances under which the system delivery can encounter serious problems under the current dispensation. The first is when the PDS system does not have enough grain to support the demand of the schools. It has been reported from schools that the breakdown of the system on account of this reason is fairly frequent. The other situation is the delays in

fund transfer to the SHGs. *Sakal*[1], a local vernacular daily in Maharashtra, highlighted the following lacunas:

1) As the supply chain is not smooth enough, the inconsistency in the supply results in poor quality and insufficient quantity of rice, and that too at the 'mercy' of the shopowner.
2) Irregular supply of rice results in irregular preparation of cooked food at the beneficiary level.
3) Excess stock is shared by various stake holders in the chain.
4) All such leakages in the supply right from the rationing chain to the cooked meal of the school children results in reduced quantity of cooked food.
5) It is estimated that rice bags weigh around 46 to 48 kg as against the official stipulated weight of 50 kg of rice per bag.
6) There is hardly any arrangement to keep the stock in good condition. The rodent (mainly rats) population contributes to the destruction of food grains that are kept 'open' in the schools due to lack of proper storage space and containers.
7) The ration shop owners in some places have undertaken the sole responsibility by hiring a women cook on a monthly basis for providing the midday meal to the village schools.
9) Teachers are forced to pay a bribe for obtaining the cheques required for the implementation of the scheme!
10) Though the central government has made provisions for meeting the transportation costs, in most of the cases 'transport cost' is met or rather managed from the stock sanctioned.
11) Local politicians and the so-called workers benefit in the said malpractices. For example, the *Sarpanch* (head of the village) signs the cheques only after fixing a 'certain percentage' from the cheque.
12) As the required funds are very irregular the monthly payment of the workers is made from the stock of the rice itself.
13) The yearly days devoted for the MDMS Programmer are 230. However, actual school days are 218 to 222 days per year.
14) Children migrate with the migrating parents. The Mid Day Meal Scheme has failed in curbing the problem of migration and hence the rate of school dropout. Yet, these registered students' names continue to be kept on, on the school roll, round the year thus exaggerating the total number of students! This means there is unutilized stock of food grains. This unutilised stock is a big question mark since it is not clear on how it is utilised.

[1] News item reported on 04 -01-2010

Thus, while there is enough evidence to show that the MDMS has an overall impact in improving attendance and school retention, the implementation at individual local levels may not be up to the mark due to poor governance, paucity of funds and lack of enthusiasm.

The Integrated Child Development Services

A. History

The Integrated Child Development Services (ICDS) is India's flagship programme for early childhood development. Launched in 1975 it was primarily intended to provide pre-school education and intervention for early stimulation to disadvantaged children between 3 – 6 years of age and also to meet the intersecting needs of women and adolescent girls by providing day care for children (Swaminathan, 1996). Currently six basic services are provided to address the needs of women and children starting from pregnancy, after birth, during childhood and during adolescence. These are: preschool education, supplementary nutrition, immunisation, health check-ups, referral services and nutrition and health education. These services are provided at the *anganwadi (*Courtyard) centres (AWC). The *anganwadi* workers (AAWs) at the centres are the pivot of the programme.

The importance of ICDS somewhat faded between 1975 and 1990 and there were a spate of surveys and reports drawing attention to India's failure to reduce malnutrition among children. Advocacy for ICDS gained momentum when the Right-to-Food case was filed by the People's Union for Civil Liberties vs the Union of India in 2001. As a result of this the Supreme Court passed an order which culminated in the universalisation of ICDS.

The order dated November 28, 2001 gave an unprecedented boost to ICDS, with the Supreme Court stating that the scheme must be implemented in full and must be extended to each child up to six years of age, adolescent girl, pregnant women and nursing mothers in India. The court further stated that additional supplementary nutrition under the scheme should be made available to each malnourished child and that every settlement should have an anganwadi.

The Supreme Court vide its subsequent order dated April 29, 2004, issued the following directions to the GoI in relation to the implementation of the ICDS scheme.

I. We direct the GoI to file within 3 months an affidavit stating the period within which it proposes to increase the number of AWC's so as to cover 14 lakh habitations;

II. We notice that norms for supply of nutritious food worth Re 1 for every child were fixed in the year 1991. The GoI should consider the revision of the norms of Re 1 and incorporate their suggestions in the affidavit;

The Supreme Court in its further order dated October 7, 2004, has inter alias, directed that BPL should not be used as an eligibility criteria for providing supplementary nutrition under the ICDS. In spite of the strong court orders by the apex court of the nation, the progress with respect to implementation of the programme was very slow. For instance in 2005, as many as 1,201 lakh (74 percent) children, 841.6 lakh (99.7 percent) adolescent girls and 318.95 (80 percent) of pregnant and nursing mothers were left out of the net ICDS (Commissioners Report, 2005).

Owing to the gravity of the situation the Supreme Court passed an order dated 13 December 2006 sanctioning the operations of a minimum of 14 lakh AWCs in a phased manner. As the Supreme Court's order decrees, "while maintaining the upper limit of one AWC per 1000 population, the minimum limit for opening of a new AWC in a population of 300 may be kept in view". All the states were directed to fully implement the ICDS scheme by allocating and spending at least Rs 2 per child per day for supplementary nutrition and to at least Rs 2.70 for every severely malnourished child per day for supplementary nutrition and to Rs 2.30 for every pregnant woman, nursing mother/ adolescent girl per day for supplementary nutrition.

The Planning Commission of India had taken the initiative to universalise ICDS in the 11th Five Year Plan (2007 – 2011) and a provision of Rs 52,000 Crores (US$ 1,125,168) was provided to this scheme.

B. Objectives of ICDS

Since its inception in 1975, the objectives of ICDS have been expanded from preschool education for 3 – 6 year old children to holistic development of all children below 6 years as well as the needs of pregnant and lactating women and adolescent girls.

The following are the declared objectives of ICDS (GoI, 2007):

- To improve the nutritional and health status of the preschool children in the age group of 0 – 6 years;
- To lay the foundation for proper psychological development of the child;
- To reduce the incidence of mortality, morbidity and malnutrition;
- To achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and
- To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

C. Salient Features

The following are the recommendations made for consideration in the 11th Five year Plan to address the emerging nutritional issues through ICDS:

1. Universalisation of ICDS with quality
2. Strengthening basic infrastructure and service delivery in AWC's
3. Restructuring Programme Management/Revised ICDS National Framework
4. Strengthening HR Management
5. Mobilizing resources
6. Nutritional issues – eradicating severe malnutrition
7. Strengthening Nutrition and Health Education (NHE)
8. Advocacy, communication and social mobilisation
9. Strengthening training and capacity building
10. Strengthening monitoring and evaluation
11. Public - Private and Community Partnership (PPCP)
    Strengthening partnership with PRI's, NGO's and Voluntary Sector.

D. Structure and Implementation

To achieve these objectives, the ICDS aims at providing a plethora of services which are enlisted here.

1. Package of Services

The services provided under ICDS to the target groups covered are summarised in Table 2.13.

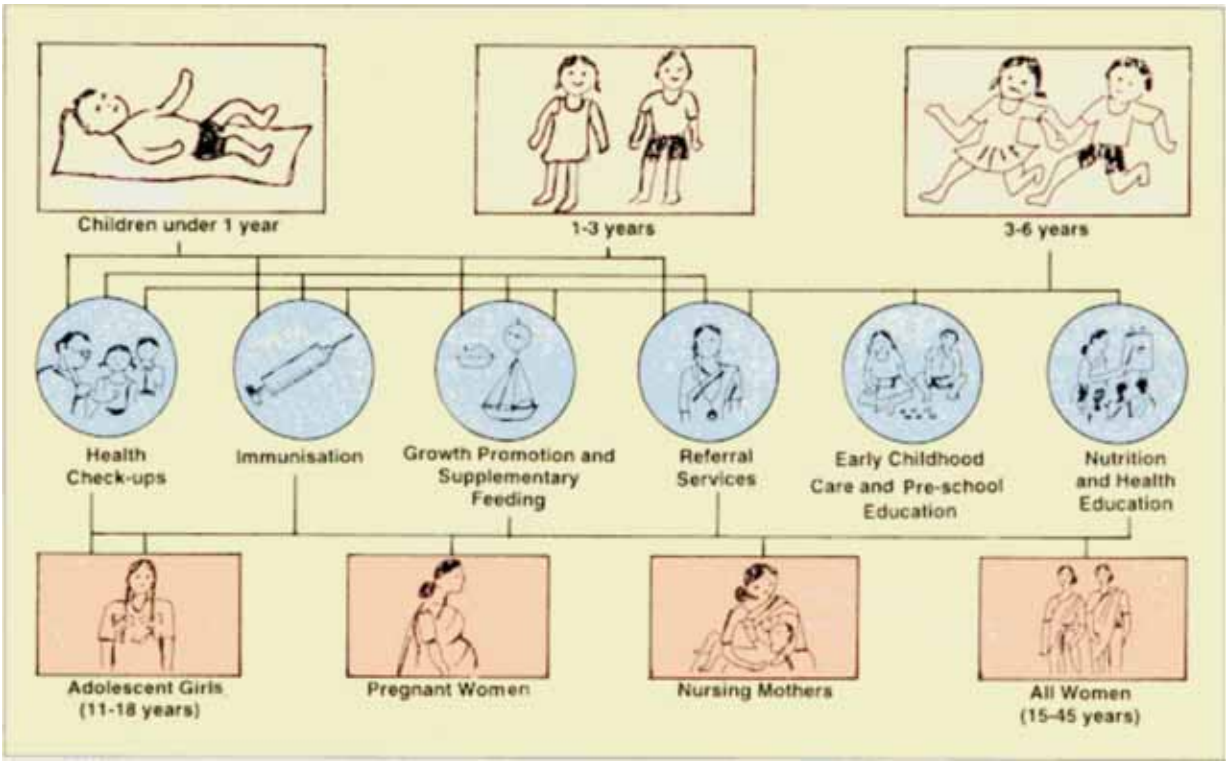
Table 2.13 Type of services and service providers

Services	Target group	Service providers
Supplementary nutrition	Children below 6 years, pregnant and lactating mothers, adolescent girls	Anganwadi Workers (AWW) & Anganwadi Helpers (AWH)
Immunisation*	Children below 6 years, pregnant women	Auxiliary Nurse Midwife (ANM) / Medical Officer (MO)
Health check-ups*	Children below 6 years, pregnant and lactating mothers	ANM / MO / AWW
Referral	Children below 6 years, pregnant and lactating mothers	AWW / ANM / MO
Preschool education	Children (3 – 6 years)	AWW
Nutrition and health education	Women (15 – 45 years)	AWW / ANM / MO

Note: ** The role of the AWW in immunization and health check–ups is to identify the target group and mobilise the community. The AWW assists the ANM in identifying and mobilising the target group.*
Source*: GoI, 2007*

The ICDS programme also focuses on improving environmental hygiene and infant and child feeding practices for children below three years to improve the child's nutritional outcome (GoI, 2009). The programme provides an integrated approach for converging basic services through community based anganwadi workers and helpers, supportive Community structures/ Women's group through the anganwadi centre, the health system and in the community. Besides this, the anganwadi is the meeting ground where women/mothers' group can come together with other frontline workers to promote joint action for child development and women's empowerment (GoI, 2009).

Figure 2.1 Packages of Services provided by the ICDS



Source: *Department of Women and Child Development, GoI, 2009*

The scheme targets the most vulnerable groups of population including children up to 6 years of age, pregnant women and nursing mothers belonging to the poorest of the poor families and living in disadvantaged areas including backward rural areas, tribal areas and urban slums. The identification of these beneficiaries is done through surveying the community and identifying the families with the target beneficiaries.

1.1 Description of Services provided by the ICDS

(a) Supplementary nutrition

Adequate food is the most important requisite for the healthy growth of a child. The basic requirement of a child pertains to energy, usually calories. Besides calories, the nutritional needs of children include adequate fats, proteins, vitamins and minerals. The need to provide Supplementary nutrition (SN) arises from the fact that many children are unlikely to be well fed at home owing to a number of factors. The SN also includes supplementary feeding, growth monitoring and as a prophylaxis against Vitamin A deficiency and control of nutritional anaemia. It is provided to bridge the nutrient gap. This supplement is provided to bridge the protein - energy gap between the recommended dietary allowance and the dietary intake (which depends on availability) of children and women.

This supplementation is given to children between 6 months and 6 years of age. It is based on locally procured food. Every child availing the SN is entitled to a prescribed nutrition intake according to age. The SN is provided for 300 days in a year. Besides children, pregnant and lactating mothers are also provided with the supplement. The calorie norms for the different categories under ICDS are given in Table 2.14.

Table 2.14 Calorie norms for different categories in ICDS, 2008

Category	Calorie (Kcal)	Protein (g)
Children below 3	500	12 - 15
Children of 3 – 6 years	500	12 - 15
Severely underweight	800	20 - 25
Pregnant and lactating women	600	18 – 20

Source: *Ministry of Women and Child Development, GoI, 2008*

(i) For below 3 year-old children**,** the SN is provided as a Take–Home Ration (THR) consisting of 500 calories and 12 – 15 g of protein. However, in addition to the current mixed practice of giving either cooked or raw ration (Wheat and Rice), which is often consumed by the entire family and not by the child alone, the THR should be given in the form that is palatable to the child. The THR could be given in the form of micronutrient fortified food / or energy dense food that may be marked as 'ICDS Food Supplement' since a child below 3 years is not capable of consuming a meal of 500 calorie in one sitting. For the severely underweight children the supplementation provides for 800 calories of energy and 20-25 g of protein/day in the form of micronutrient fortified food or energy dense food as THR. Those children requiring medical intervention may be given locally appropriate feeding and care under medical advice.

(ii) For 3 – 6 year old children, the nutritional supplement of 500 calorie and 12-15 g protein per child per day should be provided through hot cooked meal in AWC's and mini AWCs under the ICDS scheme. Since the process of cooking and serving a hot cooked meal may take time, the State Government and the UT's are expected to provide a morning snack in the form of milk/banana/egg/seasonal fruits/micronutrient fortified food before that to sustain the children. For the severely malnourished an additional 300 calorie and 8 – 10 g of protein (in addition to 500 calories and 12 – 15 g protein) is given at the AWC.

(iii) Pregnant and nursing women are to be provided food supplement of 600 calories of energy and 18 – 20 g of protein per beneficiary/day in the form of micronutrient fortified food/ or energy dense food as THR. The THR will replace the current mixed practice of giving dry rations of wheat or rice.

(iv) Nutrition Programme for Adolescent Girls (NPAG) or Kishori Shakti Yojana (KSY). The Nutrition Programme for Adolescent Girls was launched by the Planning Commission in 2002 - 2003 targeting adolescent girls (11 - 19 years) weighing < 35 Kg. Under the scheme, 6 Kg of food grains were to be given to undernourished adolescent girls. The weight of the girls was a major factor behind the selection of the samples. In the year 2005 - 2006, the programme was implemented by the Department of Women and Child Development, in the 51 identified districts. The funds for the scheme are given as 100 percent grants to the states/UTs so that grains can be provided to the undernourished persons free of cost through the Public Distribution System. The programme is expected to provide Nutrition and Health Education to the beneficiaries and their families.

According to the Supreme Court, the SNP in the form of a morning snack and a hot cooked meal was to be made available to children between 3 – 6 years preferably by 31 December 2009 (Department of Women and Child Development, 2009). The court recommended that the supplementary food should be fortified with essential micronutrients (energy and protein excluded) with 50 percent of RDA level per beneficiary per day.

There are variations among the state norms with regard to the anganwadi and the diversity of the hot cooked meal for 3 – 6 year old children for some selected states is provided in table 2.15. The composition of THR provided to children between 6 – 36 months varies widely between the states and is made from locally available foods as well as those grown elsewhere. The variety of ingredients used in the preparation of THR in a few states is also written out in the Table 2.15.

Table 2.15 Type of SNP given to children under ICDS

States	Age Groups	
	6 – 35 months	3 – 6 years
Uttar Pradesh	Take-Home Supplements: 'Panjiri/Weaning Food'(Wheat, Soya and Rice Flour, Sugar)	Ready-To-Eat: 'AREF/Panjiri/Murmura' (Wheat Flour, Soya Flour, Edible Oil, Vitamins and Minerals premix) sweet or savoury in alternate months.
Rajasthan	Take-Home Supplements: 'Baby Mix' (Wheat, soya, sugar, edible Oil, rice, vitamin and mineral premix)	Ready-To-Eat: '*Murmura*' (Wheat Flour, Soya Flour, edible Oil, vitamins and minerals pre mix) sweet or savoury in alternate months.
Maharashtra	Take-Home: Supplements:[a] '*Sanjeevani Powder'* (Soyabean Powder, Wheat, Soya Milk)	Cooked Meal: *Khichdi/Dalia/Chana* on alternate days
Chattisgarh	Take-Home Ration: Broken wheat, salt, oil and jaggery	Cooked Meal: *Dalia* (Wheat soya blend); puris or halwa on special occasion
Himachal Pradesh	Take –Home Ration Rice, green gram, clarified butter for *khichdi* (a rice preparation); Bengal gram;whole milk powder, sugar and dalia	Cooked Meal: *Khichdi/dalia/chana* (or sprouted grams) on alternate days. Kheer on special occasions
Tamil Nadu	Take –Home-Rations :[b] 'Sattu' (Fortified health powder containing ragi, wheat, jaggery, Bengal gram and groundnut)	Cooked Meal: Rice with dal and vegetables everyday and eggs thrice a week.

Notes: *a For children aged six months to one year.*
b For children aged six months to two years. Does not include the food supplied by donors' agencies such as CARE and the World Food Programme
Source: *Citizens Initiative for the Rights of Children under Six, 2006*

Supplementary feeding should never be treated as a substitute for effective feeding practices at home. Parents and especially the mothers are clearly best placed to look after the nutritional needs of their children. Hence, empowering them to do so is, ultimately, the best way of protecting the children from undernutrition.

(b) Health

ICDS provides immunisation of children under 6 years of age from six preventable diseases – Poliomyelitis, Diptheria, Pertussis, Tetanus, Tuberculosis and Measles. These are major but preventable causes of child mortality, disability, morbidity and related malnutrition. This service is delivered by the Ministry of Health and Family Welfare under its Reproductive Child Health (RCH) Programme.

The services provided by the anganwadi workers under the health component are conducting check-ups for children under 6, providing antenatal care for expectant mothers, post-natal care for nursing mothers, recording weight, and managing undernutrition and treating minor ailments, diarrhoea, de-worming and distribution of simple medicines. These services are provided by the ANM, MO in charge of health sub-centres and Primary Health Centres under the Reproductive Child Health Programme of the Ministry of Health and Family Welfare.

Referral services are also provided during health check-ups and growth monitoring of sick or malnourished children in need of prompt medical attention are referred to the Primary Health Care or its sub-centres. The anganwadi worker enlists all the cases of disabilities and refers them to the ANM or MO. Theses cases are attended by the health functionaries on priority basis.

(c) Preschool education (PSE)

The PSE imparts learning environment to children under 3 – 6 years of age and is considered as a crucial component of the ICDS scheme. It aims at enabling school readiness and development of a positive attitude towards education. AWC imparts preschool education through non-formal and playway methods by joyful learning.

Preschool kits are to be provided each year for each operational AWC @ Rs 1000/- per AWC per annum. The state may have the option of providing more than one kit or an enhanced kit with more components or having age appropriate Teaching Learning Materials (TLMs). The items in the kit should be in multiples in terms of possible play activities and concepts, durable, safe for children, culturally and environmentally relevant, cost effective, easy to maintain, handle and store and also conducive to creativity and problem solving.

(d) Nutrition and health education

Nutrition and Health Education (NHE) is a key element of the work of the AW. This forms part of Behavioural Change Communication (BCC) strategy. The male members of the family are made aware of the importance of women's health. The women between 15 – 45 years are trained not only to take care of children but also of themselves.

2. Implementation

Integrated Child Development Services (ICDS) was initially started on a pilot-project basis in 33 selected community blocks (19 rural, 10 tribal and 4 urban). The scheme has undergone several changes since its conception with regard to the population coverage. The scheme under the earlier population norms envisaged that the administrative unit for the location of the ICDS Project will be the Community Development (CD) blocks in rural areas, tribal blocks in the tribal areas and wards or slums in the urban areas. The scheme envisaged one rural/urban project for a population of one lakh and one tribal project for a population of 35,000, with one AWC each for a population of 1,000 in rural/urban projects and for a population of 700 in tribal projects, with suitable adjustments, wherever necessary, to suit the local conditions.

An inter-ministerial task force set up in 2004 reviewed the existing population norms for sanctioning of an ICDS project/AWC and for suggesting revised norms. The revised norms recommended by the task force for setting up of an AWC and Mini-AWC for rural / urban and tribal projects are provided in Table 2.16 and Table 2.17. The scope of the norms attempted to ensure that no child below six years is left uncovered.

Table 2.16 Revised population norms for urban and rural projects by the task force, 2005

Population Coverage	Rural/Urban Projects (as per old norms)	Revised Rural/Urban Projects		
Population norms of AWC	500 – 1,500	400 - 800	800 – 1,600	1,600 - 2,400
Population norms for Mini–Anganwadi Centre	-	150 - 400	-	-
Number of Centres	1	1	2	3

Source: Report of Inter-ministerial Task Force, 2005

Table 2.17 Revised population norms for tribal projects by the Task force, 2005

Population Coverage	Projects (as per old norms)	Revised Projects (as per new norms)
Population of AWC	300 – 1,500	300 - 800
Mini – Anganwadi Centre	-	150 - 300
Number of Centres	1	1

Source: Report of Inter-ministerial Task Force, 2005

Table 2.18 provides some key statistics with regard to the coverage of beneficiaries under the ICDS.

Table 2.18 Critical statistics of the ICDS projects in India

Sl No.	Particulars	Total number of projects
1	Projects	
	Total Projects	6,284
	Projects in Operation	6,068
2	Centers	
	Total AWCs	10,52,638
	AWCs in Operation	10,10,912
3	Personnel	
	a. CDPOs sanctioned	8,214
	CDPOs in operation	5,373
	b. Supervisor sanctioned	45,951
	Supervisors in operation	26,440
	c. AWW sanctioned	10,52,638
	AWW in operation	8,39,197

Source: Department of Women and Child Development, GoI (2008)

E. Working of the ICDS Centres

ICDS is a complex programme with many actors. Though it is a 'centrally sponsored scheme', the basic responsibility for implementing the programme rests with the state governments. The ICDS team comprises of Anganwadi workers (AWWs) and Anganwadi Helper, Supervisors and CDPOs. In larger rural and tribal projects, Additional Child Development Officers (ACDPOs) are also part of the ICDS Team. At the ground level, the lead role is played by the AWW, who shoulders many responsibilities as the sole manager of the Anganwadi. However, their effectiveness depends on the support and co-operation of people such as, the Auxiliary Nurse Midwife (ANM), the Supervisor, the CDPO, among others, and, of course, the village community. The CDPO / ACDPO are responsible for implementation of the Scheme in the Project area.

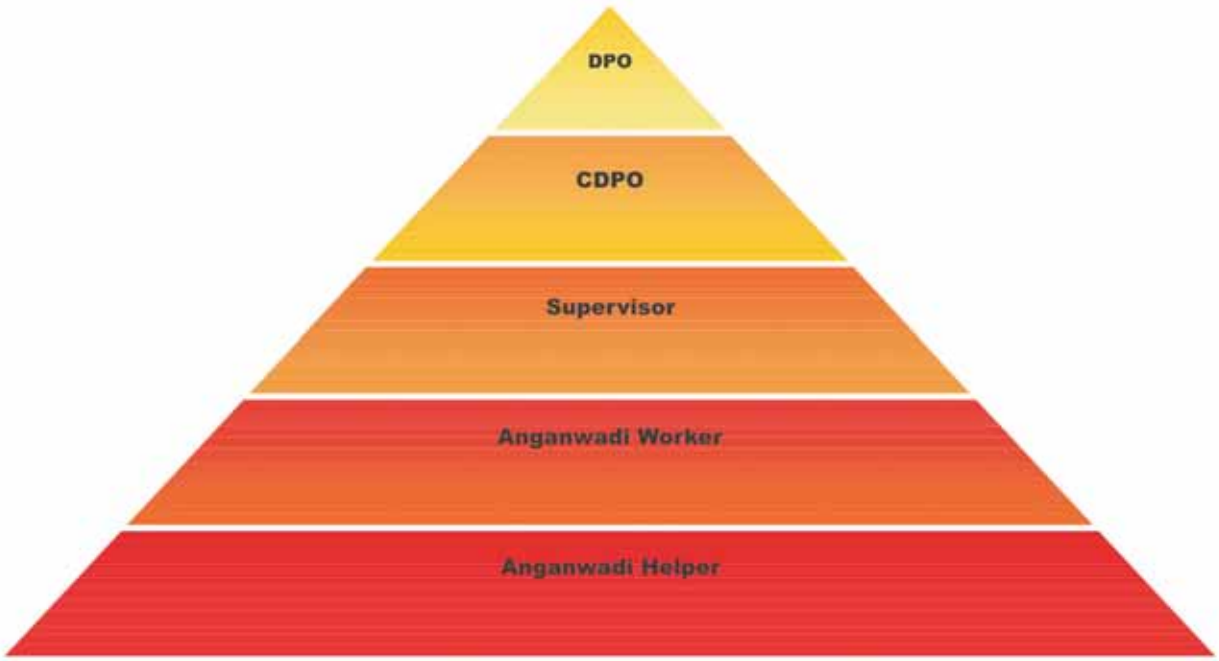


Figure 2.2 Organisational set-up of the ICDS workforce

Note: *DPO – District Programme Officer, CDPO – Child Development Project Officer.*
In blocks with more than one project, an Additional Child Development Project Office (ACDPO) may be appointed to co-ordinate the activities of the AWCs

The only institution at the village level that is responsible for the health and well-being of mothers, children and adolescent girls is the anganwadi centre. The ICDS relies on the frontline functionary, the anganwadi worker, to realise the policy maker's dream of a society that respects women, takes care of adolescent girls, gives them dignity and space, maintains the nutritional status of children until they reach six years of age. She is also expected to maintain the data that feeds into the statistics of the government on births, deaths, growth of children, records for supplies of food, educational material and lists of women who could access the innumerable schemes for women.

Besides the anganwadi worker, the medical officer, the lady health visitor (LHV) and Auxillary Nurse Midwife and female health worker from nearby Primary Health Centres (PHCs) and health sub-centres form a team with the ICDS functionaries to achieve convergence of different services. It is envisaged that a well-oiled, institutional co-ordination between the ICDS and the health department would enable proper utilisation of the services, material and other supplies.

The Ministry of Women and Child Development is responsible for the budgetary control and administration of the scheme at the centre. At the State level, Department of Social Welfare, Women & Child Development or the Nodal Department, as may be decided by the State Government, is responsible for the overall direction and implementation of the programme.

ICDS: The Main Actors

Many people are involved in the implementation of ICDS. The success of the programme depends on the active co operation between these different "actors".

Anganwadi Worker (AWW): She is the pillar of the programme. She runs the Anganwadi, undertakes community survey, enrolls eligible children, surveys the cooking and serving of meals everyday, conducts Preschool education activities, visits and distributes supplies to pregnant and lactating women .

Anganwadi Helper (AWH): Her duties are to bring the eligible children to the anganwadi, cook food for them and help in the maintenance of the centre.

Child development Project Officer (CDPO): The ICDS programmeme is organised as a collection of "projects". Each of these projects is managed by a CDPO. The CDPO's office is a sort of headquaters for the ICDS project.

Supervisor: The CDPO is assisted by "supervisors", who make regular visits to the anganwadis. The supervisors check the registers, inspect the premises, and enquire about the problems faced by the AWW and provide advisory support.

Auxiliary Nurse Midwife (ANM): She acts as the crucial link between the ICDS and the Health Department. Her main task is to organise immunisation sessions and provide basic health care services at the anganwadi.

Accredited Social Health Activist (ASHA): The National Rural Health Mission is set to create a cadre of women voluntary workers (ASHA) at the village level, who work with the ANM and AWW to improve the nut rition and health of women.

The Community: Community participation is an important element in the design of ICDS. It can take place through Gram Panchayats, Mahila Mandals, Self-Help Groups or just spontaneous Co operation.

NGOs: In some areas, NGOs play an active role in the implementation of ICDS. International organisations such as CARE and UNICEF often provide specific support to ICDS. For example, CARE used to supply food for the Supplementary Nutrition Programme and UNICEF has been helping in the supply of medical kits.

1. Status of the AWW/AWH

The ICDS scheme envisages the AWW/AWH who are the grass-root functionaries as 'honorary workers' from the local community who come forward to render their services. They being 'honorary workers' are paid a monthly honoraria as decided by the government from time to time.

Honorarium

At the beginning of the scheme in 1975, the AWW was paid an honorarium of Rs 100/- per month (non-matriculate) and Rs 150/- per month (matriculate) and the helper was paid Rs 35/- per month. Government has increased their honorarium from time to time. The current rate of remuneration is provided in Table 2.19.

Table 2.19 Revised rates of honoraria of AWW/AWW

(In Rs and US $)

Sl No.	Category	Previous honorarium (US$)	Revised honorarium from 1.04.08 (US$)
I	Anganwadi Worker		
A	Non-Matriculate	938 (US$ 20.41)	1438 (US$ 31)
B	Non-Matriculate with 5 years honorary work	969 (US$ 21)	1469 (US$ 32)
C	Non-Matriculate with 10 years honorary work	1000 (US$ 22)	1500 (US$ 33)
D	Matriculate	1000(US$ 22)	1500 (US$ 33)
E	Matriculate with 5 years honorary work	1031(US$ 22.4))	1531 (US$ 33)
F	Matriculate with 10 years honorary work	1063 (US$ 23)	1563 (US$ 34)
II	Anganwadi Helper	500 (US$ 11)	750 (US$ 16)
III	Anganwadi workers of Mini-AWC	500 (US$ 11) w.e.f. 01.01.2007	750 (US$ 16)

Note: *This does not apply to states like Madhya Pradesh, Chattisgarh, Rajasthan, Delhi, Mizoram & Jammu & Kashmir. In Tamil Nadu the rates are higher in comparison to the other states.*
Source: *Ministry of Women and Child Development, 2008*

The state of Tamil Nadu is an exception since it has been providing a higher salary to the workers right from the beginning. Currently the AWWs in Tamil Nadu are the highest paid in the country with a monthly salary of Rs 3,000/- (US$ 65) per month. Yet this was possible only through an organised struggle of AWWs who have been unionised and have been making repeated demands to the Government.

The other facilities extended to the AWWs are paid maternity leave and insurance cover. The GoI introduced 'Anganwadi Karyakatri Bima Yojana' to AWW/AWH w.e.f 1.04.2004 under the Life Insurance Corporation's Social Security Scheme.

In order to motivate the AWW and give recognition to good voluntary work, a scheme of award for AWW has been introduced both at the National and at the State level. The award comprises Rs. 25,000/- (US$ 541) cash and a citation at central level and Rs. 5000/- (US$ 108) cash and a citation at State level.

In addition to the honorarium being paid by the GoI, many states are also giving monetary incentives to AWW/AWHs out of their own resources for the additional functions assigned under other schemes of the State/Central Government. The payment of additional honoraria of Rs 500 (US$ 11) per month to the AWWs and Rs 240 (US$ 5) per month to the AWHs in the World Bank assisted projects w.e.f 1.4.2002 was carried out.

The low salary of the AWWs and the lack of recognition as a full-fledged worker in their own rights is an important bottleneck in the effective functioning of the workers since they are demotivated as they do not enjoy the same status as their other government counterparts. Significantly, the 'first teacher' is far below the primary teacher in terms of both social prestige and remuneration, and hardly receives any recognition since it is not mandatory for a childcare worker to have acquired a specific professional training (Christiana, 1999).

2. Training of Personnel

Gopal and Khan (1998) recommend that enhancing the skills of the creche workers in preschool activities is a priority need. Stonehouse (1980) also argues that training is a key component of quality in early childhood services. Training helps the staff to realise the importance of interacting with the children in a caring and educated manner and helps them to be sensitive to the children's individual needs as well as those of their parents. There is considerable evidence that interactions with children are positively influenced by staff training (Dreze, 2004).

On the other hand, there is little general appreciation of the need for training. "It is erroneously assumed that anyone can take care of young children, despite the growing wealth of research confirming the importance of teachers training to the quality of early childhood experiences" (Christiana, 1999). However, the training of ICDS functionaries is the most crucial component in ICDS Programme. The success of this component can be rated by the effectiveness with which

frontline workers empower community for improved childcare practices. Training of functionaries at all levels has been built into the programme. The National Institute of Public Co-operation and Child Development (NIPCCD) have been designated as an apex institute for training of ICDS functionaries. Training of Child Development Project Officers is conducted by NIPCCD. Training of Supervisors and Anganwadi Workers is organised by NIPCCD through selected organisations/ State Training Institutes called the Middle Level Training Centres and Anganwadi Workers Training Centres established in the States.

The UDISHA, a Sanskrit word meaning ***'the first ray of the new dawn',*** programme (1999 – 2004), was one of the World Bank assisted countrywide training for all ICDS beneficiaries and had three components such as

- Regular training (wherein basic job training is provided to ICDS beneficiaries)
- Other training (wherein innovative area-specific training is provided)
- IEC (Information, Education and Communication)

Despite several innovations in training, the World Bank funded Udisha Project, was unable to bridge the gap between the training programme and the reality the workers encounterd in the field, given that the training curriculum, methods and modules were centrally designed. Ongoing mentoring in addition to formal pre and in service training was critical in large-scale programmes to ensure that skills did not get eroded (Ved, 2009).

F. Special Projects in ICDS

A unique experiment called the Tamil Nadu Integrated Nutrition Project (TINP) was started in the state of Tamil Nadu in august 1980. The project, initially designed for 6 years, started with a survey of children below 6 years and found that the incidence of malnutrition was high among children below 3 years. Even in affluent households one-third of the children were undernourished (Chidambaram, 1989). This gave a new thrust to the programme by shifting the focus from children of 3 years age group to children below 3 years. The project also adopted strategies for communication and counselling for 'behaviour change' at the household level by zeroing on to the feeding practices and adopting selective feeding of undernourished children. This unique project with the overall objective of improving the maternal and child health and nutrition and the total development of the child under 5 years covered a total of 19 districts that included 318 blocks in 195 centres. This project was overseen by the Chief Secretary and the senior civil servants.

The project brought integrated health and nutritional services to almost 1 million children in rural South India through village-based Community Nutrition Centres. Short-term selective supplementary feeding, Oral Dehydration Therapy, immunisation, nutrition counselling, de-worming and prophylaxis against vitamin A deficiency were provided. Severely malnourished or those with growth failure were fed on a food supplement for 90 days (Sridhar, 2008). The food supplement called *laddu*, was made from cereals and pulses fortified with vitamins and iron and was given to the children till they were rehabilitated. Pregnant and lactating women also got their share of supplementary *laddu* (Swaminathan, 1996).

The Department of Evaluation and Applied Research (DEAR) through its various rounds of evaluation and monthly nutritional surveillance provided the data for assessing the impact of the Tamil Nadu Integrated Nutrition Project. The overall result with regard to the changes in the nutritional status of children covered was quite impressive. There was a marked increase in the nutritional status of the target group. For children in the age group 6 – 60 months, a steep decline (55.5 %) had been recorded in the percentage suffering from severe malnutrition (grade III & IV) in 72 months. Correspondingly an upward shift in the percentage of normal children and moderately malnourished children (grade I) was also observed. With regard to grade II, changes were both positive and negative largely due to the influence of the duration for which the study was conducted. In the course of the study, the children were divided into two groups, (i) 6 – 36 months and (ii) 37 – 60 months. The data revealed that there was a marked improvement in the second category when the observation is sufficiently large (Chidambaram, 1989).

A positive correlation between the duration of the project operation and the rate of reduction in severe malnourishment had also been seen. From the point of view of the sex of the target population, male children were benefited more. A higher rate of reduction in severe malnourishment was observed among children in the subgroup 13 – 24 months (ibid.).

1. ICDS I (1990 – 1991)

The World Bank evinced interest in funding schemes significantly contributing towards raising the status of health, nutrition and education of women and children. Encouraged with the success, the World Bank funded the ICDS programme. The first phase was implemented across five project areas in the tribal, drought prone and disadvantaged pockets of Andhra Pradesh and Odisha. The first World Bank project covering 110 blocks in Andhra Pradesh and 191 blocks in Odisha was launched in 1990 – 1991 and covered tribal blocks and socio-economically backward blocks in the two states.

2. ICDS II (1993 – 2002)

The Second World Bank Assisted ICDS-II Project came into operation in predominantly tribal and socio-economic backward areas of Bihar and Madhya Pradesh covering 210 blocks and 244 blocks respectively for a period of seven years. The Project became operational in 1993 - 1994 and continued up to the year 2000 – 2002. The ICDS II which ended on September 30, 2002 was in operation in 461 new blocks in the states of Bihar, Jharkhand, MP and Chattisgarh. These projects were later on covered under the restructured ICDS III projects.

3. ICDS III (1999 – 2004)

The World Bank Assisted ICDS-III Project became operational in March 1999 covering the states of Uttar Pradesh, Tamil Nadu, Maharashtra, Rajasthan and Kerala. The Project proposed to strengthen and improve the quality of ICDS services and management in the 685 existing ICDS blocks and introduced ICDS services in 318 new blocks. The Project was designed to cover tribal blocks, rurally disadvantaged blocks and urban blocks with poor outreach of basic services in these States. This coverage would universalise the ICDS scheme in the States of Kerala, Maharashtra and Rajasthan. Tamil Nadu had already come under the cover of the ICDS scheme. The Project had aimed to bring about a substantive impact on health and nutrition status of children and women in the Project States.

The restructured ICDS III inter alia included

I. Covering the erstwhile ICDS II projects (in Bihar, Jharkhand, Chattisgarh and Madhya Pradesh) in ICDS III from October 10, 2002 to September 3, 2004;
II. Expansion of ICDS III to two other states (Odisha and Uttaranchal) from October 10, 2002 to September 30, 2004;
III. Construction of model anganwadi buildings for 4,496 anganwadi centres in states which have not been provided civil works under ICDS Projects.

4. Andhra Pradesh Economic Restructuring (APER) Project

A new World Bank Assisted ICDS Project in Andhra Pradesh was also approved in March 1999 as a component of Andhra Pradesh Economic Restructuring Project. The Project proposes to expand the ICDS Scheme in 143 new blocks in Andhra Pradesh and enrich quality of services in 108 existing ICDS blocks. The total project cost for 5 years is estimated at Rs 392.75 crores. The World Bank assistance to the tune of US$ 75 million is available for the project. An amount of Rs 49.14 crores had been released till date for implementation of the project.

5. Co-operative Agency for Relief Everywhere (CARE)

An international voluntary organisation has been providing food aid, namely Refined Vegetable Oil (RVO), for supplementary nutrition under the ICDS Scheme. It has supported 747 projects in Andhra Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chattisgarh, Rajasthan, Uttar Pradesh and West Bengal. The food aid by CARE is now limited to RVO and the states have to bear the costs in respect of custom clearance and transportation. Besides CARE is also implementing some non-food projects in areas of maternal and child health, girls' primary education, microcredit etc.

G. Linkages of ICDS with Other Programmes

Since the ICDS Scheme is based on the strategy of an intersectoral approach to the development of children, co-ordination of the efforts of different programmes and departments at all levels is necessary. For the ICDS to achieve its objectives, an effective synergy is required between the Ministry of Women & Child Development and the Ministry of Health & Family Welfare, Department of Elementary Education, Department of Drinking Water Supply, Panchyati Raj to meet the requirements of health, sanitation, drinking water, preschool education etc. Similarly, synergy is necessary between different departments in the States too.

At the National Level, a Co-ordination and Advisory Committee has been set up to ensure co-ordination amongst all the concerned Departments/ Ministries and to advice, from time to time, on better delivery of services. Instructions previously given have also been reiterated to all States/ UTs to activate the Co-ordination Committees at all levels (State, District, Block and Village Level) and hold meetings at regular intervals.

H. Lacunae in Implementation

In ICDS as with other developmental programmes, there is a wide gap between policy and implementation. Saxena and Mander (2005) illustrate some of the implementation problems associated with the ICDS. The most striking pattern emerging from this case study is that the effectiveness of ICDS is constantly being held up due to sheer neglect. They have pointed out that there is a disruption in distribution of food in the anganwadis. In a few states the SNP has been interrupted for months, bringing the ICDS to a standstill as children stopped attending. The other problems include the under utilisation of financial assistance from the central government, failure to "operationalise" sanctioned projects, appointment of anganwadi workers without any training, long delays in salary payment, lack of essential infrastructure, to name a few.

Monitoring studies by Adhikari (2009) and Biswas (2009) indicate that the ICDS programme has many problems with implementation, as well as the programme design. One major implementation problem is that AWWs are inadequately trained, supervised and supported, while their duties require considerable understanding of nutrition, preschool education and maternal and child health issues. A second problem is the erratic provision of supplies (NIPCCD, 1992), and leakage in food procurement. Third, the food supplementation is poorly targeted: it is not confined to malnourished children, and reaches mostly children aged 4 – 6 years old, who are past the optimal window for influencing growth (Allen and Gillespie, 2003).

The NFHS - 3 data shows that only 81 percent of children under six years of age were living in an area served by an AWC. Accessibility is important, and in the study (WFP, 2006) covering four states, 88 percent of all respondents gave distance from the AWC as a reason for not using the AWC (Saxena and Srivastava, 2009). While services are important, not much is achieved if an AWC is closed. Only an average of 39 percent of children used any of the AWC Services in the 12 preceding months. Only 26.5 percent of the children have received supplementary nutrition and out of that only 12 percent regularly received it. The utilisation of other components of the programme is equally dismal. Only 20 percent of the children were immunised in the AWC and 82 percent had never had a health check-up. Only 0.1 percent availed of the medical services at the AWC in case of an illness.

A telling example is the lack of supervision in ICDS. In Bihar 85 percent of the supervisors' posts are vacant and 18 percent of ICDS "projects" do not have a single supervisor. Hence it is hard to believe anganwadis can be expected to provide quality services without any supervision (Kanani, 1998).

The implementation problems also reflect the sharp contrasts between the different states which present major quality variations. In Uttar Pradesh, SNP interruptions are common. When the food is available, it is just *panjiri*, a ready to eat mixture with a short shelf life. In Rajasthan, there is more regularity, but again no variety: '*murmura'* every day for all children, regardless of their age. By contrast, there are three items on the menu in Himachal Pradesh ('*Kichri', 'Dalia' and 'Chana'*), served on different days of the week and the supply is quite regular. The diversity and nutritional value of the food are even higher in Tamil Nadu, where two types of food are provided: (a) a hot lunch of rice, dal and vegetables are cooked with oil and condiments with eggs provided thrice a week for children between 3 – 5 years. (b) A fortified, precooked "health powder" (to be mixed with boiling water or milk) for children between 6 – 36 months. Further, SNP disruptions are rare in Tamil Nadu.

The challenges for states like Tamil Nadu, Karnataka and Bihar include exclusive breast feeding, where the child should be given only mothers milk till 2 years of age, and ensuring that the child gets a good quality diet under hygienic conditions. The states like Karnataka and Tamil Nadu have achieved the highest rates of immunisation coverage, but Vitamin A coverage and consumption of iodised salt are still low. Bihar, on the other hand has low coverage of even basic health services. The relatively low usage of ICDS services even among the poorest in Tamil Nadu as well as Bihar and Karnataka points to the need to fully understand the demand-side constraint (Menon et al., 2009).

A number of studies evaluating the implementation of ICDS have been conducted in the past. The National Council of Applied Economic Research (NCAER) undertook a nationwide evaluation in 1998 – 1999 and the Rapid Facility Survey in 2004. The major findings of the 1998 – 1999 survey conducted by NCAER are as follows:-

i) The Infant Mortality Rate (IMR) of ICDS areas is lower than IMR of Non-ICDS areas.
ii) Most of the AWCs across the country were located within accessible distance (100 - 200 metres) from beneficiary households. Another 10 percent were about 150 - 200 metres away. Rests were beyond 200 metres. Thus, the factor of distance of beneficiary households from the AWC was unlikely to affect the attendance at the AWC during inclement weather.
iii) Nearly 50 percent AWCs reported adequate space, especially for cooking.
iv) Most of the AWCs in the country, except those in Tamil Nadu, Kerala, Karnataka and Odisha were functioning from community buildings. Of the sampled data, about 40 percent were functioning from *pukka* buildings.
v) Though about 84 percent of the functionaries are reported to have received training, the training was largely pre-service training. In-service training remained largely neglected.
vi) One out of two AWWs was found to be educated at least up to matriculate level across the country.
vii) Toilet facilities were available in only 17 percent of AWCs across the country.

The Rapid Facility Survey by NCAER brought out the following facts:

i. More than 46 percent of the Anganwadis were running from pucca buildings, 21 percent from semi-pucca buildings, 15 percent from kutcha building and more than 9 percent were running from open space.
ii. More than 45 percent of Anganwadis had no toilet facilities and 40 percent had reported the availability of only urinal.
iii. 27 percent of Anganwadis reported that they did not have any drinking water facility. 39 percent of the Anganwadis had hand pump.
iv. More than 90 percent of the centres provided supplementary food, 90 percent provided preschool education and 76 percent weighed children for growth monitoring.
v. Supplementary nutrition was provided to children on an average of 24.84 days in a month i.e. 298 days in a year. Similarly, preschool education was conducted on an average of 27.5 days in a month, that is 330 days in a year.
vi. Nearly 50 percent of the Anganwadis reported availability of Mats, Shelf, Table, Chair, a national flag, vessels files, records, health cards, building blocks, counting frames, toys, books, scissors, stove and spoons.
vii. Nearly 90 percent of the Anganwadi's reported maintenance of records such as MPR, Immunisation, Weight, Pregnancy, Referral and a Daily Diary.

A study by Samaj Pragati Sahayog (2007) in 42 villages/towns of the Baghli tehsil, Dewas District of Madhya Pradesh revealed that the number of centres required as per the revised norms is at least double the number of centres in existence in Madhya Pradesh. Even when the ICDS centres are supposed to be in operation they are severely constrained by shortage of infrastructure and personnel. The survey reveals that

- 41 out of 59 anganwadis do not have a dedicated building
- 9 anganwadis do not have weighing machines for infants
- In 4 anganwadis the children between 0 – 3 are not given anything at all
- 47 anganwadis have more than 80 children enrolled. This is a clear case of overcrowding which is likely to adversely affect the quality of services
- Almost all anganwadis do not have essential utensils required to cook
- The money provided is inadequate

Needless to say, this case study is representative of how ICDS centres function in the remote, backward and tribal-dominated areas of a state such as Madhya Pradesh.

The governance problems limit the convergence by the anganwadi centres and education services at the village level; limit the integration of Gram Panchayats, NGO's and other civil society groups and consequently constrain delivery in terms of quality, availability, beneficiary targeting and resource utilisation at all administrative levels (Dubowitz et al., 2007). Additional challenges to the decentralisation of the planning and design of ICDS services refer to the limited capacity of the district-level staff to adequately assess and plan locally specific modification to the core ICDS programme and to elicit support from the communities (Seshadri, 2000).

I. Finances

ICDS is a centrally sponsored scheme implemented through the state government/UT administration with 100 percent financial assistance for inputs other than SN which the states were to provide out of their own resources from 2005 – 2006.With the gradual universalisation of ICDS, there has also been a steady increase in the financial outlay. The plan expenditure on ICDS rose from Rs 2,601.28 crore in the Eighth Plan to Rs 5,720.31 crore in the Ninth Plan. The Tenth Plan provided an allocation of Rs 11,684.50 crore for ICDS (GoI, 2007). The comparison between the budgetary allocations for ICDS from 2005 - 2009 for ICDS is presented in Table 2.20.

Table 2.20 Budgetary Allocation for ICDS in Union Budget, 2005 - 2009

Year	Amount (Rs) (Millions)	Percentage increase
2005 - 2006	31,420	30
2006 - 2007	40,870	30
2007 - 2008	52,930	19
2008 - 2009	63,000	19

Source: *GoI, 2005*

There has been a steep decline in the percentage increase during 2007 – 2009 over the two previous years. This is not commensurate with the need and the move to universalise ICDS.

Further, the provision and financing of ICDS services varies tremendously across the states with higher financing for nutrition programmes from state funds like Tamil Nadu (Seshadri, 2003) and underutilisation of central funds in Bihar (Supreme Court Commissioners' Report, 2007). The provision and financing is influenced by a number of governance challenges, including

- Complex and time consuming procurement and administrative procedures.
- Inadequate ICT capacity.
- Inadequate work environment and low recruitment of anganwadi workers.
- Inadequate knowledge and skill base of anganwadi workers and lower level functionaries due to ineffective and irregular institutional or community-based training and the absence of in-service training.
- Insufficient learning, supportive mentoring, monitoring and supervision, which is also due to transfer and tenure related high turnover rates of ICDS officials.

It has been decided to extend support to the states up to 50 percent of the financial norms or 50 percent of expenditure incurred by them on supplementary nutrition, whichever is less. This central assistance has been proposed to ensure that supplementary nutrition is provided to the beneficiaries for 300 days in a year as per nutritional norms laid down under the scheme (GoI,2009)

The sharing pattern of SN in respect of North Eastern States between centres and state has been changed from 50:50 to 90:10 ratio from the financial year 2009 - 2010. The Union Budget 2009 - 2010 has allotted Rs 6705 Crores for the ICDS (Ministry of Women and Child Development, GoI, 2009). As far as the other states are concerned, the existing sharing pattern of 50:50 will continue. The central assistance would be released normally, in four or more installments on a quarterly basis each year after receiving relevant statements of expenditure (GoI, 2008). As per the GoI report (2008) the sharing pattern between the centre and the state for ICDS has undergone periodical changes. It has been on a 90: 10 basis for the North Eastern Regions (NER). However, in case of the SNP the share is equally divided on a 50-50 basis.

Besides indigenous funding, the international funding agencies have also supported ICDS. The World Bank provided assistance to ICDS I to the tune of US$ 74 million and the available credit was fully utilised. The available World Bank credit for the project ICDS II (1993 – 2002) was a whooping US$ 194 million for the project period. The GoI had released an amount of Rs 450 crores (US$ 97, 18,173 million) to the states of Bihar and Madhya Pradesh since commencement of the project. Similarly ICDS III (1999 – 2004) got a credit from the World Bank at the rate of US$ 300 million and the GoI released Rs 75.90 crores to the states for the implementation of the scheme.

A new World Bank assisted ICDS Project in Andhra Pradesh was also approved in March 1999 as a component of the Andhra Pradesh Economic Restructuring Project. The project proposed to expand the ICDS scheme in 143 new blocks in Andhra Pradesh and enrich the quality of services in 108 existing ICDS blocks. The total project cost for 5 years was estimated at US$ 85 million. The World Bank assistance to the tune of US$ 75 million was made available for the project.

J. Monitoring System under ICDS Scheme

The Ministry of WCD has the overall responsibility of monitoring the ICDS scheme, using its extensive network for gathering community level information on implementation. A Central Cell established in the Ministry collects and analyses the periodic work reports in prescribed formats received from the State Governments. The existing Management Information System ensures a regular flow of information and feedback between each anganwadi and the project, between each ICDS project and the State Government, and between the State Governments and the GoI.

A comprehensive Management Information System (MIS) for ICDS has been in existence for a long time. Records are maintained at every Anganwadi Centre (AWC) relating to the number of children and pregnant women and lactating mothers in every family, Community. Records of immunisation of every child in the catchment area of the AWCs and a register for supplementary nutrition for children and pregnant and lactating mothers are also maintained. Selected information from the Anganwadi level is included in the MIS at the block, district, state and national levels. This information helps in monitoring the number of children and women receiving supplementary nutrition, preschool education, immunisation as well as information relating to nutritional status of children.

The flow of information is not only upwards but also downwards through the State Governments. The data generated in all the AWCs are recorded in the prescribed records and registers maintained at the AWCs. The supervisor is responsible for the collection of periodic reports from the AWWs. On an average, 25 AWCs are supervised by a Supervisor. Every month Supervisors collect the prescribed monthly progress reports (MPRs) from these AWWs and submit them to the Child Development Project Officer (CDPO) in charge of the project at the block level. Various quantitative inputs are first gathered from the Centres and are compiled at the project level. The CDPOs then consolidate the project level information. In districts where five or more than five ICDS Projects are in operation, there exists an office of District Programme Officer. The CDPO/DPO is required to take necessary corrective measures for effective implementation of the Programme. CDPO/ DPO send the prescribed reports to the State Governments every month. State Governments, in turn, send the consolidated reports on selected indicators to the Government of India.

K. Evaluation and Impact of ICDS

Reports on inputs of the ICDS scheme in tackling problems of health and nutrition in early childhood is divided, despite it being one of the most studied health and nutrition intervention. The Evaluation by the Planning Commission in 1982 found that the coverage of the target population of women and children by the three health services namely, immunisation, health check-up and referral services was rather meager. The study also found that, under the SNP, about 46 percent of the children, 70 percent of the pregnant women and 63 percent of the nursing mothers yet remained to be covered. The coverage of students within the age group of 0 – 1 by the SNP continued to be extremely unsatisfactory.

A study conducted by the National Institute of Applied Economic Research 1988 – 1999 reveals the following points:

- Infant Mortality Rate of ICDS areas is lower than the IMR of Non-ICDS areas;
- Community leaders were generally positive about the functioning of the AWCs (more than 80 percent in all states) while more than 70 percent found the programme to be beneficial to the community;
- More than 80 percent of the children were immunised against all major diseases in the country. AWCs have played a significant role in creating awareness about antenatal care in most of the states;
- Referral system was found to be quite weak in many states and needs a review;
- On an average nearly 66 percent of the eligible children and 75 percent of the eligible women were registered at the AWCs. This indicates lack of motivation on the part of the AWW in identifying and registering the entire eligible population.

The study by NIPCCD 2005 - 2006 attempted to compare the performance of ICDS with its earlier evaluation of 1992. Main findings of 2005 - 2006 appraisals have been compared with 1992 evaluation. A quick glance of the scheme's evaluation by the National Institute of Public Co-operation and Child Development has been tabulated in Table 2.21.

Table 2.21 Comparative evaluation of the NIPCCD study in 1992 and 2006

Indicators	1992 (%)	2005 – 2006 (%)
AWCs in pucca structure	43	75
No. of children registered (6 - 36 months)	45.40	57.15
No. of children availing ICDS services (6 - 36 months)	78	75.25
No. of children registered (3 - 6 years)	56	63.50
Pregnant & lactating mothers registered	77	87
Low birthweight children	41	29
Severely malnourished children (0 - 3 years)	7	1
Interruption in supply of supplementary nutrition	63.20	54

Source: Department of Women and Child Development, 2008.

The NIPCCD study shows that within a period of 14 years, though there has been considerable improvement in providing a proper building for the centres, there is still a gap. With regard to utilisation of facilities by the target group, the picture is even more discouraging. There is only a 12 percent increase in the percentage of registered children between 6 – 36 months of age and the percentage availing the services has gone down. A marginal increase in the registration of children is reported for the 3 – 6 years age group. However, the picture is slightly better with regard to pregnant and lactating mothers with the registered rate of 87 percent. It is likely that this higher coverage of pregnant and lactating mothers has led to a significant decline in low birthweight from 41 – 29 percent. However, the same cannot be held true for children between 6 – 36 months. With practically no change in the percentage availing the services and no improvement in the continuity of supply of SNP, the remarkable decrease in the percentage of severely malnourished children from 7 to 10 percent could perhaps be attributed to other factors. An important criticism of ICDS has been its inability to reach out to children below 3 years, with the exception of Tamil Nadu which under the TINP programme, made a specific attempt to reduce undernutrition among children below three.

The marginal or lack of impact of ICDS on the nutritional status could be due to the fact that originally ICDS had not been designed as a nutritional intervention programme but as a programme for the preschoolers. The resilient bias (overemphasis on feeding of older children) is flagged by Shanti Ghosh's paper (2006). Following on this, she points out that 'Universalisation with quality'

must encompass every aspect of ICDS and not just SNP (Supplementary Nutrition Programme). According to her there is a growing need to stress on children under three years of age and the need to implement better feeding practices at home itself.

Among the more recent literature, Bhasin et al. (2001) uses a sample of 1,243 older children (aged 7 - 13) in Delhi and find that children who attend ICDS in childhood are at a significantly lower risk of malnutrition than the non-participants; Saiyed and Seshadri (2000) reported that increased ICDS service utilisation among 0 - 36 months is associated with improved nutritional status. A well-known national study by NCAER (2001) monitors the programme inputs without evaluating impact. Other large studies examine ICDS projects that have been modified in some way from the general ICDS programme, such as TINP (World Bank, 2004), CARE-India's INHP programme (Johri, 2004) or SIDA's ICDS programme in Tamil Nadu (SIDA, 2000). Consequently, these results are not generalisable to the national ICDS programme.

From the design perspective, current intervention packages designed within the ICDS programme and the National Rural Health Mission (NRHM) are not adequately focused on specific nutrition outcomes even though they cover the right age range and seek to provide an integrated set of services across this age group. The specific interventions within this programme package do not include effective interventions, such as high quality of age-appropriate counseling to support infant feeding, provision of micronutrient supplements to other means of improving the diets of young infants. There is a lack of convergence with the other sectors to ensure the provision for other inputs such as health care, water and sanitation to reduce undernutrition.

Debates on the use of packaged foods versus hot cooked meals, have often deflected attention from other critical gaps, that is, the lack of emphasis on building awareness and support for infant feeding, ensuring the nutritional adequacy of children's diet and access to water and sanitation and preventive health care (Raabe et al., 2009). Gupta (2006) presents specific prescriptions on IYCF (Infant and Young Child Feeding): "exclusive breastfeeding for the first six months and continued breastfeeding for two years and beyond, along with adequate and appropriate complementary feeding after six months. The effectiveness of this approach has already been established in various contexts, including a recent experiment conducted by the Breastfeeding Promotion Network of India (BPNI) in Gujarat[1] (Gupta and Gupta, 2004).

[1] Other positive experiences with nutrition counselling are mentioned in the paper by Samir Garg and Shanthi Ghosh (2006)

The case for paying greater attention to children under three is compelling enough. Further work is required on the specifics of this challenging task. There have been useful attempts, in some states, to reach out to children under three through "take home rations" and other means. But effective services for this age group require the appointment of additional anganwadi workers, in charge of home visits, nutrition counselling and so on. The success of these activities, in turn, depends on innovative communication techniques, adequate training, effective supervision, community support and related inputs.\

Needless to say, the wake-up call for children under three should not be read as an argument for discontinuing feeding programmes for the older children, or for 'rationalizing' other ICDS services. Nor should the extension of ICDS to children under three come at the expense of timely universalisation. Rather, it needs to be seen as an integral part of the task of "Universalisation with quality" (Dreze and Jean, 2006)

One of the crucial determinants of the programme's success is programme placement, that is, whether the ICDS centres are allocated to the area with the highest level of malnutrition. Despite the importance of this problem, there has been little formal analysis of programme placement. Nutritional supplementation programmes have been tried in many settings and their outcomes have been mixed. But there is little evidence of the impact of large-scale programmes for supplementary feeding. Reviews by Allen and Gillespie (2003) show little evidence of success due to a variety of problems, including leakages, inadequate institutional capacity to meet the formidable challenges of implementing such programmes on a wide scale and inadequate effort to target needy children at the optimal ages for influencing growth. The heavy focus of the ICDS on nutritional supplement leads to the relative neglect of other more cost-effective approaches to improving nutritional outcomes.

As things stand, health services under ICDS are quite patchy. Hariss and Kohli (2009), found a close correspondence between the levels of under nutrition and vaccination coverage in the rural areas across the states, with Odisha as an outlier (52 percent have received vaccination). In the FOCUS survey by the Citizens Initiative for the Rights of Children under Six (2004) about 60 percent of the mothers stated that immunisation services were being provided at the local anganwadi and 84 percent of the anganwadi workers reported that immunisation sessions had taken place during the preceeding 30 days. While the last figures may be exaggerated, the former is likely to be on the lower side because immunisation sessions are not always conducted at the anganwadi itself, even when they are convened by the anganwadi workers. Apart from this, direct provision of basic health services at the anganwadi needs to be revived. For instance, many anganwadi workers interviewed in the survey said that the supply of medical kits had been discontinued.

Preschool education (PSE) is another neglected aspect of ICDS. In the FOCUS survey (ibid.), Tamil Nadu was the only state with a really effective PSE programme. In Tamil Nadu, 89 percent of the mothers said that PSE activities were taking place at the anganwadi and among those, 91 percent felt that these activities were "useful". This gap is all the more unfortunate as PSE has a great potential as a "selling point" for ICDS. The interviewed mothers expressed a strong desire to see their children learn something at the anganwadi. A study conducted by the M. S. Swaminathan Research Foundation (2000) suggested that fine and gross motor activities, language and reasoning experiences and social development showed the strongest relationship with a child's cognitive and language development, thereby suggesting that activity and play is an important part of children's learning.

Children in the anganwadi centres had more opportunities to receive such developmental inputs when compared to children from private nursery schools and those run by NGO'S. The FOCUS survey, however, comes up with the idea that locating the anganwadi near school premises is a good idea provided that the Primary School is relatively close to the children's houses. A study by Pandey (1991), also reveals that the ICDS attendance has a positive influence on the cognitive development of children. The mean cognitive score of the 'attenders' was 40.7 as against a mean score of 30.3 in the case of 'non-attenders'.

L. Functioning of ICDS Centres in the Different States

The 61st round of the NSSO (2004 – 2005) provides useful information on the reach of and access to ICDS in rural areas. The data on rural households report that at least one person benefits from the ICDS. Interestingly the states like Odisha and Chhattisgarh, generally regarded as the backward states have the highest coverage. The poor performers with regard to ICDS are Bihar, Jharkhand, Uttar Pradesh, Punjab, Rajasthan and Jammu and Kashmir. The achievements of Tamil Nadu's nutrition efforts to improve scale and quality of services are recognised; however, earlier efforts were not fully sustained due to later changes in the operational design and management (Heaver, 2002). New challenges for Tamil Nadu include ensuring a preventive focus, increasing access, sustaining staff motivation and increasing demand for services (Rajivan, 2006). In spite of a long history of movements addressing caste-based equity, implementing feeding programmes and improving health services, recent studies suggests that women's status and male alcohol consumption are significant barriers in Tamil Nadu (Harris-White, 2004; Sridhar, 2008).

The data on beneficiaries availing ICDS as per the social category depicts that at an all India level, a higher proportion of Schedule Castes (SCs) and Schedule Tribes (STs) households avail the ICDS as compared to Other Backward Classes (OBCs) and 'other households'. But this is not the case in poorly performing states like Bihar and Uttar Pradesh. State Level Reports of the NFHS – 3 (2005 – 2006) rounds which are available for some of the states throw light on inclusion/exclusion aspects of access and service provision. Overall, one can say that the ICDS scheme tends to be utilised by the poorer and the socially vulnerable households to a greater extent as compared to the ones which are better off and not socially vulnerable. Though the basic framework and operational guidelines of ICDS are the same everywhere, the results vary a great deal depending on the social and political context.

The issues that are to be addressed by ICDS, such as maternal/child health or nutrition or adolescent health, are as much about social norms as they are about poverty, access to resources etc. especially in rural areas and among the poor. Pregnancy and childbirth are extremely private issues, rarely addressed beyond the circle of concerned women. Women and children, the beneficiaries of the ICDS programme, are not given any importance in the community and therefore the anganwadi centre is also not given any respect. For example, the message that women must eat green leafy vegetables, eggs, milk, fruits and so on fall into deaf ears. It is assumed that it is enough to tell women that they should take care of themselves and eat a good diet. It does not matter that social norms to encourage such practices and support structures to make them possible, do not exist (Bhatty and Kiran, 2006).

The poor condition of women and child health in India is not a matter of wide concern and public debate. Governments are seldom pulled up for not succeeding in providing better access to health and nutrition to the most vulnerable. The state of child health or the functioning of the ICDS centre rarely makes headlines in the newspaper. It is therefore not very surprising that the anganwadi centre or the Primary Health Centres (PHCs) do not function effectively. Today due to the Supreme Courts initiative, there is some emphasis on universal coverage of ICDS. However, the anganwadi is still not explicitly acknowledged as an institution created to fulfill the state's obligation towards the protection of the rights of the mothers and children. This issue requires further mobilisation (Sinha, 2006).

M. Community involvement in ICDS

The GoI has taken efforts to make the ICDS a predominantly supply-side driven mode of programme implementation (GoI, 2007) and also aim to strengthen the demand side. Recent demand-side initiatives seek to make community members more aware about their entitlements and involve them in programme implementation to create a sense of ownership. The 73rd and 74th Constitutional amendments have created vibrant new partnerships — to reach the most disadvantaged and under-served, and the most vulnerable — the young child. To ensure the involvement of the community, every anganwadi should have a mothers' committee that meets regularly to review and monitor the functioning of the centre (Menon, 2009). However, these women do not know what role they are supposed to play. As there is little respect for this committee it often remains on paper and makes little difference on the ground. Since there is no public debate and discussion in the community on the anganwadi centre, its function and purpose; the mothers' committee does not provide for a meaningful community involvement.

Case study evidence suggests that where the anganwadi workers come from 'well-connected' families, complaints by community members are very minimal. This would mean that though complaints may exist they are not reported due to obvious reasons. Hence, there is a need to stop problems related to local elite capture and to promote the role of communities and that of community-based monitoring. However, the field evidence suggests that caste politics can easily limit the effectiveness of this approach. Similarly, the Right to Food Campaign (2008) also warns that community appointment may not address all caste, class and gender-based needs within diverse communities.

UNICEF's Dular programme in Bihar (1999) trained local volunteers as Local Health Resource Workers (LHRWs) (RAND, 2008). While the facilitating role of UNICEF helped address operational bottlenecks, the LHRWs were crucial in creating community ownership, awareness about services and accountability while working within the system.

In many states devolution of powers to Panchayat Raj institutions has also involved transfer of some functions for managing and monitoring ICDS to District Zilla Parishads, Block Panchayat Samities and Gram Panchayats. This constitutes a major opportunity for rooting development programmes more firmly into the community with the active participation of women. The Gram Panchayat will help create a supportive environment for child care, by enlisting a better teamwork from frontline workers (AWHs, AWWs, ASHA) to ensure convergence of services.

The ICDS programme reaches out to a very small portion of the population, giving the impression that it is a project and not a universal entitlement. The number of beneficiaries gets fixed on an arbitrary basis and there is no flexibility to change it. Hence the ICDS is seen not as rights-based institution but as a *podi* (powder) centre where, once in a while, some white powder is distributed on the basis of the AWWs likes and dislikes! This lack of public ownership of the programme also opens the door to large-scale and blatant corruption. In some places the supplement is sold off to farmers to feed buffaloes and in some other places it is used as anganwadi 'jaggery' to prepare festival sweets. Involving the community in ICDS is important so that the village feels a sense of ownership in the centre. It would also render the AWW more accountable and acceptable to the community.

Agricultural Marketing in India

A. Background

Agriculture in the broadest sense means activities which aim at the use of natural resources for human welfare, and marketing connotes a series of activities involved in moving the goods from the point of production to the point of consumption (GoI, 2005). Specifically the subject of agricultural marketing includes marketing functions, agencies, channels, efficiency and cost, price spread and market integration, producer surplus etc. It acts as a link between the farm and the non-farm sectors.

Marketing plays an important role not only in stimulating production and consumption but in accelerating the pace of economic development in countries. It comprises of all operations and the agencies conducting them, involved in the movement of farm-produced foods and raw materials from farm to the final small share of the consumer rupee reaching the farmers (Acharya, 2004). An efficient marketing system is essential for the development of the agricultural sector providing incentives to farmers for commercialisation, increasing production and giving appropriate signals for production planning and research activities. It should encourage competition among the traders and protect the interests of the small and marginal farmers whose bargaining and holding capacities are limited (Acharya, 2006).

Agricultural marketing involves in its simple form the buying and selling of agriculture produce. As per the National Commission on Agriculture (2006), agricultural marketing as a process starts with a decision to produce a saleable farm commodity and it involves all aspects of market

structure, both functional and institutional, based on technical and economic considerations and includes pre- and post-harvest considerations, assembling, grading, storage, transportation and distribution.

The objectives of an efficient marketing system are

- To enable the primary producer get the best possible returns.
- To provide facilities for lifting all the produce the farmers are willing to sell at an incentive price.
- To reduce the price difference between the primary producer and the ultimate consumer, and
- To make available all products of farm origin to consumers at a reasonable price without impairing the quality of the produce.

B. Marketing Channels

The channels of marketing play a key role in affecting the prices paid by consumers and the shares received by the producers. The shorter the channel, lesser the market costs and cheaper the commodity to the consumers. The channel which provides the commodities at a cheaper price to consumers and also ensures greater share to producers is considered as the most efficient channel.

The channels are distinguished from each other on the basis of market functionaries involved in carrying the produce from the farmers to the ultimate consumers. The length of the marketing channel depends on the size of market, 'perishability' of the commodity and the nature of demand at the consumer level. The marketing channels for agricultural commodities in general can be divided into the following four broad groups:

1. Direct to consumers
2. Through wholesalers and retailers
3. Through public agencies or co-operatives, and
4. Through processors.

The existing systems of agricultural marketing in India include

1. Sale to moneylenders and traders: A considerable part of the produce is sold by the farmers to these people.
2. *Hats* and *Shanties* (local markets)**:** These are held twice a week and after long intervals on special occasions.

3. *Mandies* or wholesale markets: The wholesale markets serve a large number of people and are generally located in the cities.
4. Co-operative marketing: To improve the efficiency of agricultural marketing and to save the farmers from exploitation and malpractices of middlemen, emphasis has been laid on the development of cooperative marketing societies. These societies collect the surplus from their members and sell it to the *mandi* collectively.

1. Features of the Marketing Channels in India

The quantities moving in these sets of channels vary from commodity to commodity and state to state. The general features of these can be summarised as

a) The proportion of marketed surplus going directly from the farmers to the consumers continues to be small and has decreased over the years. As the price received by the farmers in direct sale to the consumers is better and the consumer also benefits as he pays a lower price, the government is now encouraging direct marketing by the farmers through such schemes as *Apni Mandi, Rythu Bazar and Uzahavar Sandais*.

b. The private traders, despite government intervention, continue to dominate the trade in agricultural commodities. Thus, nearly, 80 percent of the marketed surplus of agricultural products in India is handled by the private sector.

c. The main functionaries in the marketing channel for agricultural commodities include village traders, primary and secondary wholesalers, and commission agents. Public agencies, farmers' co-operatives and consumers' organisations also perform many of these marketing functions.

d. Marketing channels for cereals in India are more or less similar. The common marketing channels identified for, say wheat, are

1. Farmer - consumer
2. Farmer - village trader - consumer
3. Farmer – wholesaler – retailer - consumer
4. Farmer - village trader – wholesaler – retailer - consumer
5. Farmer – wholesaler - wheat miller (flour mill) - retailer of consumer
6. Farmer - government agency (FCI) - wholesaler or flour miller – retailer - consumer.
7. Farmer - government agency (FCI) - Fair Price Shops - consumer

Of the above, the most important marketing channels from the standpoint of quantity handled are 3, 5, 6, and 7.

2. Marketing of Fruits and Vegetables

The fruits and vegetable market is highly decentralised having wide capacities. There have been concerns regarding the efficiency of marketing of fruits and vegetables and that this is leading to a high and fluctuating consumer prices and only a small share of the consumer rupees reaching the farmers. Market of horticultural crops is complex especially because of perishability, seasonality and bulkiness. Further, the degree of perishability, variety and quality, and various market imperfections, market infrastructure etc. also influence the marketing costs and price levels. Moreover, the marketing arrangements at the different stages also play an important role in price levels at various stages viz. from farm gate to the ultimate user.

Marketing channels for fruits and vegetables vary from commodity to commodity and from producers to producers. In rural areas and small towns, many producers also perform the function of retail sellers. Large producers directly sell to processors or transport to distant markets.

The common marketing channels for fruits and vegetables are

1. Farmer - consumer
2. Farmer - primary wholesaler - retailer/hawkers - consumers
3. Farmer – processor - retailer of processed products - consumers
4. Farmer - primary wholesaler - processor
5. Farmer - primary wholesaler - secondary wholesaler - retailer/hawker - consumer
6. Farmer - pre-harvest contractor - primary wholesaler - consumer

There are often six to seven and sometimes even eight intermediaries before the produce reaches the consumers. Each intermediary adds to the margin. According to the available information, the producer gets about 25 – 30 percent of the consumers' price in case of wheat, maize and rice. However, producers of milk and milk products through the *Anand model* get about 60 percent of the final price. In case of fruits and vegetables, the markup reaches about 60 percent of the cost.

Producers' share was found to be relatively high in areas where better infrastructure facilities for marketing were made available. Substantial variation in the producers' share in the consumers' rupee of fruits and vegetables was also observed even in the same location itself. The sale of fruits is generally through the pre-harvest contractors so that the farmers get an advance payment to cover their risk. In case of certain fruits, vegetable crops and also speciality crops, a new agri-business

model of pre-production agreements between the farmers and corporate houses is being practiced. Mostly, vegetables are sold through commission agents and very little pre-harvest contracting is done. Hence, the net returns are generally low. The producer of fruits and vegetables cannot go to the wholesale market or distant markets and hence have to depend on some intermediaries to sell them. Attempts are being made for building up linkages between the farm and the markets. Some of these attempts in certain pockets including contract farming arrangements are for tomato crop in Punjab (Hindustan Lever Ltd. and Pepsi), for wheat in Madhya Pradesh (Rallis and Hindustan Level Ltd.) and for basmati rice in Punjab.

In spite of the fact that the agriculture produce market sector has a very large number of players, due to infrastructural bottlenecks, geographically dispersed market places, absence of well-organised market, there are localised monopolistic tendencies and manipulations which adversely affect the growers. To protect the interests of the producers as well as the consumers there is a need to regulate the markets.

Some of the features observable in the functioning of the markets over the years are

a. There has not been conspicuous change in the types of middlemen existing in the marketing system over time except that the role of processors has increased in some commodities.
b. Bakeries, flourmills, dal mills and fruits and vegetable processors have entered the marketing channel and they now handle a considerable segment of the total output.

C. Role of the State

Most agricultural commodity markets generally operate under the normal forces of demand and supply. However, with a view to protecting farmers' interest and to encourage them to increase production, the Government also fixes Minimum Support / Statutory Prices for some crops and makes arrangements for their purchase on state account whenever their price falls below the support level. Besides the administrative price regime which covers the declaration of Minimum Support Prices (MSP) for selected crops, Statutory Minimum Prices (SMP) for sugarcane, levy price for rice and sugar and the central issue price for rice, wheat and coarse cereals for sale under the PDS, there is also direct entry of the Government through the public agencies in the market. Stocks of rice and wheat are maintained by the state, cereals and sugars are distributed through the PDS at prices lower than the market price and there are open market operations by public agencies to ensure orderly price movement of important agricultural commodities. In addition, the Government has also encouraged co-operative organisations to undertake marketing functions on behalf of the farmers. The role of Government is normally limited to protecting the

interests of producers and consumers, especially in respect of wage goods, mass consumption goods and essential goods.

1. Procurement of foodstuffs by the Government

Role of the government

The Government of India has all along considered it important to ensure prompt and uninterrupted supply of food. The agricultural policy in pre-independent India was one of minimal state intervention. Rationing accompanied by procurement was introduced in some areas as a wartime measure and then continued through the Bengal famine period. Due to exigencies of post-independence, the policy was continued and expanded. The government has been intervening in agriculture marketing through direct procurement from the farmers, price support, and maintenance of buffer stock, the public distribution system and open market operations.

An analysis of the food policies followed in India over the last 60 years indicates that the success of food-distribution policies has depended to a great extent on the government's ability to provide adequate supplies to all areas. Internal procurement of food grains was considered to be important in building up the required supplies. The FCI was established in 1965 to handle this. Rice and wheat, the staple food of the population, accounted for the major share of procurement of food grains.

The primary objectives of food grain procurement by the Government agencies are

1. To ensure that the farmers get remunerative prices for their produce and do not have to resort to distress sale.
2. To provide service to the Targeted Public Distribution System (TPDS) and other welfare schemes of the Government so that subsidised food grains are available to the poor and the needy.
3. To build up buffer stocks of food grains to ensure food grain security.
   (GoI, 2009)

The Minimum Support Price

The Government of India operates a scheme of Minimum Support Price (MSP) for major crops. These prices are announced well before the commencement of the crop season every year. This is basically done keeping in view the interests of the farmers and also the need for self-reliance in production. All the food grains conforming to the specifications offered for sale at the specified procurement centres are either bought by the public procurement agencies at the MSP fixed or sold in the open market depending on what is advantageous to them.

This price support policy of the Government is directed at providing insurance to the farmers against any sharp fall in the farm prices. The MSP is fixed beyond which the market price cannot fall. The MSP is announced every year for 24 selected *Kharif* (Summer crop) and *Rabi* crops (winter crop) including rice, wheat, oilseeds etc. The procurement prices are announced by the government after considering the recommendations made by the Commission of Agriculture Costs and Prices (CACP). Besides the cost of production, the CACP considers other factors such as demand - supply gap, price situation, global availability, inter-crop parity and terms of trade between agriculture and non-agriculture sectors for fixing the MSP. A comparison of the MSP provided for different crops during the year 2008 – 2009 and 2009 – 2010 is provided in Table 2.22.

Table 2.22 Minimum support price for major crops, 2009 - 2010

Sl No.	Commodity	2008 – 2009 (Rs/Quintal)	2009 – 2010 (Rs/Quintal)	Increase in MSP 2008 – 2009 over 2009 – 2010 (%)
	Kharif Crop			
1.	Paddy	850*	950*	11
2.	Jowar	840	850	1
3.	Arahar (Tur)	2,000	2,300	13
	Rabi Crop			
5.	Wheat	1,080	1,100	2
6.	Gram	1,730	1,760	2
7.	Masur (lentil)	1,870	1,870	-

Note: ** An additional incentive bonus of Rs 50 per quintal was payable over the Minimum Support Price (MSP)*
Source*: Economic Survey 2009 – 2010*

The MSP is decided by the Government taking into account the recommendations of the Commission for Agriculture Costs and Prices. The government has fixed the MSP's of 2009 – 2010 for *Kharif and Rabi* crops. A look at the Economic survey 2009 – 2010 reveals that the MSP for paddy (common) has been raised by Rs 100 per quintal and fixed at Rs 950 per quintal. An incentive bonus of Rs 50 per quintal is also payable over and above the MSP of paddy. The MSP of *Arhar (Tur Dal)* has been raised over the 2008 – 2009 level by 300 per quintal and fixed at Rs 2,300 per quintal. Similarly, the MSP for wheat has

been raised to Rs 1,100 from 1,080 per quintal. MSP for gram has been raised by Rs 30 and is currently fixed at 1,760 from 1,730 in the year 2008 – 2009. *Masur dal* (Pulses) MSP has been retained at their previous years level of Rs 1,870 per quintal.

Market Intervention Scheme

While the price support scheme for rice and wheat is implemented by the Department of Food and Public Distribution, the Department of Agriculture and Co-operation is implementing the price support scheme for procurement of oilseeds and pulses. This Department is also in charge of the Market Intervention Scheme (MIS) on request from the state governments for the procurement of horticultural and agricultural commodities generally perishable in nature and not covered under the Price Support Scheme. The MIS is implemented in order to protect the growers of these commodities from making a distress sale in the event of a bumper crop when there is a glut in the market and prices fall below the economic level/cost of production. The procurement under the MIS is made by National Agricultural Co-operative Marketing Federation (NAFED) as the central agency and other state designated agencies. However, losses, if any, incurred by the procurement agencies are shared between the central government and the concerned state governments on 50:50 basis (75:25 in case of the North-Eastern States). The amount of loss to be shared by the central government and the concerned state governments is restricted to 25 percent of the procurement cost but profits, if any, are retained by the procuring agencies (Economic Survey, 2008 - 2009).

Food Corporation of India (FCI) :

The FCI was set up under the Food Corporation Act 1964. It was set up to secure strategic position in food grains trade and implements the National Policy for Price Support operations, procurement, storage, inter-state movement and distribution operations — in short to operate the Central Pool. Today, FCI is the country leader in food grains management and is fully focused on helping farmers feed the country better and more efficiently, today and tomorrow.

Strengths of the Food Corporation of India

- Facilitator for Food Security
    - ❖ Provides the price and market assurance to the farmers
    - ❖ Ensuring steady food grain supplies to 5 lakh FPS for the PDS to cover 141 million people Above Poverty Line / 67 million card holders
    - ❖ Ensuring food for all other welfare schemes

- Management capability and experience
    - ❖ A large pool of talent managing the world's largest food grain operation on behalf of the Government of India
- Enormity of sale
    - ❖ Countrywide network of offices and strategically located food storage depots
    - ❖ Operates in *mandis* / purchase centres located within 10 Km proximity to farmers
    - ❖ Undertakes purchase of about 30 - 40 million tonnes annually making it the largest buyer in the world

- Food grain preservation/warehousing/transportation management
    - ❖ Maintains the quality of millions of tonnes of food grains through scientific management techniques
    - ❖ Maintains storage depots all over the country to provide physical access to remote inaccessible areas
    - ❖ Timely movement of food grains from procuring states to consuming states

The FCI's operation in India

1. The FCI along with the other Government agencies provides effective price assurance for wheat, paddy and coarse grains.
2. The FCI and the state government agencies in consultation with the concerned state governments establish large number of procurement centres throughout the state to facilitate the purchase of goods.
3. The procurement centres are located in such a manner that the farmers are not required to cover more than 10 Km to bring their produce to the nearest purchase centres of the major procuring states.
4. Price support purchases are organised in more than 12,000 centres for wheat and in also more than 12,000 centres for paddy every year in the immediate post-harvest season.

Storage management by FCI

An important facet of the FCIs manifold activities is the provision of scientific storage for the millions of tonnes of food grains procured by it. In order to provide easy physical access in deficit, remote and inaccessible areas, the FCI has a network of storage depots strategically located all over India. These depots include silos, godowns and an indigenous method developed by FCI called Cover and Plinth (CAP)

Such extensive and effective price support operation, storage facilities and to add to that efficient transportation facilities have resulted in sustaining the income of the farmers over a period and in providing the required impetus for higher investment in agriculture for improved productivity.

2. Regional variations in procurement and distribution

An examination of the procurement mechanism across the states reveals that Punjab was the largest contributor followed by Andhra Pradesh in the procurement of food grains. Tamil Nadu, Madhya Pradesh, Karnataka, Odisha and West Bengal accounted for most of the remaining quantities procured. The procurement efforts were not uniformly spread in these states since the Central Government controlled inter-state movement of food grains. Regarding regional variations in productivity, there have been substantial variations in the yield levels of principal crops from region to region. The nature of variations in the yield levels of rice, wheat, all cereals and food grains among the states is very vivid.

In addition to procurement, the FCI is also involved in storage, movement and distribution. The other agencies engaged in procurement operations in the various states are Civil Supplies Department, the State Food and Civil Supplies Corporation and State Co-operative Marketing Federations. After meeting the states minimum requirements, the food grains procured by these agencies are handed over to the FCI for the central pool (IIM, 2007). Thus, the FCI handles a major portion of the procurement either by direct or indirect purchases and movement of food grains from surplus to deficit areas (See box on Pg. 81) The FCI through its operation tries to ensure stability in food supplies to people all over the country, specially the vulnerable sections.

FCI is fully owned by the GoI having a paid-up capital of Rs. 2,523.75 (FCI, 2009). The GoI provides funds to the FCI to meet the cost of fixed assets such as offices, godowns, silos, railway sidings and weighbridges. FCI operates through a countrywide network with its Corporate Office in New Delhi, 5 Zonal Offices, 23 Regional Offices practically in all the State capitals, 165 District Offices (as on 01.10.2008) and 1,470 depots (as on 01.01.2007). Most of the Revenue Districts in the country are covered by FCI (Murthy and Ramanayya, 2007).

FCI issues the food grains at the Central Issue Price fixed by the GoI to meet the commitments of the PDS and for building pipeline and buffer stock. The issue prices so fixed do not cover the full economic cost incurred by the Corporation in the procurement, movement, storage and distribution of food grains. The difference represents the consumer subsidy for the PDS and is paid to the FCI by the GoI. The subsidy expected to be incurred and claimed by the FCI for the year 2008 - 2009, for its operations to

provide food grains to the needy sections, amounts to over Rs 48,445 crores (US$ 1,064,655) per annum. The transportation and distribution costs account for nearly 30 - 35 percent of this subsidy. The FCI also maintains buffer stock of food grains on behalf of the GoI and gets reimbursed for the carrying cost of the same. The buffer stocks are maintained to guard against adverse impact of annual fluctuations in domestic output on price stability and food security.

Procurement of food grains

- The Food Corporation of India along with other Government agencies provides effective price assurance for wheat, paddy and coarse grains.
- FCI and the State Government. agencies in consultation with the concerned State Governments establish large number of purchase centres throughout the state to facilitate purchase of food grains.
- Centres are selected in such a manner that the farmers are not required to cover more than 10 Kms to bring their produce to the nearest purchase centres of major procuring states.

- In the last two decades, food grain procurement by the government agencies have witnessed a quantum jump from 4 million tonnes to over 25 million tonnes per annum.
- Foodgrains are procured according to the government - prescribed quality standards.
- Price support purchases are organised in more than 12,000 centers for wheat and also more than 12,000 centers for paddy every year in the immediate post-harvest season. These purchases constitute 15 – 20 percent of India's wheat production and 12 – 15 percent of rice production.
- This helps to meet the commitments of the Public Distribution System and for building pipeline and buffer stock

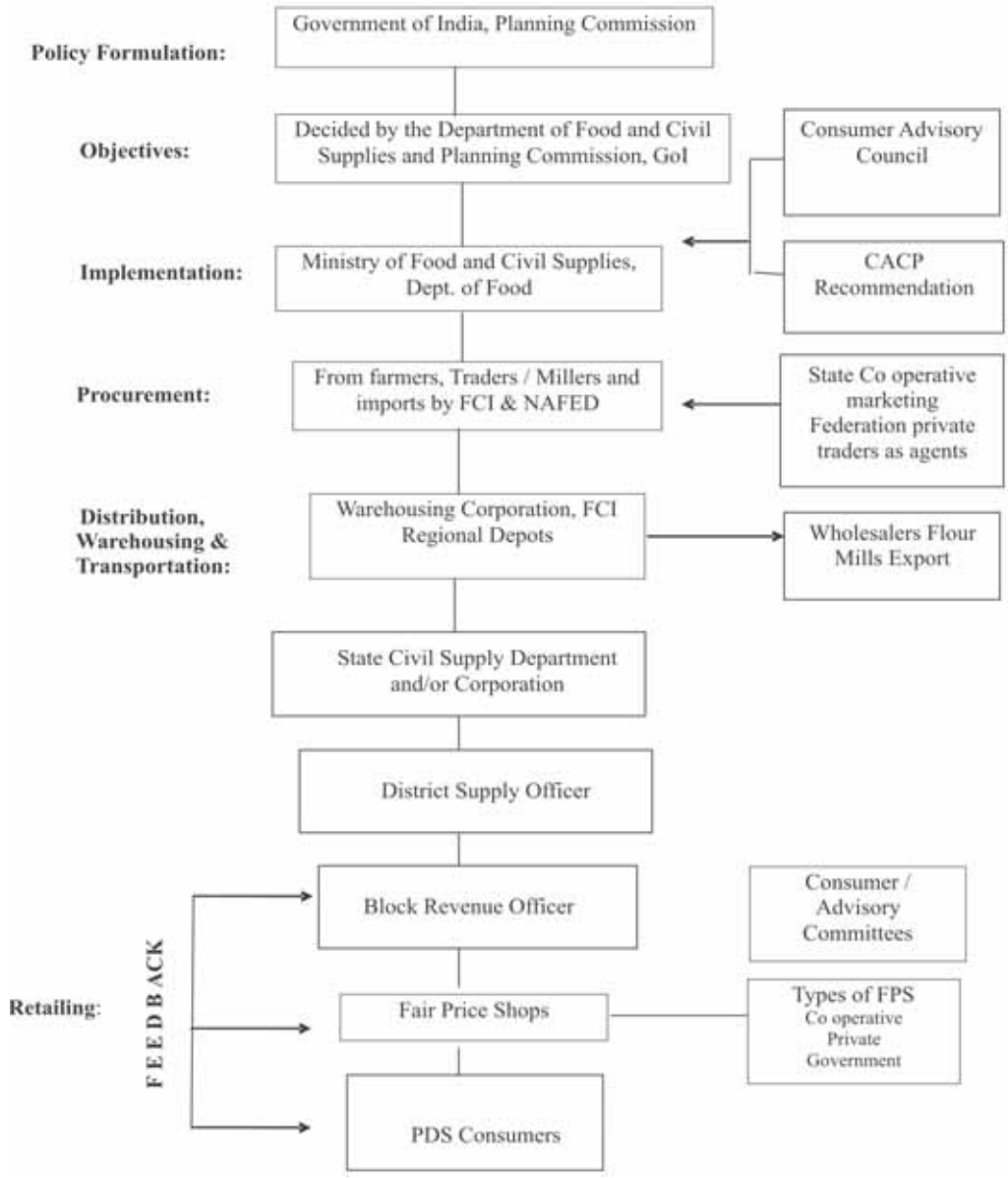
- Such extensive and effective price support operations have resulted in sustaining the income of the farmers over a period and in providing the required impetus for higher investment in agriculture for improved productivity.

- India today produces over 200 million tonnes of food grains as against a mere 50 million tonnes in 1950.

Source: FCI, 2008

The institutional framework created for food grain distribution includes Food Departments at the Central and State Government levels, CACP and the FCI. The food departments are responsible for making arrangements on all policy matters regarding food management and their implementation. The FCI undertakes purchases, handling, transport, storage and distribution of food items on behalf of the government. Thus, three major cornerstones of food-distribution policy (procurement, buffer stock operation and Public Distribution Shops) are supported by a number of auxiliary devices and institutional framework. A schematic diagram to explain the PDS operation is provided in Figure 2.3.

Figure 2.3 A schematic diagram of the Public Distribution System



***Source*:** Bapna (1990)

Procurement Methods:

States are free to determine specific procurement arrangements. There is no uniformity in procurement methods over a period of time, or at a given period. The three main systems of procurement are Monopoly Procurement and Open Market Purchases. They are presented here.

Monopoly Procurement: Monopoly Procurement exists where the government is in a position to handle the entire marketed surplus of all commodities.

1. Levy on Traders: Under this method, it is mandatory that the traders deliver a certain percentage of their purchases to the government at the procurement price fixed for it.
2. Open Market / Pre-emption: In this method of Open Market Buying, the government may buy at the going market price without itself entering competitive bidding. The market price is allowed to form through the normal process of competitive bidding and bargaining in the market continues.

The choice of a particular system depends upon the structure of production, the development of infrastructure including the marketing system, the nature of food situation, administrative organisation and experience of the state government (Ahluwalia, 1993). The procurement operations have been facilitated through restrictions on movement of food grains by private trade, particularly of rice and wheat, from one region to another. However, a number of economists have argued that the government should purchase food grains, if it must, through the FCI at a competitive price.

The procurement of wheat and coarse grains is done through Pre-emptive/Open Market purchases (except in Maharashtra for jowar). For paddy, which is traded in milled form, a levy on millers and traders is operationally more convenient. When the food situation was acute, monopoly procurement and graded levy was imposed by many rice-producing states. Besides cereals, the government is currently following a policy of partial control with dual pricing system for sugar. Under this policy, specified percentage of the total production of each sugar factory is procured by the government at controlled ex-factory levy price for distribution through the Public Distribution System at a uniform retail issue price (GoI, 2009).

3. A case for decentralization of procurement

The procurement policy as it operates now is largely centralised. There have been periodic arguments for decentralisation. A study by Murthy and Ramanayya (2007) has proposed a revised procurement policy that would exploit the self-sufficiency of food grains at the zonal level. Besides

minimising the zonal movement of food grains, this will bring about greater operational efficiency, reduce transportation and distribution costs and could be potentially more beneficial for the farmers. The study has done a zonal analysis of food production, its procurement, allocation and offtake.

Procurement of both wheat and rice is limited to a few states even though production information indicates that many other states also produce substantial quantities.

Table 2.23 Zonal analysis of rice and wheat (five years average, 1997 - 2002)

Zones	Commodities	Production ('000MT)	Procurement ('000MT)	Allotment ('000MT)	Off take ('000MT)
North	Wheat	55,378	14,242 (0.25%)	2,816 (0.05%)	1349 (0.02%)
	Rice	23,988	8,703 (0.36%)	1,450 (0.06)	761 (0.03)
South	Wheat	83	0	439 (5.52)	266 (3.55)
	Rice	22,580	6,671 (0.29)	6,866 (0.30)	5088 (0.23)
East	Wheat	5,196	9 (0.00)	1,870 (0.36)	1,146 (0.22)
	Rice	23,017	945 (0.04)	2,158 (0.09)	1,119 (0.05)
West	Wheat	9,177	365.2 (0.04)	2,001 (0.23)	1,235 (0.13)
	Rice	4,979	1,159 (0.23)	1,709 (0.35)	1,024 (0.21)
North-East	Wheat	94	0	283 (NA)	198 (NA))
	Rice	3,671	0	1,472 (0.40)	945 (0.26)

Note: *Figures in parenthesis indicate percentage of production*
Source: *IIM Bangalore, Working Paper No. 250, 2007*

FCI operates through five Zones namely the East, West, North, South and North-East.

North Zone: Punjab, Haryana, Uttar Pradesh, Uttaranchal, Himachal Pradesh, Chandigarh, Rajasthan, Delhi, Jammu & Kashmir.

South Zone: Andhra Pradesh, Karnataka, Tamil Nadu and Kerala.

East Zone: West Bengal, Bihar, Orissa and Jharkhand.

West Zone: Chattisgarh, Gujarat, Maharashtra and Madhya Pradesh.

North Zone: The North Zone's three rice-producing states Punjab, Haryana and Uttar Pradesh produce large quantities of rice, which is sufficient to meet the zone's requirements. Since the quantity for allotment and offtake are well within the procurement levels, the total requirement of wheat for this zone can be met by the total production of this zone itself. When compared to wheat, the allocation and offtake of rice is much lesser. The requirement for rice can also be met from the total production in this zone.

South Zone: The allocation and off take figures for rice indicate that on the whole the requirement for rice can be met by the total production in the zone. Speaking of wheat, the South Zone is a poor wheat producer and cannot fulfill the 1,100 thousand MT requirement. Hence, inter-zonal procurement is essential.

East Zone: The East Zone comprises of some of the major rice-producing states. The allocation and off take figures work out to less than 10 percent of their collective production. Regarding wheat, the East Zone produces wheat in quantities that can fulfill part of its requirement. However, no wheat is procured in this zone.

West Zone: The allocation (35 percent) and off take (21 percent) for the zone as a whole indicate that the requirement for rice can be met by the total production in the zone. Though the West Zone produces sufficient quantity of wheat to fulfill its needs, the procurement is just 4 percent of production in this zone. Therefore, inter-zonal procurement of wheat is a necessity.

North-East Zone*:* The North-East zone has minimal wheat production and hence there is a need for inter-zonal procurement to meet the requirement of wheat for allocation and off take. As far as rice is concerned in the North-East zone, Assam is the only rice-producing state. Though Assam can partially fulfill the requirement of rice, there is still a need for inter-zonal procurement. This can be attributed to the fact that a major part of this zone is inaccessible and hence is a hindrance to the distribution policy.

In a Zone as a whole if the production of food grains is sufficient to meet the requirements under the PDS and other schemes, it must be ensured that enough food grains are procured from within the zone to meet the zonal demand. Implementing a zonal policy might require flexibility in the procurement prices across states to address the variation in production and other costs. Strategies that would provide adequate incentives to farmers may help in procuring the targeted quantities to meet the requirements of the state. The study presents a case stating that a zonal procurement for rice and wheat is quite feasible.

4. Direct marketing initiatives by the state

Direct marketing by the farmers is being encouraged as an alternative channel. For example, *Apni Mandi, Hadaspar Mandi, Ruthu Bazars and Uzahar sandhais*. Apart from linking the farmers to the consumers such initiative for reducing costs is established for farmer - processor/bulk consumer linkages through contract farming. Several retail chains are increasingly entering into contracts with farmers to encourage them to cultivate farm products (vegetables, fruits etc). Here the farmers are assured of procurement of the produce at pre-decided prices. Marketing tie-ups between farmers or processors or bulk purchases have special significance for small farmers who have small marketed surplus but no staying power. Recently the state governments of Punjab and Madhya Pradesh have taken several initiatives to link growers with processors or bulk buyers of even basmati and wheat (Acharya, 2004).

D. Recent Initiatives in Developing Alternate Markets

There are some recent initiatives in developing alternate markets. Information Technology and Communication (ITC) or E-Choupal is one of the methodologies. The E-Choupals or village Internet kiosks, an initiative of the corporate ITC's initiative, provide the farmers an alternate route to the *Mandi* without going through the regulated market or the compulsion of selling to the corporate at a pre-determined price. The village Internet kiosks managed by the farmers called *Sanchalaks* enable the agricultural community to access ready information in their local language on the weather, the market prices, disseminate knowledge, facilitate sale of farm inputs and purchase farm produce from the farmers. As a direct marketing channel virtually linked to the *mandi* system for price discovery, E-Choupals eliminate wasteful intermediaries and multiple handling. The E-Choupals provide live quotes of not only ITC's own prices but also prevailing prices in the markets across the states. In marketing his produce through the E-Choupals, the farmer saves the labour charges, middleman commission and handling charges which they have to pay at the regulated markets. This experience has provided the farmers an alternative business model for the ITC to shorten the supply chain innovation and delivery system to the companies to reach the rural areas.

ITC backed Village Resource Centre (VRCs) and the Village Knowledge Centres (VKC) based on the hub and spoke model by MSSRF is another example of technology-assisted marketing support for farmers. The VRC is typically located at the block headquarters and the VKCs are in a radius around it. The VKCs are manned by local volunteers who are trained as knowledge workers. The knowledge workers get the current day market price from the regulated markets on a daily basis and pass them on to the VRC/VKC. The farmers wanting to sell their produce profitably can seek information from the centres.

1. The 'SAFAL' System of the NDDB

The National Dairy Development Board (NDDB) has introduced a model for the direct sale of vegetables/fruits under 'SAFAL'. Under this system, the farmers' association covers the farmers in a cluster of villages and serves as a collection and grading centre. The produce is graded and supplied to computerised central auction centres. The NDDB has also developed a modern retail structure with prices linked to the auction prices to ensure competition and transparency among retailers.

2. National Agricultural Co-operative Marketing Federation

National Agricultural Co-operative Marketing Federation of India Ltd. (NAFED) established in 1958 is the apex Co-operative Marketing Organisation dealing in procurement, distribution, export and import of selected agricultural commodities. NAFED is a central nodal agency of the Government for undertaking price support operations for non-perishable commodities such as pulses, oilseeds and for market intervention in perishable horticultural items such as - potato, onion, grapes, oranges, eggs, apples, chillies, black pepper etc. It represents the entire marketing structure at the national level.

NAFED's members include the State-Level Marketing Federations and the National Co-operative Development Corporation. In addition it has the representatives of the Government of India, National Co-operative Union of India (NCUI), National Co-operative Development Corporation (NCDC), National Co-operative Consumers' Federation of India (NCCF), Bharat Krishak Samaj and the State Bank of India. Its objectives are

1. To co-ordinate and promote the marketing and trading activities of its affiliated co-operative institutions
2. To make arrangements for the supply of agricultural inputs required by member institutions
3. To promote inter-state and international trade in agricultural and other commodities
4. To act as an agent of the government for the purchase, sale, storage and distribution of agricultural products and inputs.

Activities undertaken by NAFED

1. Marketing of agricultural inputs*:* NAFED helps the farmers by providing them agricultural machinery like tractors, spare parts and such other inputs as fertilisers. NAFED also imports some of the machine and spare parts from abroad to ensure availability of genuine spare parts.
2. Internal Trade: NAFED is engaged in inter-state trade of agricultural commodities, particularly food grains, pulses, oilseeds, cotton, jute, spices, fruits, vegetables and eggs with a view to assuring better prices to the producers.
3. Foreign trade — *export and import of agricultural commodities:* The NAFED exports agricultural commodities, particularly onion, potatoes, ginger, garlic, fresh and processed fruits and vegetables, spices, cereals etc. It also arranges for the imports of pulses, fresh fruits, dry fruits, nutmeg and agricultural inputs particularly fertilisers and machinery as and when the need arises.
4. Promotional Activities*:* NAFED maintains expert staff which conducts market studies, collects data and circulates them to its members.
5. Developing co-operative marketing of tribal produce: A separate cell – Tribal Co-operative Marketing Development Federation, has been set up with the assistance of NAFED for the marketing of the products of tribals that have an economic value. It develops better systems for auction of tribal produce.
6. Processing of fruits and vegetables: NAFED has established multi-commodity fruit and vegetable processing units at Delhi and Vellore; the basic objective being to develop the processing industry in the co-operative sector in a major way so as to make fruits and vegetable marketing and processing advantageous for the farmers.

5. An Innovative Marketing Channel – Uzahar Sandhais

Farmers' market, known as *Uzhavar Sandhai*, is an innovative scheme introduced by the Government of Tamil Nadu, to help farmers at large. It is a marketing system for fruits and vegetables without the intervention of middlemen or commission agents (Dharmarajan, 2000) with a view to safeguard the interests of the vegetable growers.

The State Government of Tamil Nadu established *Uzhavar Sandhais* (Farmers' Markets) in selected municipal and panchayat areas of the state. In these markets, farmers enjoy better marketing infrastructure free of cost and receive considerably higher prices for the products than what they receive from middlemen or at primary markets. Farmers are additionally benefited in the form of interaction with other farmers and with departmental personnel. Farmers also get good quality seeds and other inputs in the marketyard itself (Rajendran, 2000).

As on date, six such market centers are in existence and there is a proposal for the establishment of around a 100 centres. The market was set up to establish a direct link between the farmers and the consumers. The market place is centrally located with about 80 - 100 small shops or sheds each supervised by the marketing committee. The farmers with permit cards can sell their produce in the allotted shops. They are eligible to transport their produce to the marketing centers free of cost using state transport corporation buses. The farmers in areas that have their own markets have started phasing out their harvest. Steps are being initiated to help the farmers to stagger cultivation so that there can be vegetables in their markets round the year (op. cit.).

Fruits including mango, banana, guava, lime, orange, jackfruit, grapes, pear, pineapple and papaya are cultivated by farmers in two lakh hectares in the state. Similarly, the scheme helps the farmers to market their vegetables including brinjal, ladies' fingers, potato, tomato, carrot, beetroot, cabbage, cauliflower, onion etc. which are cultivated in an area of 1.76 lakh hectares in the state (Jeyarathinam, 2002).

A survey of consumers in Southern Missouri indicated that most consumers perceived local produce at farmers' markets as being of higher quality and less costly (Shanmugan and Kempuchetty, 2000). Similarly, Chowdhury (2002) opine that, the consumers perceive the produce at farmers' markets to be fresher looking, fresher tasting, of high quality and better value for the money; however, many consumers found shopping at farmers' markets too inconvenient. Same is the fate of the vegetable sellers in the largest vegetable market in 'Ottanchathiram' village in Tamil Nadu. The European Committee's visit to assess the

vegetable market also brought disheartening news since the farmers sell their vegetables at throw away prices and also dump the unsold vegetables on the roadside for want of transportation.

It is postulated that the success and failure of the *Uzhavar Shandhais* is related to the variety of vegetables available for sale. Markets which do not offer a wide variety of vegetables do not seem to attract the public while markets which offer a greater variety along with value-added products have been successful*[1].

The government's support and the public response motivated the farmers to start co-operative banks inside the *Uzhavar Sandhais*. In the large and busy *Uzhavar Sandhais,* cold storage facilities have been established on a collective basis to avoid the spoilage of the unsold vegetables on the previous day.

Notwithstanding the limitations, the well-functioning *Uzhavar Sandhais* have been a boost to the vegetable growers. However, a few operational difficulties exist but can be rectified with a little effort (Jeyarathinam, 2002). Moreover, the state government's proposal for alternative *Uzhavar Sandhais,* of starting weekly markets, has been strongly opposed, as vegetables cannot be preserved and stored for weeks and more so, the marginal and small farmers will find it difficult to postpone the sale of their produce due to economic stress and immediate financial requirement. Hence there is a need to remove the hurdles in the functioning of the *Uzhavar Sandhais* to make them run successfully for the benefit of the small farmers. The Co-operatives have also assumed importance in the marketing channels with the encouragement of producers or consumer co-operatives.

6. Regulated Markets

A regulated market is one in "which the system of sale and purchase is organized in a manner that the grower secures a fair price to protect him from exploitation by middlemen" (Dixit, 2004). To achieve an efficient system of buying and selling of agricultural commodities, most of the state governments and Union Territories have promoted organised marketing of agricultural commodities in the country through a network of regulated markets and enacted legislations (APMC Act) to provide for regulation of these markets. The basic objective of setting up of a network of physical markets has been to ensure reasonable gain to the farmers by creating a favourable environment for fair play of supply and demand forces, to regulate market practices and attain transparency in transactions.

[1] Personal communication with Dr Sekhar, Faculty, Annamalai University, Chidambaram.

Strengths of regulated markets

- Provides transparent transactional methods / marketing practices
- Provides basic amenities and services like auction platform, price display boards, cold storages etc.
- The quality of market information available is more up-to-date
- The system has made it possible to market produce on contract basis by direct marketing and through other innovative practices like ITC'S E-Choupals
- There is a reduction in the additional expenses incurred with respect to commission, weighing, brokerage etc. in the marketing of agricultural produce in the regulated markets.

Weakness of the regulated markets

- Absence of grading and packaging at the farm level
- Failure of extension of credit facilities to community markets
- Lack of transparency in weighing and auction
- Thin spread of the regulated markets
- Inadequate infrastructural facilities at the regulated market
- Large variations in the market fee charges across the state
- Variations in entry tax and sales tax
- Failure of development of a common trade language
- Inefficient working environment

A large number of legal enactments were also promulgated by the government in view of the supply side constraints; these include

- Prevention of Food Adulteration Act, 1954
- Essential Commodities Act, 1955
- Standards of Weights and Measurement Act, 1976
- Prevention of Black Marketing and Maintenance of Supply of Essential Commodities, 1980
- Consumer Protection Act, 1986
- Bureau of Indian Standards Act, 1986
- Agriculture Produce (Grading and Marketing Act, 1986)

In addition to these, there are also specific orders covering various products like meat, vegetable oil, milk and milk products, fruits and fruit products, pulses, edible oilseeds etc. These orders cover activities such as storing, packaging, quality checks, blending and processing.

After independence, the government also introduced various measures broadly covering the development and extension of marketing network and the actual regulation of the conduct of the market. Government interventions not only covered marketyard but also trading, stocking, quality maintenance, grading etc. Measures were introduced by the government for intervention in prices, direct procurement from farmers and also in imports and exports of agricultural commodities. Various instruments of fiscal and monetary policies of the government also impact the cost of performing various marketing functions including the transportation, stocking and trading in the market.

E. Lacunae

In spite of several legislative provisions and safeguards imposed by the Government for the welfare of the producers, a few defects in the agricultural marketing system still exist, such as

- Inadequate warehouse facility: An absence of proper warehousing facilities forces farmers to store their produce in pits, mud-vessels, *Kutcha* store houses, etc. This unscientific method of storage leads to considerable wastage due to infestation by rodents.
- Lack of grading and standardisation: The different varieties of agricultural produce are not graded properly. Thus the farmers producing better quality goods are not assured of a better price. Hence, there is no incentive to use better seeds and produce better varieties.
- Inadequate transport facilities: Transport facilities are highly inadequate in the country. Only a small number of villages are connected by railways and *pucca* roads to *mandis*. Slow-moving vehicles like bullock carts cannot be used to carry produce to far-off places and, hence, the farmers are forced to dump their produce in the nearby markets and get a considerably lower return.
- Presence of a large number of middlemen: The chain of middlemen in the agricultural marketing system is so large that the share of farmers is reduced substantially. Farmers are required to pay a number of undefined and unspecified charges imposed upon them by the brokers.
- Malpractices in unregulated markets: The number of unregulated markets till date is substantially very large. Another malpractice is the use of wrong weights and measures in the regulated markets.

- Inadequate market information: It is not possible for the farmers to obtain information on exact market prices in different markets. So, they accept whatever prices the traders offer them. Efforts are being made by the Government to keep the farmers updated of the latest price through the print and audio media but the price quotations are at times unreliable and sometimes have a huge time lag.
- Inadequate credit facilities: Indian farmers try to sell off their produce immediately after the harvest though prices are very low. To safeguard the farmers from such “forced sales” he needs credit facilities which are generally unavailable. Hence, the farmers are forced to take loans from moneylenders, while agreeing to pledge their produce at a price lower than the market price.

CHAPTER III
METHODOLOGY

The present study was undertaken to explore the possibility of linking small and marginal farmers to large-scale publicly funded feeding programmes for raising the market access for farmers. Small farmers are defined as "those cultivators with a land holding of 1 - 2 hectares or less"; on the other hand the marginal farmers "have a landholding of 0.5 – 1 hectare or less" (GoI, 2005 – 2006).

The **specific objectives** of the study were

1) To understand the implementation of two major feeding programmes in India namely, MDMS and ICDS.

2) To study the feeding operations in large government, non-government and private institutions such as hospitals, hostels, prisons and industrial canteens.

3) To assess the demand for raw materials in food preparation and understand the procurement procedures.

4) To assess local capability to meet the demand for food materials.

5) To explore the economic feasibility of linking small farmers to the feeding programmes at the local level.

Process

The study co-ordinated by the M. S. Swaminathan Research Foundation, Chennai, was undertaken as a multicentric investigation across six states. While MSSRF conducted the study in Tamil Nadu, the following partner institutions were co-opted to undertake the study in five other states:

1) Centre for Environment Concerns (Andhra Pradesh)

2) Samaj Pragati Sahayog (Madhya Pradesh)

3) Savitri Jyotirao Phule College of Social Work (Maharashtra)

4) Nyasasdri (Odisha)

5) Jan Sanskriti (West Bengal)

In a preliminary meeting, the six partners discussed broadly the framework of the study and the following was agreed upon:

- As a first step all partners would establish contact with the respective State Governments to obtain secondary data about the schemes and to obtain information on the administrative and implementation aspects.
- The study would be conducted in **three phases**

  Phase I would cover field study of both MDM and ICDS, since both programmes operate in the same villages / towns and data collection for both could be done simultaneously. A review of literature of the midday meal programme would be undertaken.

  Phase II would include the review of literature of the ICDS and the agricultural marketing scenario in India.

  Phase III would study the feeding operations in large institutions such as prisons, hospitals, hostels and special feeding programmes, if any, for HIV/AIDS patients etc.
- Phase I would be carried out in a minimum of three villages in each state.
- The selection of the field sites would be done independently by the respective institutions or in consultation with the State Government Officials.
- Data analysis and report writing for the respective states would be undertaken by the partnering institutions and MSSRF would undertake the preparation of a final consolidated report and the bibliographic compilation.

Study Sites

The study was carried out in six states of India namely Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and West Bengal (Fig. 3.1).

Colour Page

Fig 3.1 States Chosen for the Study

Each State is divided into districts which are further divided into blocks that serve as basic administrative units, except in the State of Andhra Pradesh where the equivalent of a block is a *mandal*. Initial selection of a block was a non-random selection, from which the study villages were chosen based on purposive and convenience sampling. Details about the villages chosen for the first Phase of the study are presented in Table 3.1.

Table 3.1 Study villages for MDMS and ICDS*

Sl No.	State	District	Block	Villages	Total (Each State)
1	Andhra Pradesh	Medak	Pulkal Mandal	3	**3**
2	MadhyaPradesh	Dewas	Bagli	6	**6**
3	Odisha	Dhenkanal	Gondia	3	**3**
4	Tamil Nadu	Theni	Periyakulam Bodinayakanur	1 2	**3**
5	West Bengal	Pargana	Kakdwip Pathar Pratima Kulpi	4 11 6	**21**
	Total (All states)				**36**

Note: Primary data for Maharashtra is not available

A total of 36 villages were covered which included both tribal and non-tribal belts and represented varied socio-economic and ecological characteristics, offering a diversity of context in which the implementation of the scheme and the role of the farmers could be studied. The selection of villages was influenced by various factors. In Tamil Nadu, the study villages were selected under the guidance of the Directorate of Social Welfare. The Theni District in Tamil Nadu was purposively selected because, besides children and women, a sizeable proportion of senior citizens were availing of the noon meal in the ICDS centres, a phenomenon not seen in any other part of the state.

In Madhya Pradesh once the block was selected, the total list of villages in the block was obtained. Since there were two distinct socio-ecological divisions within the block, three villages from each of these divisions were selected randomly. In Odisha the selection process was facilitated by Government officials and through visits to the shortlisted villages. In Andhra Pradesh convenience sampling was done to select villages close to the area where the partnering institutions were located. In West Bengal, the survey was carried out in 21 villages because the partnering organization, Jan Sanskriti, already had baseline data in all these villages and there were 20 employees who were engaged in fieldwork and could collect data from

the schools, the ICDS Centres as well as the households. The data mainly pertained to the caste, origin and occupational engagements among the villagers. In Maharashtra, discussions alone could be had with local community and functionaries of the feeding programme. Primary data could not be collected due to unforeseen circumstances.

The types of Institutionals studied for the Feeding Programmes in Phase III in the different states are presented in Table 3.2

Table 3.2 Different institutions feeding programmes studied

States	Study site	Institutions studied
Andhra Pradesh	Anantpur (district)	• Rural Development Trust (NGO Initiative)
Madhya Pradesh	Dewas (district)	• Tribal Hostels
Maharashtra	Yavatmal (district)	• Central Jail • Hospital • Hostels
Odisha	Bhubaneswar (city)	• Government hospital • Prison
Tamil Nadu	Chennai (city)	• Prisons • Hospitals • Industrial Catering (SRF Ltd.)

The selection of the large institutions, namely, Governmental, Non-Governmental and privately funded were based on what was available and feasible to study either within or outside the project areas of the partnering institutions. In Andhra Pradesh, an NGO named Rural Development Trust (RDT) functioning in Anantpur District providing supplementary nutrition to children and antenatal/post-natal mothers for improving health/nutritional status was chosen. In Madhya Pradesh, nine government hostels set up for tribal boys and girls to promote schooling and education were studied in the district of Dewas.

In Maharashtra the feeding operations in two hospitals, a district jail and a student hostel for school children belonging to the Scheduled Caste/Tribe (socially underpriviledged groups) in Yavatmal District were studied. Of the two hospitals one catered to TB patients and the other was a

general hospital. In Odisha, the Institutions covered were the Jharpada Jail and two government hospitals namely, the Capital Hospital and the Municipal Hospital in Bhubaneswar, the capital city of Odisha. Food distribution in the antiretroviral treatment (ART) centres, under the National Aids Control Programme, was also studied.

In Tamil Nadu both Government and private sector institutions were covered. The former consisted of the *Puzhal* Central Jail and Government Hospital. The latter was the SRF Industrial Canteen in the outskirts of Chennai City. In West Bengal only secondary data was collected regarding the feeding pattern in prisons and hospitals.

Approach to the Study

The approach adopted in all the Phases was to

- Estimate the demand for food materials on a per day/annual basis in the respective programmes / institutions
- Assess capacity for local supply to cater to the demand
- Understand operational features that could foster or discourage local linkages
- Identify a set of broad-based recommendations for future action.

Tools and Techniques for Data Collection

A checklist for collecting data from schools and anganwadi (ICDS) centres as well as from the other large-scale institutional feeding programmes was developed. It included information on the daily menu served, the quantity of food grains and other ingredients required, procurement procedures etc. This was field tested and suitably tailored to local conditions and utilised in the data collection (Annexure 4).

For assessing the capacity for local supply, different approaches were used by the partnering institutions. These included estimates of the household agricultural production, net marketed surplus by farmers, discussions with local farmers about agricultural production, agricultural marketing and the pros and cons of direct linkages with the government programmes. Interviews were also held with other local stakeholders such as Self-Help Groups, teachers, noon-meal organizers and Heads of Institutions to discuss about possible direct linkages between small and marginal farmers and the institutions. The views of the Government officials were also solicited.

Data Analysis

Individual state analysis of the collected data was carried out by the respective partners. A joint meeting of all partners was held to discuss the results of the study and the recommendations to be suggested. The consolidation of data for the six states and preparation of the final report was done by MSSRF.

Table 3.3 Time schedule of the study

Item	Activity	Period
Phase I	Preliminary meeting	September 2008
	Identification of partners	November 2008
	Completion of protocols	November 2008 – December 2008
	Literature review of MDMS	January 2008 – November 2008
	Field study of MDM and ICDS	December 2008 – January 2009
	Preliminary report on MDMS	February 2009 – April 2009
Phase II	Literature review of ICDS and agricultural marketing in India	May 2009 – July 2009
	Preliminary report of ICDS	August 2009
Phase III	Debriefing meeting	July 2009
	Field study of other large-scale institutional feeding programmes	July 2009 - September 2009
		October 2009 – November 2009
	Finalising state reports and recommendations	November/December 2009 - January 2010
	Consolidation of draft report of 3 phases for circulation	January 2010 – February 2010
	Feedback, changes and preparation of final report	March - April 2010

Limitations of the Study

Due to unforeseen circumstances primary data collection for demand estimation of food materials for the first phase (MDM and ICDS) could not be done for Maharashtra. In the second phase (Institutional Feeding Programmes) only secondary data could be collected for West Bengal. For phase I, data has been analysed for the five states of Andhra Pradesh, Madhya Pradesh, Odisha, Tamil Nadu and West Bengal with qualitative inputs from Maharashtra about the schemes. For phase II, except for West Bengal, primary data has been analysed for all the states.

Chapter IV

OBSERVATIONS AND DISCUSSION

The study was undertaken to explore the feasibility of linking small and marginal farmers to large-scale public feeding programmes. It was carried out in six states, viz: Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and West Bengal. In all the states, the implementation of two feeding programmes namely the MDMS and the ICDS was studied and the possibility of linking farmers was explored. In addition the feeding operations in some large institutions such as hospitals, hostels, prisons and industrial catering was studied depending upon their availability in the individual states. The information is presented in two sections. Section I pertains to MDMS and ICDS. Under this, the data is organised under the following heads:

- ❖ Profile of the study area
- ❖ Estimation of demand for food grains in MDMS and ICDS (the other institutional feeding programmes have been dealt with in another chapter)
- ❖ Local availability/capacity for meeting the demand
- ❖ Implementation issues and linkage with small farmers
- ❖ Feasibility of the linkage

Section - I

A. ANDHRA PRADESH

1. Profile of the Study Area

Medak District of Andhra Pradesh was chosen for the study. In this district there were 1,806 primary schools and 575 upper primary schools serving 2,10,578 and 18,160 students respectively. The 484 high schools of the district served 1,39,435 students. This district is further divided into smaller administrative units called the 'mandals'. Pulkal mandal was a non-random selection and in this 'mandal' three villages namely Karpole, Isojipeta and Gangojipeta were chosen. Table 4.1 provides information on the demographic particulars of the selected villages.

Table 4.1 Population details of the study villages, Andhra Pradesh

Name of the village	SC*	BC**	Minorities	OC#	Total (Male & Female)
Karpole					
Male	198	236	124	26	584
Female	189	268	139	22	618
Isojipeta					
Male	205	248	128	31	612
Female	193	276	142	28	639
Gangojipeta					
Male	146	173	96	16	431
Female	131	187	100	16	434
Total population	**1,062**	**1,388**	**729**	**139**	**3,318**

Note: * SC- Schedule Castes (Lowest in the social hierarchy); ** BC – Backward classes; # OC- Other Classes

In all the three villages 74 percent belonged to SC and BC communities. In these villages minorities were also present in considerable numbers. Except among the SC and OC category, the female population outnumbered the male population.

2. Estimation of Demand for Food Materials in MDMS

Every study village had a school. All the three schools had a primary section while one had an upper primary section as well. The per day and monthly demand for raw ingredients for the midday meal based on the student-consumption pattern is presented in Tables 4.2, 4.3 and 4.4 for the three villages respectively.

Table 4.2 Estimate of raw ingredients in the MDMS for Karpole village, Andhra Pradesh

Items	Primary section	High school	Total
Student enrollment	220	205	425
Students attending school	180	170	350
Rice allottment/day*(kg)	15 – 17	17 – 19	
Dal allotment/day** (kg)	1.5 – 2	2 – 2.5	
Rice/month (kg)	400 – 425	425 – 475	
Dal/month (kg)	40 – 50	50 – 60	
Oil/month (kg)	10	12.5	
Vegetables/month (kg)	200	250	
Tarmarind/month (kg)	30	33	
Chilli Powder/month (kg)	30	33	
Salt/month (kg)	10	13	
Egg/month (kg)***	1,400 – 1,550	1,360 – 1,520	

Note: ** Rice: Calculated at 100 and 150 g respectively for primary and high school*
*** Dal : Calculated at 15 g for both the sections*
**** Egg: Calculated at twice a week*

Table 4.3 Estimate of raw materials in the MDMS for Isojipeta village, Andhra Pradesh

Sl No.	Particulars	Quantity
1	Students enrolled	52
2	Students attended	40
3	Rice allotment/day (kg)	4 – 5
4	Dal allotment/day (g)	600 – 700
5	Rice allotment/month (kg)	100 – 125
6	Dal allotment/month (kg)	15 – 17.5
7	Cooking oil allotment/month (kg)	5
8	Vegetable allotment/month (kg)	60
9	Tarmarind allotment/month (kg)	7
10	Chilly powder allotment/day (kg)	7
11	Salt/month	3
12	Eggs/month	320 – 400

Table 4.4 Estimate of raw materials in the MDMS for Gangojipeta village, Andhra Pradesh

Sl no.	Particulars	Quantity
1	Students enrolled	52
2	Students attended	35
3	Rice allotment/day (kg)	3.5 – 4.5
4	Dal allotment/day (g)	550 – 675
5	Rice allotment/month (kg)	88 – 112
6	Dal allotment/month (kg)	13 – 16
7	Cooking oil allotment/month (kg)	3.75
8	Vegetable allotment/month (kg)	50
9	Tarmarind allotment/month (kg)	6.5
10	Chilly Powder allotment/day (kg)	6.5
11	Salt/month	2.5
12	Eggs/month	140 – 160
13	Banana*	140 – 160

Note: * Given in lieu of eggs.

It was found that in Karpole village for the primary section the quantity of rice and dal allotted for cooking per day was inadequate to meet the specified requirements for all the children who were present on any particular day. While the quantities needed were 18 kg and 27 kg respectively for rice and dal, the quantities actually allotted ranged between 15 – 17 kg for rice and 1.5 – 2 kg for dal. For the high school the quantity of rice was inadequate. In the other two villages, the cooked quantities fulfilled the norms.

Food grain (rice) requirement to fulfill the consumption needs of students under the midday meal programme in all the study villages is presented in Table 4.5. The table clearly depicts that there is considerable quantitative demand for practically all raw materials utilised in the midday meal preparation.

Table 4.5 Requirement of food grains in the MDMS in Andhra Pradesh

Village	Annual requirement of rice based on present attendance (in quintals (q))	Annual requirement of rice based on full attendance (in quintals (q))
Karpole	108.75	131.88
Isojipeta	10.00	13.00
Gangojipeta	8.75	13.00
Total	**127.50**	**157.88**

3. Estimate of Raw Materials for ICDS Feeding Programme

Providing supplementary nutrition to pregnant women, lactating mothers and children below the age of 6 years is an important component of the ICDS. The number of eligible beneficiaries of the supplementary feeding programme in all the three study villages is presented in Table 4.6. There are 636 beneficiaries in the ICDS in the areas studied.

Table 4.6 Coverage of target groups in the ICDS in the three study villages in Andhra Pradesh

Sl No.	Category	Karpole	Isojipeta	Gangojipeta	Total
1	No. of main centres	4	2	2	8
2	Beneficiaries				
	Nursing mothers	33	10	19	62
	Pregnant women	22	17	14	54
	Children				
	0 – 3years	152	47	79	278
	3 – 6 years	116	49	77	242
3	**Total beneficiaries**	**323**	**123**	**189**	**636**

In Karpole village, every month, 40 to 50 kg of supplementary food was distributed to children attending the preschool programme at the ICDS centre in the village. For women and children below 3 years, 170 – 200 kg were distributed as part of carry-home ration. For this purpose once in two months 5 q (quintals) of supplementary nutrition mix was supplied to the village Anganwadi Centre from the CDPO's Office or from the office of the District Project Director.

In Isojipeta, every month, 20 to 25 kg of supplementary food was distributed to children attending the preschool programme and 80 – 90 kg of take-home ration were distributed to women and children below 3 years. For this purpose once in two months 3 q of supplementary nutrition item was supplied to the village Anganwadi Centre.

In Gangojipeta, every month, 25 to 30 kg of supplementary food was distributed to children attending the preschool programme and 85 – 90 kg of carry-home ration were distributed to women and children below 3 years. For this purpose once in two months 3 q of supplementary nutrition item was supplied to the village Anganwadi Centre.

In the past all the target groups were given Modified Therapeutic Food (MTF) fortified with minerals and vitamins. From the financial year 2008 - 2009 for beneficiaries above three years of age this MTF was replaced with three varieties of ready-to-cook mixes. These include Instant *Upma* Mix (for savoury preparation), Instant *Kichdi* Mix (for savoury preparation) and Instant *Halwa* Mix (for sweet preparation). With these 'instant mixes' food can be prepared in ten minutes. Children below three years of age continue to receive MTF.

These instant mixes are prepared by Andhra Pradesh Foods, a state Government undertaking, located in Hyderabad. One CDPO is appointed to cover Anganwadi Centres in an Assembly Constituency area. The CDPO procures it from Andhra Pradesh Foods through the District Project Director – ICDS and delivers it at each Anganwadi Centre. With the introduction of ready-to-eat mixes, there is no need for cooking and procuring raw materials in the ICDS centres. Hence, the question of demand and supply of food grains does not arise as far as the ICDS is concerned. Thus the total requirement of food grains in the three study villages of Andhra Pradesh was based on the MDMS operations.

4. Local Capacity for Supply of Food Materials:

Medak District in which the three study villages are situated, the small and marginal farmers account for 65 percent of the operational holdings but cultivate only 25 percent of the cultivable land. More than 50 percent of the cultivated land is irrigated. In the irrigated lands, sugar cane is one of the most important crop followed by paddy. Red gram, green gram, black gram, Bengal gram, cotton and tobacco are grown in dry lands and unirrigated areas. Sugar cane is sold to the nearby private sugar factory. Paddy is sold to the rice mills or is disposed off in the agriculture market in the nearby town of Jogipet. Dry-land produce is sold in the agriculture market. Among the items supplied to the schools for the midday meal programme, rice, dal, vegetables, tamarind and chilli powder can be procured from the local farmers in the

'mandal'. Table 4.7 provides the estimate of these items that can be procured from local farmers in a year in *Pulkal* 'mandal'.

Table 4.7 Local capacity for supply of food items in Andhra Pradesh

Items	Total (q)
Rice	2,664.00
Dal	266.40
Vegetables	1,332.00
Tamarind	190.80
Chilli Powder	190.80

Table 4.7 clearly shows that 2,664 q of rice can be procured from local farmers for the midday meal programme in schools in Pulkal mandal. Similarly 266.4 q of dal, 1,332 q of vegetables, 191 q each of tamarind and chilli powder can be procured from local farmers for the midday meal programme in Pulkal mandal.

4. Implementation Issues

While there is a possibility for getting farmers to supply raw materials to the MDMS programme based on demand and supply, there are several implementation issues to be considered that prove to be a lacunae.

a. Lack of economic viability: Among the raw materials needed in food preparation except for rice, which is sent directly by the state Government to the schools through ration shops, the other items have to be purchased locally. The women of the DWCRA group, who are entrusted with cooking, procure the food materials from the local markets, usually from village grocery shops. All the items need to be procured within the amount allotted per child, that is, Rs.3.25 per day. From this Rs 3/- is allotted for the purchase of other items and 25 paise as service charges for those who cook the food. With three rupees, they are expected to procure dal, spices, condiments and oil each day and egg on two days of the week. It is practically impossible for the members to purchase adequate quantity of good-quality ingredients for cooking in the amount allocated and therefore no surplus is left for them to claim their legitimate financial compensation for working. Usually cooking items are purchased in credit from

local grocery or by borrowing from the school teachers. This also adds to the problem.

b. Lack of mechanism: There is no mechanism to check the quantity or quality of the food provided. While according to the prescribed menu egg is to be provided twice a week, but in Gangojipeta village egg is supplied on one day and on the other day banana is given. This is done in the background of increasing prices and inadequate financial allocation. But there appears to be no official sanction for this change in menu. Again, according to the menu the dal cooked should necessarily have some vegetables but this happens rarely. Normally the dal is cooked with some tamarind and chilly powder only. The teachers in Isojipeta are of the opinion that all the items needed for cooking along with the rice should be supplied by the government.

c. Bureaucratic delay*:* DWCRA members contend that there are inordinate delays in clearing of the bills by the department. Sometimes it takes even 6 months to receive the money after submitting the bill. Interaction with farmers shows that in the given situation there appears to be little scope for small farmers participation. The most important discouraging factor is the delay in receiving payments from the Education Department for the goods supplied. It is difficult for small farmers to wait two to three months for their payment to materialise. There is also no set pattern of procurement like tendering for supply of these items including eggs. To facilitate small farmers' participation in supplying items to the midday meal programme it is important to put in place mechanisms for speedier disbursement of money towards items consumed under the midday meal programme and also offer market rates.

5. Operational Aspects

i. Buyers of large-value as well as large-volume commodities, that is the government, does not see any advantage in procuring their supplies from local producers. Their preference is clearly for centralized procurement and purchase. Thus food miles is a non-issue and is believed that such an advantage is more than compensated from efficient purchasing and supply logistics. Thus the only items allowed for local procurement are only those where such a centralized purchase and timely supplies is not feasible or is highly expensive and difficult to manage.

ii. There were very clearly expressed fears by the government authorities on allowing purchase of local supplies as it is seen as a source of corruption, with less transparency and doubts on the quality. This is despite the fact that commodity pricing and price bandwidth information is easily available on a daily basis through newspapers and E-Choupals.

iii. On the other hand the farmers are skeptical too and for four primary reasons – (a) they have to store the commodity and such facilities are lacking; (b) they are unsure of receiving the money for the supplies delivered; (c) the fear of rejection of the produce on an arbitrary basis; and finally (d) the 'transaction' cost involved in terms of bribes, running around etc.

iv. A key aspect is the direction in which food provisioning is headed. According to the policy makers, it is moving towards supplies of finished product, which is only possible and will be supposedly efficient only through the use of centralised production system. Also the attitude is of producing products that tackle micronutritional deficiencies, whose scope of ensuring it in decentralised production and procurement is not seen as feasible or practical. The only way the small and marginal farmer can succeed in tapping this market is by climbing up the value chain and cannot be achieved by merely providing raw materials.

6. Suggestions by Local Stakeholders

1. The local stakeholders opined that the programme itself is extremely beneficial since it has greatly improved the attendance. In the past, less than 50 percent of the high school students used to attend but now the attendance per day is in the order of 82 percent. However, a lot of improvements are needed for its better functioning.

2. Except for vegetables all the food items should be supplied by the Government since this would reduce the burden on women's group members.

3. Presently food is cooked elsewhere and transported to the school. Food should be cooked within the school premises and infrastructure facilities should be created for the same.

4. The earlier allocation of 125g of rice for a student was brought down to 100 g. This needs to be corrected and previous allotment restored.

B. MADHYA PRADESH

1. Profile of the Study Area

Madhya Pradesh is one of the most educationally backward states in India. Nearly 87 percent of the schools at the primary level are under government management. The schools, especially in the remote tribal areas of the state, are mostly single-teacher, multigrade establishments, without basic facilities like toilets and drinking water. The condition of the rural schools of Dewas District as brought out by the DISE data is a clear indicator of the extent of backwardness in this respect (Table 4.8).

Table 4.8 Condition of rural schools in Dewas District, Madhya Pradesh

Sl No.	Category	Quantitative assessment
1	% of Single Classroom Schools	21.4
2	% of Single Teacher Schools	21.5
3	Pupil-Teacher Ratio (PTR)	37
4	Student-Classroom Ratio (SCR)	36
5	% Schools with SCR > 60	23.2
6	% Schools with Common Toilets	62.2
7	% Schools with Separate Girls Toilets	23.0
8	% Schools with Drinking Water Facility	87.1

***Source**:* District Information System on Education (DISE), 2007, GoMP.

The facilities in these schools are inadequate to impart good quality education. Introduction of "para-teachers" through programmes like the Education Guarantee Scheme (EGS) of GoMP has not made any difference to this situation. If anything, such efforts have only contributed to a worsening of the state of affairs by lowering the quality of education imparted to the poor, particularly in the government schools. These schools have been the prime examples of "universalisation without quality".

The survey area was located in Bagli Tehsil of Dewas District. The profile of Bagli Block is given in Table 4.9. Geographically, the block is divided into two broad regions:

- The agriculturally more prosperous Malwa region in the north with a non-tribal majority and
- The drought-prone, isolated and backward Nimar (Narmada valley) region in the south, with majority of the population belonging to tribal communities.

Table 4.9 Profile of Bagli Block of Madhya Pradesh

Sl No.	Category	Quantitative data
1	Total geographical area (Hec)	1,50,072
2	Total population	2,55,929
3	Rural population (%)	86
4	Inhabited villages	272
5	Sex ratio	946
6	Scheduled Castes (%)*	17
7	Scheduled Tribes (%)*	33
8	Adult literacy rate (2001) (%)	52
9	Female literacy rate (2001) (%)	36
10	Number of schools	
	Primary	225
	Middle	41
	Secondary	19
13	Gross irrigated area (%)	28
14	Village panchayats**	118
15	Road length in km (Pucca) (per 100 sq. km)	17
16	Hospital beds per 1,00,000 population	5

Note: *Socially marginalized group; ** Local self-governing units

The MDMS survey covered 6 villages in the Bagli Block. The villages were randomly selected from the total list of villages in the Bagli Tehsil. To give a proper representation to the socio-ecological divisions within a block, out of the 6 villages chosen, three each were from the Malwa and Nimar region respectively. Profile of the villages surveyed is given below (Table 4.10).

Table 4.10 Population details of the study villages in Madhya Pradesh

Village	Region	Households	Population	SC%	ST%
Sewanya Khurd	Malwa	148	892	5	92
Bamankhedi		126	723	15	6
Karnavad		1,573	9,254	12	9
Paras Pipli	Nimar	98	710	0	97
Ratatalai		235	1,397	7	83
Magradeh		248	1,625	6	93

Source: GoI, 2001

With regard to the distribution of population except Bamankhedi and Karnawad villages located in the Malwa region the proportion of tribal communities was high in all other villages. The proportion of Scheduled Castes was low in general.

The survey of MDMS covered eighteen schools in the 6 villages. All the schools in the 6 villages were covered. The details of the 18 schools surveyed are given in Table 4.11. On the day of the survey, the attendance ranged from 70 percent at the lowest to 84 percent at the highest.

Table 4.11 Distribution of schools and details of attendance in the study villages in Madhya Pradesh

Village	No. of schools			No. of children	
	Primary*	Middle	Total	Enrolled	Attendance
Bamankhedi	1	0	1	76	64 (84%)
Sewanya Khurd	2	1	3	268	203 (76%)
Karnavad	2	2	4	616	455 (74%)
Paras Pipli	2	-	2	143	100 (70%)
Ratatalai	2	1	3	294	226 (77%)
Magradeh	4	1	5	453	358 (79%)
Total	13	5	18	1,850	1,406 (76%)

Note: Primary includes schools set up under the Education Guarantee Scheme (EGS) of GoMP

2. Estimation of Demand for Food Materials

In the MDMS

In the selected schools, the quantities of food cooked under the MDMS and the ingredients used each day was estimated. The government has prepared an elaborate menu with a specific combination of food items to be served on each day of the week! However, this menu is seldom followed in all the schools surveyed due to reasons related to the cost norms adopted and the allocation per child made under the MDMS. The quantities showed variations across schools and it is clear that the nutrition norms adopted under the scheme is seldom adhered to in practice. The average quantities of food materials consumed per day in each village under the MDMS is shown in the Table 4.12.

Table 4.12 Consumption (kg/day) of essential food materials for the MDMS in Madhya Pradesh

Village	Wheat	Pulses	Vegetables	Milk (l)	Rice	Salt	Spices	Oil
Bamankhedi	5.0	1.0	2.5	2.0	1.0	0.3	0.2	0.0
Sevanya Khurd	24.5	2.8	5.0	4.0	4.0	0.7	0.3	0.8
Karnawad	54.0	10.8	24.5	8.0	6.0	0.6	0.6	2.3
Paras Pipli	10.0	1.3	2.0	0.0	0.5	0.0	0.0	0.0
Magradeh	34.0	7.2	12.0	11.0	6.0	0.0	0.0	1.1
Ratatalai	28.0	5.7	10.0	8.0	6.0	1.0	0.2	1.1
Average per Village	**25.9**	**4.8**	**9.3**	**5.5**	**3.9**	**0.4**	**0.2**	**0.9**

The schools on an average functioned for 210 - 230 days in a year. Multiplying the per day consumption figure with the number of days the schools function, we get the estimated annual consumption of essential food materials in each village on account of MDMS (Table 4.13).

Table 4.13 Estimated annual consumption (kg) of essential food materials for the MDMS in Madhya Pradesh

Village	Wheat	Pulses	Vegetables	Milk (l)	Rice	Salt	Spices	Oil
Bamankhedi	1,050	210	525	420	210	63	42	0
Sevanya Khurd	5,145	588	1,050	840	840	147	63	168
Karnawad	11,340	2,268	5,145	1,680	1,260	126	126	483
Paras Pipli	2,100	273	420	0	105	0	0	0
Magradeh	7,140	1,512	2,520	2,310	1,260	0	0	231
Ratatalai	5,880	1,197	2,100	1,680	1,260	210	42	231
Average per village	**5,443**	**1,008**	**1,960**	**1,155**	**822**	**91**	**45**	**186**

Note: Calculated for 210 days

Thus, on account of the MDMS, on an average, there is a demand for 54.43 q of wheat, 10.08 q of pulses, 19.60 q of vegetables, 11.55 l of milk and 8.22 q of rice in the villages surveyed. The quantities of salt, spices and oil have not been taken into consideration.

In the ICDS

At the outset, it may be said that there is absolutely no scope for linkage of small and marginal farmers to the ICDS programme. This is because instead of hot cooked meals, packaged 'instant food mixes' are being served. The most fundamental failure of the ICDS in Madhya Pradesh has been the inability to provide adequate supplementary nutrition to the people. The menu for feeding at the ICDS centres has undergone several changes in the recent years. Before 2006, the menu comprised of sweet and salty *daliya* along with *murmura*, a soya bean product, for children of 3-6 years and *panjiri* (a mix of wheat flour and sugar) for children under 3 years. This menu was designed to provide 300 calories and 8 to 10 g of protein to children up to 6 years of age, 500 calories and 20-25 g of protein per day for adolescent girls, pregnant and nursing mothers as per the ICDS guidelines.

The above menu was revised in May 2007 (Order dated 7-5-2007, of the Department of Women and Child Welfare, GoMP) and a new menu for hot, cooked meals for ICDS was adopted. This detailed and well-worked out menu prescribed different food items to be served on different days in a week in the six partner states (Annexure 3). The menu also had a special component for extremely malnourished children. The allocation for providing this menu was raised to Rs 2 (US$ 0.044) for children under 6 years, Rs 2.30 (US$ 0.05) for adolescent girls and pregnant and nursing mothers and Rs 2.70 (US$ 0.06) for malnourished children.

Barely was this menu put in place, when it was replaced by the new menu of packaged, ready to eat food in 2008. Thus, within a space of two years, the ICDS menus changed thrice! The items changed from a monotonous to a varied weekly menu and then to the instant packaged *khichdi, halwa and panjiri*. The food offered in the new menu had no links with the local diet pattern. Moreover, the instant foods were nutritionally inadequate. They contain almost no protein (even the *khichdi* provided hardly contains any dal), almost no fat (as cooking involves mere boiling and the roasted *upma* and *lapsi* mixtures seem completely bereft of oil), no vitamins or minerals. In the ICDS centres surveyed, this menu is being followed at present. Moreover, these food items are packaged and supplied by contractors in bulk.

However, due to its nutritional inadequacy and inappropriateness to cater to the needs of the people, there is a strong case for changing this menu and moving back to the menu for hot, cooked meals of 2007. Linking a public-feeding programme like the ICDS with the local food production systems is possible only with such a shift.

3. Capacity for local procurement and supply

Malwa and Nimar Blocks chosen for the study represented the different agro-ecological zones.

Table 4.14 Agro-ecological details of the study villages in Madhya Pradesh

No.	Village	Region	Forest Area %	Cultivated Area %	Wasteland %	Irrigated Area %
1	Sewanya Khurd	Malwa	22	58	20	46
2	Bamankhedi		0	87	13	29
3	Karnavad		0	48	NA	NA
4	Paras Pipli	Nimar	67	26	7	24
5	Ratatalai		9	75	16	24
6	Magradeh		52	46	1	23

The villages of Magradeh and Paras Pipli in the Nimar region had a larger area under forests. The area under cultivation was proportionately low in these villages. Though located in the Nimar region, Ratatalai is an agriculturally advanced village, with 75 percent of the land under cultivation (including a sizeable proportion of encroachments). In general, these villages have a significant agricultural segment producing food grains (wheat, maize and Jowar), pulses (Pigeon Pea and chick pea) and oilseeds (Soya bean). This indicated that all the villages under the survey are producing

considerable quantities of food materials, particularly food grains, which could be utilised for strengthening the local feeding programmes. Currently grain produced in the villages is either directly consumed or sold in the open market, whereas the procurement for local feeding programmes is sourced from the PDS.

The question is whether the volume of food items needed for the MDMS are reasonably large to provide an economic opportunity for the small and marginal farmers in each village. Part of the produce generated from such farms will be consumed by the farming households themselves and the surplus will be marketed. Assuming a net marketed surplus of 500 kg for wheat, 200 kg for pulses, 400 kg for vegetables, 600 kg for milk and 300 kg for rice per small and marginal farmers, the number of farmers who could be linked to the MDMS activity in each village can be estimated as follows:

Table 4.15 Estimated number of farmers to be linked to the MDMS in Madhya Pradesh

	Wheat	Pulses	Vegetables	Milk	Rice	Total
Assumed Quantity per S&MF (kg)	**500**	**200**	**400**	**600**	**300**	
Bamankhedi	2	1	1	1	1	6
Sevanya Khurd	10	3	3	1	3	20
Karnawad	23	12	13	4	4	56
Paras Pipli	4	1	1	0	0	6
Magradeh	15	8	7	4	4	38
Ratatalai	13	6	5	3	4	31
Average for 6 Villages	**11**	**5**	**5**	**2**	**3**	**26**

On an average, it appears that there is the possibility of linking a total of 26 farmers to the MDMS in the surveyed villages. Even allowing for the possibility that one farmer may supply more than one produce to the schools, this illustrative exercise still shows that there exists some scope for linking the small and marginal farmers with the MDMS.

If the volumes are inadequate in a single village (as in the case of Bamankhedi and Paras Pipli), an alternative route could be explored. A cluster of two or three villages could be taken together and the quantity of food materials demanded by the whole cluster could be worked out. This quantity could prove to be sufficiently large to provide an opportunity for the small and marginal farmers in this cluster of villages to be linked up with the MDMS.

Such a grouping of villages into a cluster for linking up with MDMS raises the question whether there would be enough capacity at the block and the district level to cater to the demand at that level. An attempt was made to see whether there was sufficient capacity at the district and block level for procurement and storage of food grains. Since the MDMS draws its supply through the PDS the overall demand for food grains for the entire public distribution at the district and the block level was compared with the capacity for procurement and storage at that level.

The overall demand for food grain from the PDS in Dewas District was estimated on the basis of the number of ration cards in circulation. At an entitlement of 35 kg grain per card for beneficiaries of the Antyodaya Anna Yojana (AAY) scheme and 20 kg for the Below Poverty Line (BPL) and Above Poverty Line (APL) cardholding households, the total estimated annual demand for grain from the PDS in Dewas District worked out to 86,219 tonnes. The corresponding figure for Bagli Block was 14,970 tonnes.

Table 4.16 Estimated demand for food grains from the PDS in Dewas District and Bagli Block in Madhya Pradesh

	No. of Cards	Entitlement/ Card/Month	Months	Total Grain Demand from PDS (MT)
Dewas District				
Antyodaya Anna Yojana (AAY)	27,605	35	12	11,594
Below Poverty Line (BPL)	1,15,524	20	12	27,726
For MDMS				4,055
Above Poverty Line (APL)	1,78,519	20	12	42,845
Grand Total (AAY+BPL+MDMS+APL)				**86,219**
Bagli Block				
Antyodaya Anna Yojana (AAY)	6,067	35	12	2,548
Below Poverty Line (BPL)	18,654	20	12	4,477
For MDMS				826
Above Poverty Line (APL)	29,659	20	12	7,118
Grand Total (AAY+BPL+MDMS+APL)				**14,970**

Source: District and block level officers

Capacities for procurement was virtually non-existent till recently at the district and block levels. However, in response to highly fluctuating supply and, in particular, due to the sharp rise in price of wheat in 2006 - 2007, GoMP has been encouraging procurement of grain at the local level. For instance, Dewas District procured 52,500 tonnes of grain in 2008 - 2009 and 20,300 tonnes in 2009 - 2010, which were distributed through the local PDS. The government officials are now hopeful that with the procurement and stock in hand, they will be able to cater to the entire PDS of the district through locally procured grain. The district also has a number of warehouses where the locally procured grain is stored. The list of the State's Warehousing Corporation's warehouses and their capacities for storage are listed in Table 4.17.

Table 4.17 Storage capacity of warehouses in Dewas District, Madhya Pradesh

Location of warehouse	Block	Capacity (Tonnes)
Dewas	Dewas	44,700
Barotha	Dewas	1,000
Khategaon	Khategaon	8,000
Kannod	Kannod	1,600
Kantaphod	Kannod	1,800
Loharda	Kannod	1,000
Panigaon	Kannod	1,000
Satwas	Kannod	2,100
Bagli	Bagli	1,000
Udainagar	Bagli	1,000
Hatpipalya	Hatpipalya	1,850
Sonkatch	Sonkatch	5,200
Tonk Khurd	Tonk Khurd	2,100
Total		**72,350**

Source: District and block level officials

From Table 4.17 it can be seen that in government warehouses more than 60 percent of the storage capacity for the entire district exists in Dewas Block at the district level. In comparison the other blocks of the district have very little storage space. This anomaly needs to be rectified if decentralised food reserves are to be promoted through procurement from local farmers, which could supply to the public-feeding programmes and the PDS system in general within the block.

4. Implementation Issues

At present, in Madhya Pradesh, wheat for the MDMS is supplied free of cost to the schools through the PDS Each school is given a special permit allowing it to draw a fixed quantity of grain from the PDS. The PTA, in charge of the MDMS, is supposed to monitor the procurement and use of grain. The school prepares its demand estimate calculated on the basis of 90 percent of enrolled children and forwards it to the Jan Shiksha Kendra (one amongst 15 schools), which in turn sends it to the Cluster Centres for primary and middle schools. This estimated demand is then forwarded to the Block Education Officer and reaches the ZP (district level) through Janpad panchayat (block level). The ZP allocates the required quantity from the FCI godown to the lead co-operative society, from where the grain moves to the local PDS shop. The school hands over the permit to procure grain to the Self-Help Groups involved in preparing the midday meals. The SHG procures the required quantity of grain from the PDS shop.

The money to purchase other items like pulses, oil, milk etc. is directly transferred by the ZP (via Block Panchayat) to the account of the SHG's on the basis of the estimated number of children present in the schools. The SHG maintains a separate bank account for this purpose. The cost norm for fund transfer fixed per child per day is Rs 2.08 for primary schools and Rs 2.60 for middle schools and the total amount to be transferred is worked out on the basis of 90 percent of the number of enrolled children. With these funds, the SHG procures food material from the local market and prepares meals in schools.

5. Operational Problems

There are several circumstances under which the system delivery can encounter serious problems under the current dispensation. The first is when the PDS system does not have enough grain to support the demand of the schools. It has been reported from schools that the breakdown of the system on account of this reason is fairly frequent. The other situation is the delays in fund transfer to the SHGs. It has been reported in many schools surveyed that on account of the delays in transfer of funds, the SHGs had to use their own funds for preparation of the midday meals or stop the supply of food altogether. A lot more streamlining of the system is required here.

A more serious issue is the adequacy of the existing financial allocations (Rs 2.08 [US$ 0.04] and Rs 2.60 [US$ 0.06]) for the MDMS itself. The amount provided, when calculated at 90 percent of enrolled children has proved woefully inadequate to meet the nutritional norms prescribed under the scheme. It was found that due to the inadequacy of the allocations, even the well-motivated SHGs are forced to provide to the children less quantities of grain etc., than what has been prescribed. Even more important, inadequacy of financial allocations gives a very strong excuse for the ill-chosen and, at times, fictitious SHGs to reduce the number of meals prepared to get into swindling of money. Since the SHGs are now the pivot of the system, they have to be given adequate funds and the choice of SHGs has to be made very carefully. During the survey, there were instances of SHGs who were just there on paper, whereas the whole system was being managed by the powerful elements in the village. In one or two instances the system had been handed over to contractors, who ran the system under the guise of the SHG.

6. Feasibility and Suggestions

Notwithstanding these drawbacks, there is a huge scope for linking small and marginal farmers with public feeding programmes. The available number of beneficiaries, annual and seasonal demand for food grains and the food production possibilities in the village clearly show such a

linkage is possible. The local procurement and storage is advantageous to the programme as it ensures continuous and uninterrupted supply of food materials. On the other hand, consistent demand from these programmes will provide an important incentive for farmers, particularly small and marginal farmers, to raise production and productivity levels. However, for such a linkage to be operationalised, many organisational changes have to be made in public-feeding programmes in terms of their procurement strategies and financial management systems.

C. MAHARASHTRA

1. Demographic Profile of Yavatmal District

Of the 33 districts of Maharashtra, Yavatmal was the chosen district for the study. The demographic profile of Yavatmal is presented in Table 4.18.

Table 4.18 Demographic profile of Yavatmal District of Maharashtra

Sl no.	Particulars	Details
1	Population (2001 censes)	20,00,000
2	Number of blocks	16
3	Number of municipal councils	9
4	Number of villages	1,870
5	Number of Schools	2,280
6	Number of beneficiaries	2,42,946

Six villages were chosen from two blocks namely Ghatanji, which is a tribal block, and Ner, which is non-tribal. The selection of tribal and non-tribal block was purposive to understand the differences in the implementation of the MDMS and the ICDS, if any. In Ghatanji Block, the villages selected were Tiwasala, Kopari and Pimpri while in the non-tribal blocks, the villages selected were Pathrad Gole, Zombadi and Bangaon.

2. Estimation of Demand for Food Materials

In the MDMS

In case of Maharashtra, no quantitative data was available but a discussion with the grass-root workers and the government officials did unearth important details. The teachers appreciated

the idea of linking small farmers to the programme for providing vegetables because fresh vegetables could then be included in the meal.

In the ICDS

The ICDS in Maharashtra include pregnant and lactating mother, children (6 – 12 months) and malnourished children (Grade 3 & 4). A total of 2,361 SHG's provide meals in 2,442 centres across 14 blocks.

The diet across the centres includes *'Khichadi'* (Rice and lentil mix). Milk, egg, banana and groundnuts are provided to the malnourished children of Grade 3 and 4. The centres in the ICDS also follow a similar pattern of procurement as the MDMS where rice is procured from the FCI and supplied to the centres through the ration shops and the rest of the ingredients from the grocer's shop. However no quantitative data is available.

3. Implementation

Rice is procured from the Food and Civil Supplies Department. The cooking agencies are entrusted with the task of procuring other essential commodities like dal, vegetables, fuel, condiments and oil. The interviews with the cooks of the MDMS revealed that the food grains are procured with the help of the District Supply Officers and Tahsildars who in turn are helped by the contractors. Registers maintained by the headmasters of the schools give a detailed account of the quantity of foodstuff used for a day. The school is responsible for the storage of the grains. The cooking agencies entrusted with the task of cooking is appointed from the Mahila Self-Help Groups, Needy *'Mahilas'* (Ladies) or NGO's. The task of supervising the cooking and serving of the meal is vested on the Village Education Committees that also comprises the mothers of the pupils.However there are many issues in implementing both the schemes.

The teachers while appreciating the fact that fresh vegetables can be included in the MDMS, however, had reservations regarding

a. The regularity in the supply of vegetables for the meals by the farmers.
b. The lack of infrastructure for storage of the bulk of vegetables that the farmers would provide.
c. The delays in repayment of the bills by the government officials.

In the ICDS programme too issues regarding implementation were studies. Though no quantitative data is available focus group discussion with anganwadi workers of Pimpri and Kopri of Ghatanji Block and Pathrad and Zombadi of Ner Block revealed the following:

1. SHG's are involved in cooking and serving the meal. When the allocated quantity of rice is not available in the ration shop, the SHG's purchase the rice from the local shops. All the anganwadi workers are members of the SHG's.
2. There is no storage facility at the anganwadi. Hence, food is stored at the SHG member's residence.
3. Though there is no corruption with regard to transfer of money, there are leakages.
4. Supervisors check the diet book, weight book and attendance book once in the month.
5. After serving the meal, the left over is carried home by the anganwadi worker.
6. Shortage of 2 – 3 kg/q of rice from the ration shops itself has been reported by the field staff.

4. Local Supply

Documented evidence from an NGO 'Srujan', Pandharkawada District, Yavatmal working with farming communities revealed that the Kolam, a primitive tribal community inhabiting the study area are not farmers by occupation but hunter gatherers. Hence, the skill of growing crops could not be developed because of limitations like proficiency in maintaining the supply link, irrigation facility, cattle problems etc. This leaves no scope for any nature of local supply for the different feeding programmes in the study area.

D. ODISHA

1. Profile of the Study Area

Denkanal, a centrally located district in Odisha, was selected as a non-random unit. It is bound by the Keonjhar District in the north, Cuttack District in the south, Jajpur in the east and Angul in the west. It is commonly believed that it owes its name to a Savara chief called Dhenka who formerly ruled over in this tract. An agricultural district, it gains much from forests that play an important role in the economy of the district. The principal forest products are timber, bamboo, firewood and kendu leaves. Some large-scale industries like Nilachal Refractories, Utkal Asbestos Ltd, Odisha Polyfibres Ltd, Shakti sugar are established in this district. The climate of this district is generally hot with high humidity during April and May and cold during December and January. The monsoon generally breaks during the month of June. Most part of this district is covered with dense forest and a long range of hills. Therefore, this district is called as the "Home of elephants and tigers for the country" As per 2001 census total population of this district is 10, 65,983. The district has 173 schools.

Gondia Block in Dhenkanal District was chosen as the basic unit from which the villages namely Bajuria, Santhapur and Dalasingamarthapur were selected. While the three schools in Bajuria and Santhapur villages had only primary sections, in Dalasingamarthapur the school had both primary and upper primary sections.

2. Estimation of Demand for Food Grains

In the MDMS

The student strength in the schools, the number who attended and the requirement of food materials on the day of the survey are provided in the Table 4.19.

Table 4.19 Estimate of food grains for the MDMS, Odisha

Villages	Sections	Enrolled	Attended	Raw material			
				Rice*	Dal**	Oil***	Eggs
Santhapur	Primary	172	155	15.7	3.14	157	172
Bajuria	Primary	23	23	3.45	690	69	23
Dalsingamarthapur	Primary	122	100	10.0	2.0	100	122
	Upper Primary	45	38	5.7	1.140	114	-

Note: *Rice calculated @ 100g/head for primary and 150g /head for upper primary
**Dal calculated @20g/head for both primary and upper primary
*** Oil 2g /head for both the age groups

Table 4.19 shows the actual quantity of ingredients used in cooking for the MDMS in the school on that particular day when the survey was conducted. Rice, dal and eggs are supplied directly to the schools while vegetables, salt, oil, spices and condiments are purchased locally. Based on the per child norm for a day it was found that there was a discrepancy between the quantity needed for a day on the prescribed norms and the actual quantity cooked in one school. The attendance in Bajuria Primary School was 23 and what was needed was about 460 g of dal. However, nearly 700 g of dal was cooked on the day of the survey. In the other schools the quantity cooked matched the recommended amounts.

Unlike this there was considerable shortfall in the amount of oil used in cooking. For oil, 2 – 3 g is the norm prescribed by the state government for both Primary and Upper Primary sections.

For a strength of 155 children in the primary class in Santhapur village, the quantity of oil needed was 310 g but only 157 g of oil was utilised in the cooking and there was a shortfall of about 300 g. Such was the case for the other two schools too. This is due to the fact that the cash allotted per child for local purchase of groceries is too inadequate to fulfill the required amount.

In contrast the eggs were in excess! Except in Bajuria village, the attendance in the other villages was less than the enrollment such that there was an excess of 20 eggs in two of the three primary schools. Since eggs are supplied to the school directly by the Government, the actual numbers needed for 100 percent of student strength is provided which obviously leaves some unutilised eggs when the full strength is not present. The annual demand for food materials based on the actual per day consumption for the MDMS in the study villages is given in Table 4.20.

Table 4.20 Estimate of annual requirement for the MDMS in the study villages in Odisha

Villages	Section	Per day consumption (kg)				Annual estimate (kg)			
		Rice	Dal	Oil	Eggs	Rice	Dal	Oil	Eggs
Santhapur	Primary	15.7	3.14	157	172	3,297	669.4	329.70	31,120
Bajuria	Primary	3.45	690	69	23	724.5	164.9	14,490	4,830
Dalsingamarthapur	Primary	10	2	100	122	2,100	420	21	25,620
	Upper Primary	5.7	1.140	114	45	1,710	342	34,200	13,500
Total		**34.85**	**6.97**	**440**	**362**	**7,831.50**	**1,626.30**	**49,040.70**	**75,070**

Note: Calculated @210 days for primary and 300 days for Upper Primary sections

The above table shows that there is sufficient annual demand for the supply of raw materials to the MDMS.

In the ICDS

In Odisha, in the study areas, two types of supplementary feeding are carried out in the ICDS centres. One was spot feeding with a hot cooked meal for severely undernourished children between 1 – 6 years in the centre along with a dry ration consisting of rice and dal provided as a Take-Home Ration for pregnant and lactating mothers for 300 days in a year. The other is a nutritious 'Ready– to–Eat' mix provided to pregnant and lactating mothers and children between 6 months – 1 year, supplied by the World Food Programme in certain selected districts. In estimating the requirement for raw materials only the state-sponsored ration is taken into account. Information on the type of feeding and the 'per head' allocation of food grains is provided in Table 4.21.

Table 4.21 Food grain allocation for the ICDS, Odisha

Category	Type of feeding	Rice (g)	Dal (g)	Oil (g)
Normal/mild and moderately malnourished children	Spot feeding	80	30	4
Severely malnourished children	Spot feeding	80	30	4
	Take-Home ration	50	30	4
Pregnant and lactating mothers	Take-Home ration	190	30	-

Table 4.21 shows that there is both spot feeding by way of a hot cooked meal at the centre and a Take-Home Dry Ration for the different categories of beneficiaries. All children irrespective of their nutritional status are provided with a hot cooked meal at the centre. In addition severely malnourished children are provided with a Take-Home Ration of 80g of rice and 50g of dal for 300 days. Similarly, pregnant and lactating mothers are provided with a Take-Home Ration of 190 g of rice and 30 g of dal for 300 days in a year. The village wise estimation of food grain requirement in the ICDS centres is provided in Tables 4.22, 4.23 and 4.24.

Table 4.22 Estimation of per day requirement of food grains in the ICDS centres in Santhapur village of Odisha

Category	Number of beneficiaries	Allocation/head Rice (g)	Total quantity of rice (kg)	Total quantity of dal **(kg)
Pregnant	9	190	1.710	0.270
Lactating	14	190	2.660	0.420
6months – 1 year	16	80	1.280	0.480
Severely malnourished	1	130*	0.130	0.030
1year – 3 years	32	80	2.560	0.960
3 – 6 years	75	80	6.000	2.250
Total			**14.34**	**4.410**

Note: *Includes 80 g at spot feeding and 50 g as Take-Home Ration
** Calculated at 30 g/day for all categories

Table 4.23 Estimation of per day requirement of food grains in the ICDS centres in Bajuria village of Odisha

Category	Number of Beneficiaries	Allocation/Head Rice (g)	Total quantity of rice (kg)	Total quantity of dal **(kg)
Pregnant	12	190	2.280	0.360
Lactating	8	190	1.520	0.240
6months – 6 years	139	80	11.120	4.170
Total	**159**		**14.92**	**4.70**

***Note**: * Includes 80 g at spot feeding and 50 g as Take-Home Ration*
*** Calculated at 30 g/day for all categories*

Table 4.24 Estimation of per day requirement of food grains in the ICDS centres in Dalsingamarthapur village of Odisha

Category	Number of Beneficiaries	Allocation/Head Rice (g)	Total quantity of rice (kg)	Total quantity of dal **(kg)
Pregnant	12	190	2.280	0.360
Lactating	6	190	1.140	0.180
6months – 6 years	72	80	5.760	2.160
Total	**90**		**9.18**	**2.70**

***Note**:* *Includes 80 g at spot feeding and 50 g as Take-Home Ration
** Calculated at 30 g/day for all categories

The annual projection for the requirement of rice and dal in the ICDS centres for all the categories of participants combined is provided in Table 4.25.

Table 4.25 Annual requirement of food grains in MDMS and ICDS in the study villages in Odisha

Village	Rice (q)	Dal (q)
Santhapur	43.02	13.23
Bajuria	44.76	14.10
Dalsingamarthapur	27.54	8.10
Total	**115.32**	**35.43**

***Note**:* Calculated on the basis of 300 days in a year

3. Local Procurement and Supply

The local capacity to supply food grains to meet the demand was assessed by discussing the issue with the farmers. All the households were engaged in agriculture and the village wise information is provided in Table 4.26.

Table 4.26 Households and agricultural produce in the study villages in Odisha

Name of village	Total Population	Number of households	Small farmer households	Nature of the crop
Santhapur	1,481	298	180	Rice, vegetables potatoes, rabi crops
Bajuria	219	41	19	Only rice
Dalsingmarthapur	1,207	245	85	Rice, potatoes, pulses

In all the three villages all households cultivate rice. In addition vegetables were cultivated in 2 villages and pulses in one. The yield of rice is of the order of 30 q per acre. Even setting apart for household consumption, it is possible for the farmers of these villages to directly supply rice to the feeding centres.

4. Implementation Issues

According to the teachers, the quantity of rice and dal supplied to the schools keeps fluctuating and there is no fixed time for delivery. The Government procedures for preparing inventory are very lengthy and tedious.

The cost allocation for purchase of oil, salt and condiments locally from the market for cooking a meal is of the order of Rs 2/- (US$ 0.044) for children and Rs 2.30 (US$ 0.05) for lactating mothers in the ICDS. In the MDMS, the cost allocation per child works out to be Rs 2.22 (US$ 0.04) and Rs 2.74 (US$ 0.06) for primary and upper primary children respectively. For supply of items to be purchased locally, the school is dependent on the middlemen or suppliers who take a long time between one supply and the next.

The farmers do not see any economic advantage in selling rice directly for the sake of the feeding programme. At the time of the study, the farmers were selling paddy to the middlemen at Rs 7.80/kg (US$ 0.17) and the sale price of rice was even higher. However, the Government supplied

rice to the centre at the rate of Rs 5.87/kg (US$ 0.13). This is not a viable proposition for the farmers who in addition may have to bear dehusking, packaging and transportation charges. Storage is also a major problem. Notwithstanding the fact that the farmers dealt with middlemen who very often paid in instalments or over a longer period of time the farmers felt that selling directly to the feeding programme at the local level was not feasible unless the selling price was increased.

However, the functionaries of the MDMS and the ICDS as well as the SHG members felt that there was some merit in linking local farmers with these programmes for improving the quality of the food served. They pointed out that the grains supplied by the FCI godowns were of such poor quality that the children were reluctant to consume the grains. The quantity was also less in comparison to the requirement. There were also problems in storage at the centres. With regard to policy makers, no discussion could be held since they were busy with the forthcoming elections and the annual accounts closing. However, the idea of decentralisation at the village level for the purchase of grains that are supplied directly by the Government is likely to be met with opposition.

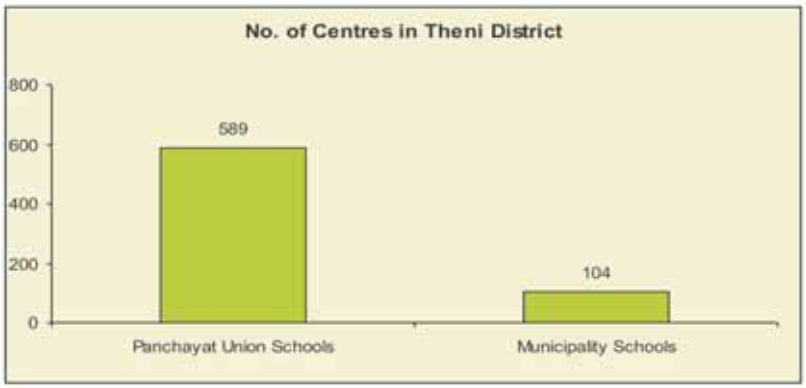
E. TAMIL NADU

1. Profile of the study area

Theni District in Tamil Nadu was chosen for the study. It is a western district of the state with Theni City as its headquaters. The population of the district as per the 2001 census was 1,093,950 with a population density of 379 per sq km. The district is divided into 2 natural divisions; the hilly areas with thick vegetation and perennial streams from the hills and the 'Cumbum valley'. Forests occupy 33 percent of the land area.

Theni district has five blocks - Periyakulam, Theni, Andipatti, Uthamapalayam and Bodinayakanur. There are 693 Noon-Meal Centres (Figure 4.1) functioning from 589 Panchayat Union schools (schools under rural bodies) and 104 Muncipality schools (schools under urban bodies).

Figure 4.1 Number of noon-meal centres in Theni District



The total number of schools/noon-meal centres in the district and their distribution is presented in Table 4.27.

Table 4.27 Distribution of noon-meal centres in Theni District of Tamil Nadu

Sl No.	Type of school	No. of schools/noon-meal centers
	Panchayat Union	
1	Perriyakulam	88
2	Andipatti	119
3	Theni	54
4	Bodinayakkanur	66
5	Uthammapalayam	80
	Total	**589**
	Muncipality	
1.	Perriyakulam	27
2.	Theni	19
3.	Bodinayakkanur	23
	Total	**104**
Grand Total		**589+104 = 693**

***Source*:** Mr. Gopalakrishnan, Statistical Officer (in-charge), Noon-Meal Scheme, Theni District

It can be seen from Table 4.27 that all 693 schools in the district spread over five blocks have a noon-meal centre. Of these 86 percent are under the control of local bodies while 14 percent are under the control of urban bodies. In 2008 - 2009, the number of students covered under the programme in the district were 1,17,257 of which 61,953 (53 percent) were boys and 55,304 (47 percent) were girls. The three villages chosen for the study were Melamangalam, Vadugapatti and Sillamarathupatti. While the first two are situated in the Perriyakulum Block, the last one is in the Bodinayakannur Block.

2. Estimation of Food Grain Requirement

In the MDMS

The number of students participating in the MDMS programme in the three villages is presented in Table 4.28

Table 4.28 Students participation in the MDMS in the study villages in Tamil Nadu

Sl No.	Village	Type of School	School Strength			Students availing MDM		
			Boys	Girls	Total	Boys	Girls	Total
1	Melamangalam Village (Perriyakulam Block)	Elementary School	70 (50%)	70 (50%)	140	70	70	140
2	Vadugapatti Village (Perriyakulam Block)	Higher secondary schools	651 (63%)	385 (37%)	1,036	163 (16%)	87 (8%)	250 (24%)
3	Sillamarathupatti Village (Bodinayakannur Block)	Higher secondary schools	744 (61%)	462 (38%)	1,206	700 (58%)	392 (33%)	1,092 (91%)

It can be seen from Table 4.28 that in the schools in Tamil Nadu, the noon meal is also extended to the higher secondary students, thus extending the benefit to a larger number of children. Of the three schools under the study, one was a Primary school with classes from I – V with children in the age group of 5 – 10 years while the other two were Secondary schools with classes from VI – X with children in the age group of 11 - 15 years. While all the children in the Primary sections were availing the mid-day meal, there was selective participation in the Upper Primary and Higher Secondary schools. In Vadugapatti village, only 24 percent of the enrolled children partook the mid-day meal. In the other village (Sillamarathupatti) participation rate was much higher with 91 percent of the eligible children partaking the noon-meal. Gender differences were also noticed with the percentage participation being higher for boys than for girls. Self-selection by students participating in the noon-meal could be due to the perception of the children and their families that they do not need the meal which is intended for the poor and economically weaker sections of the community. There is no immediate answer for the lower participation by girl students.

The scheduled meal pattern is strictly followed in all the 3 schools. While rice and dal form the standard menu, eggs are served thrice a week on Mondays, Wednesdays and Thursdays. On non-egg days 20 g of Green gram dal or potatoes are served. This was also verified during the primary survey. Except for vegetables, spices and condiments all the other food items are supplied

directly at the centre's doorsteps. The cost allocation per child for purchase of local supplies is 44 paise. The 'per day' and annual requirement of food grains in the MDMS is presented in Table 4.29. It can be seen that the annual requirement for rice and dal is in the order of 493 q and 52 q respectively.

Table 4.29 Daily and annual food grain requirement in MDMS in the study villages in Tamil Nadu

Sl No.	School	Student strength	Quantity cooked/day (kg)		Annual requirement# (q)	
			Rice*	Dal**	Rice	Dal
1	Melamangallam Primary school	140	14	2.11	51.10	7.66
2	Vadugapatti Higher Secondary school	250	37	3.75	81.40	8.25
3	Sillamarathupatti Higher Secondary school	1,092	164	16.38	360.80	36.03
Total		**1,482**	**215**	**22.24**	**493.30**	**51.94**

Note: * Calculated at 100 g for primary and 150 g for upper primary children
** Calculated at 15 g/day for all age groups.
# Calculated on the basis of 365 days for primary and 220 days for higher secondary schools

In the ICDS

The special feature of the ICDS in the Theni District of Tamil Nadu is that besides the coverage of the regular beneficiaries such as pregnant and lactating mothers and children below 6 years, the scheme also caters to those elderly citizens who do not receive the "old-age pension" (a cash entitlement for those above 60 years and living below poverty line) from the government. The elderly are given 130 g of supplementary food in the form of a 'ready-to-cook' Take-Home Ration. A similar ration of 160 g is provided to pregnant and lactating mothers. Children between 3 – 5 years are provided 50 g of supplementary food in the morning and hot cooked meal in the afternoons. In addition the elders are served during midday with cooked food consisting of mixed vegetable rice either at the centre or in their house, if someone takes it for them. The two villages have eight ICDS centres each serving children below 2 years, pregnant and lactating women and old-age pensioners.

In the ICDS centres in Tamil Nadu, a hot cooked lunch is served for children between 3 – 6 years who participate in the preschool programme in the centre. Except for vegetables, spices and condiments, all the other food items are directly supplied at the centre's doorsteps by the Government. The per day and annual requirement for food grains in the ICDS centres is provided in Table 4.30.

Table 4.30 Daily and annual requirement of the food materials in the ICDS centres in Tamil Nadu

Sl No.	Category of Beneficiaries	No. of beneficiaries	Allocation of food grains		Per day requirement (kg)		Annual Requirement* (q)	
			Rice (g)	Dal (g)	Rice (kg)	Dal (kg)	Rice (kg)	Dal (kg)
1	Children between 3 – 5 years	199	80	10	16	2	58.40	7.30
2	Elders	93	200	15	19	1.3	69.35	4.75
Total		**292**	**280**	**25**	**35**	**3.3**	**127.75**	**12.05**

***Note**: C*alculated for 365 days

Total requirement for the MDMS and the ICDS

The total annual food grain requirement in the three study villages for both the programme together is presented in Table 4.31.

Table 4.31 The total annual food grain requirement for the MDMS and the ICDS in Tamil Nadu

Schemes	Annual Requirement	
	Rice (q)	Dal (q)
MDMS	493.30	51.94
ICDS	127.75	12.05
Total	**621.05**	**63.99**

Table 4.31 reflects that a huge demand for food grains exists at the local level.

3. Local Capacity for Supply of Food Materials

Agriculture is the main economic activity with 40.33 percent of the land under cultivation. The principal crops produced in 2005 - 2006 are provided in Table 4.32.

Table 4.32 Principal crops produced in 2005 – 2006 in Theni District, Tamil Nadu

Crops	Production (Tonnes)
Sugarcane	1,201,221
Cotton	95,360
Rice (Paddy)	66,093
Millets and other cereals	57,081
Pulses	6,677
Groundnut	4,021
Gingelly	325

Source: GoTN, 2009

In the district the production of sugarcane is the highest. Besides this the district produces silk, banana, coconut, tea, coffee, cardamom, grapes and mangoes.

Cumbum Valley is a major centre for grape production with 4,000 small farmers producing over 90,000 tonnes of Muscat grapes, know locally as *panneer dhrakshai* and about 10,000 tonnes of Thomson seedless grapes. The unique feature here is that the grapes are harvested throughout the year, while in most grape-growing centres elsewhere the season ends with summer.

Cotton Spinning Mills and Sugar Mills are the major industries in the district. Handloom weaving and power looms flourish in Andippatti Taluk and there is tea production in Uthamapalayam Taluk. Bodinayakanur is a major marketplace for cardamom, coffee, tea and black pepper. This city is also called the "Cardamom City" because of the large quantity of cardamom trade in this area. It has an auction centre for cardamom.

A focus group discussion with about 15 farmers was carried out in the three study villages in Theni District. Though paddy is cultivated in the district, Theni as such does not have any cereal or pulses cultivation except for maize. Tomatoes, brinjal, ladies finger, cauliflower, cabbage, drumstick, small onions, beetroot, turnip and flat beans are the major vegetables grown throughout the year on 'rotation' basis. Spices such as cardamom and fruits such as cashew and grapes are also

grown and harvested yearly. In Theni, the *'Uzhavar Sandhai'* or Farmers' Market organised by the Agricultural Department have proved a great success since this was the only marketing outlet for the farmers in these areas.

The *Uzhavar Sandhai* is a marketing support for fruits and vegetables offered to the farmers by the Government to sell their products directly to the consumers without middlemen. The market is centrally located with about 80 – 100 small shops or sheds each supervised by the marketing committee. The farmers with permit cards can sell their produce in the allotted shops. They are eligible to transport their produce to the marketing centers free of cost using state transport corporation buses.

3. Implementation

- The supply of food grains, pulses, oil, eggs etc. to the noon-meal centres is centralised and runs very smoothly since a well-oiled and efficient machinery exists in Tamil Nadu. A separate department called Social Welfare and Nutritious Noon Meal Programme exists at the state level to oversee the implementation of the programme. Noon meal organizers appointed in the schools are paid on a timescale basis (Rs 3,000 per month) to prepare and serve the food and be in charge of the stock. In the ICDS, the cooks and helpers are appointed on a monthly salary.
- Rice, Dal, oil and eggs are procured centrally and then delivered at the doorsteps of the noon-meal centres. Only vegetables, spices and condiments are to be procured locally. Rice is procured from the FCI while dal and oil are procured from the Tamil Nadu Civil Supplies Corporation. Eggs are procured through a 'tender' procedure. The members of the egg-manufacturing association at Namakkal in Tamil Nadu have been selected and they supply eggs to the whole of the state.
- The noon-meal organiser is in charge of passing the indent, which then moves to the BDO and the process for the supply of food grains to the schools is thus flagged off.
- The officials opine that centralised procurement is useful to prevent leakages at the local level. Even the eggs are cooked before they are sent to the centres!
- There is no felt need for more decentralised procurement at the block or local level. The other argument in favour of a centralised procurement is the state support to the farmers for marketing. Since agriculture is a state subject in India, each state has evolved its own strategy and policies for support to farmers. While the central Government fixed the MSP for paddy and wheat at Rs 850/- and Rs 1,000/- per quintal respectively, the Tamil Nadu Government gave an added incentive of Rs 150/- for paddy and brought the MSP to Rs 1,000/- in par with wheat. The Uzhavar Sandhai is also another model of marketing support to the farmers (GoTN, 2009).

- The farmers in their discussion pointed out that they would be willing to sell vegetables to the centres provided the meager financial compensation of 20 Paise per head for vegetables is stepped up.
- Unlike staples, no minimum allocation is made for vegetables on a per head basis. Only a flat rate of 20 paise per head has been allotted in the 44 paise earmarked for local purchase of all ingredients. The workers are expected to manage with whatever they can get within this amount. The money being highly inadequate, farmers do not see a demand for vegetables. Further, prices of vegetables are extremely elastic. In case of scarcity, the prices can shoot up to such an extent that even the small quantities are virtually unaffordable.
- One proposition is to set the quantity of vegetables per child according to the recommended allowances as in the case of rice and dal and sensitise the Government to fix the cost allocation on the basis of the norms with flexibility for periodic revisions. This would not only enable the children to have a meal rich in micronutrients but also provide scope for farmers in the local areas to sell vegetables directly to the Noon-Meal Centres. However, government sources are not in favour of periodic revision since it will lead to administrative difficulties.
- Another major drawback is the lack of organisational set-up amongst small and marginal farmers to undertake bulk marketing and sale of rice. Unlike egg manufacturers who have organised themselves as an association and are operating on a co-operative basis, the small and marginal farmers who cultivate paddy are largely unorganised and hence marketing of rice is still through middlemen.

F. WEST BENGAL

1. Profile

The state of West Bengal is in the eastern part of India. The south district of 24 Pargana chosen for the study lies in the southern part of the state and has a huge reserve of natural resources – both plants and animals. Within this district three blocks namely Kakdwip, Pathar Pratima and Kulpi were chosen. While the density of population in Pathar Pratima (507) is lower than the district average, the figures for Kakdwip (752) and Kulpi (1,004) are considerably higher. In fact, the density of population of Kulpi is higher than that of the state average (903). The sex ratio in all the three blocks is higher than the district average.

Table 4.33 Demography of the study blocks in West Bengal

Blocks	Total Population	Density of population (per sq. km)	Sex ratio
Kakdwip	1,90,088	752	948
Pathar Pratima	2.45,601	507	950
Kulpi	2,11,651	1,004	940
South 24 pargana	69,06,689	693	937

Source: GoI, 2001

While both Kakdwip and Kulpi have higher concentration of SCs (45 percent in Kakdwip and 37 percent in Kulpi, which are higher than the district average); it is comparatively lower in Pathar Pratima (28 percent, lower than the district average, though much higher than the state average).

Agriculture forms the main livelihood activity. While Kakdwip and Pathar Pratima have much higher work participation rate (35 and 46 percent respectively), it is much lower in Kulpi (33 percent). Again, while all the three blocks share a common pattern in the proportion of agricultural labourers to the main workers (31 - 33 percent) there is a great variation in the pattern of share of the cultivators to main workers. While share of the cultivators in Pathar Pratima (35 percent) is more than twice the district average (16 percent), it is much less in Kulpi (12 percent). The figure in Kakdwip (20 percent) is somewhere near the state average, but above the district average.

Table 4.34 Worker's profile in the three blocks of Pargana District of West Bengal

Block		Agricultural households		
	Cultivators (%)	Labourers (%)	Industries (%)	Others (%)
Kakdwip	20.9	32.3	5.1	41.6
Pathar Pratima	34.7	31.1	1.9	32.3
Kulpi	12.3	32.5	5	50.2
Pargana	16.1	26	6.1	51.7

Source: District Statistical Handbook,GoWB (2005).

While the literacy rate in two blocks, namely Kakdwip (71 percent) and Pathar Pratima (73 percent) are above the district average, it is lower in case of Kulpi (68 percent). The educational facilities in general appear to be much unequipped for an equitable delivery of primary education. While the number of students per school is very high (ranging from 149 – 180) the number of teachers (2.2 – 2.5 per school)

is too inadequate. This results in a people teacher ratio of (62 – 71): 1, which hardly allows a proper functioning of the primary school system.

2. Estimation of the Demand for Food Grains

In the MDMS

The number of enrolled children in the MDMS programme in the 21 villages of the 3 blocks and the demand for food grains is provided in Table 4.35

Table 4.35 Requirement of rice and pulses in the MDMS, West Bengal

Village	No. of Schools		No. of Students		Requirement of rice in quintal (q)			Requirement of dal in quintal (q)		
	Primary	S.S.K.	Primary	S.S.K.	Primary	S.S.K.	Total	Primary	S.S.K.	Total
U-Kasiyabad	2	2	125	261	27.5	57.4	84.9	5.5	17.2	22.7
HarenNagar	3	2	345	254	75.9	55.9	131.8	15.2	16.8	31.9
13 Chandipur	1	1	228	135	50.2	29.7	79.9	10.0	8.9	18.9
Koutala	1	Nil	205	Nil	45.1	0.0	45.1	9.0	0.0	9.0
Laxmipur	1	1	144	144	31.7	31.7	63.4	6.3	9.5	15.8
Shyam Nagar	Nil	1	Nil	25	0.0	5.5	5.5	0.0	1.7	1.7
Kansarirchak	Nil	Nil	Nil	Nil	0.0	0.0	0.0	0.0	0.0	0.0
Kachuberia	1	Nil	75	Nil	16.5	0.0	16.5	3.3	0.0	3.3
Basar	1	Nil	72	Nil	15.8	0.0	15.8	3.2	0.0	3.2
Kamarhat	1	Nil	75	Nil	16.5	0.0	16.5	3.3	0.0	3.3
Purna C-pur	3	2	342	181	75.2	39.8	115.1	15.0	11.9	27.0
Meherpur	2	3	205	263	45.1	57.9	103.0	9.0	17.4	26.4
Taranagar	1	3	145	409	31.9	90.0	121.9	6.4	27.0	33.4
Srinarayanpr	3	3	275	266	60.5	58.5	119.0	12.1	17.6	29.7
Gurudaspur	1	1	137	81	30.1	17.8	48.0	6.0	5.3	11.4
U-Mpur &	1	1	125	87	27.5	19.1	46.6	5.5	5.7	11.2
Devi Chak	2	Nil	180	Nil	39.6	0.0	39.6	7.9	0.0	7.9
D-Gbindapur	2	1	385	108	84.7	23.8	108.5	16.9	7.1	24.1
Gangapur	2	2	286	183	62.9	40.3	103.2	12.6	12.1	24.7
B-syamnagar	3	2	388	202	85.4	44.4	129.8	17.1	13.3	30.4
D-Durgangar	1	Nil	196	Nil	43.1	0.0	43.1	8.6	0.0	8.6
Total	**32**	**25**	**3,933**	**2,599**	**8,65.3**	**571.8**	**1,437**	**173.1**	**171.5**	**344.6**

Note: Rice:100 g/child/day for 220 days in primary and SSK
Pulses:20 g/child/day for 220 days in primary and SS*K*

Though the government allocation of rice is made only for 85 percent of the children – the assumption being that the attendance would not be higher than 85 percent, the calculation made in the study assumed 100 percent attendance. The total annual demand for rice and dal in MDM for all schools stood at about 1,437 q and 345 q respectively.

In the ICDS

The total number of beneficiaries covered in the ICDS in the three study blocks is provided in Table 4.36. There were 60 ICDS centres in the 3 blocks where 3,896 children and 441 lactating and pregnant mothers were enrolled. In estimating the demand given the complication in calculating the exact amount of ingredients required (for the categorisation of the beneficiaries into three groups, viz, severely malnourished children, pregnant and lactating mothers and other beneficiaries. The maximum allocation of 70 g of rice and 20 g of pulses per beneficiary for 300 days was taken as the basis for calculation. The demand for rice and dal in the ICDS centres in the 3 blocks worked out to be about 9,000 and 2,000 q (quintals) of rice and dal respectively (Table 4.36).

Table 4.36 Total annual requirement of food grains and availability for ICDS in the surveyed villages in West Bengal

Villages	Enrolled children in ICDS centres	Pregnant and lactating mothers	Total beneficiaries	Required rice (q)	Required pulses (q)
Uttar Kasiyabad	198	24	222	466.2	133.2
Harendra Nagar	523	54	577	1,211.7	346.2
13 No. Chandipur	196	20	216	453.6	129.6
Koutala	195	14	209	438.9	125.4
Laxmipur Banstola	176	16	192	403.2	115.2
Shyam Nagar	38	40	78	163.8	46.8
Kansarirchak	Nil	Nil	Nil	Nil	Nil
Kachuberia	47	7	54	1,13.4	32.4
Basar	125	13	138	289.8	82.8
Kamarhat	Nil	0	0	0	0
Purnachandrapur	313	35	348	730.8	208.8
Meherpur	358	37	395	829.5	237
Taranagar	256	27	283	594.3	169.8
Srinarayanpur	546	60	606	1,272.6	363.6
Gurudaspur	138	18	156	327.6	93.6
Uttar Mahendrapur & Parbatipur	190	18	208	436.8	124.8
Devi Chak	37	5	42	88.2	25.2
Dakshin Gobindapur	85	7	92	193.2	55.2
Gangapur	187	17	204	428.4	122.4
Banashyamnagar	208	23	231	485.1	138.6
Dhutkhali Durganagar	80	6	86	180.6	51.6
	3,896	441	4,337	9,107.7	2,602.2

Note: Rice @ 70 g per beneficiary for 300 days
Pulses @ 20 g per beneficiary for 300 days

3. Capacity for Local Supply

The capacity for local supply was estimated based on the production and selling capabilities of farming households in all the 21 villages in these blocks through a household survey. An in depth enquiry was conducted in three villages of each of the selected blocks. Farmers in this case meant those who were involved in crop that included owners, lease-holders and sharecroppers. The main crops grown for selling were rice, pulses and vegetables. But, it was not possible to actually account for the vegetable production and sale. Hence, the study incorporated only two items, namely rice and pulses for developing an understanding on the availability of the raw materials for the feeding programme.

Table 4.37 Details of the surveyed households and sale of agricultural produce crops in West Bengal

Block	Gram panchayat	Village	Surveyed households	Households selling agricultural produces	Percentage of households selling agricultural produces %
Kakdwip	Ramgopalpur	Uttar Kasiyabad	473	276	58.4
		Harendra Nagar	824	209	25.4
	Bapuji	13 No. Chandipur	299	160	53.5
		Koutala	250	104	41.6
	Karanjali	Laxmipur Banstola	280	198	70.7
		Shyam Nagar	320	74	23.1
Kulpi	Belpukur	Kansarirchak	160	17	10.6
		Kachuberia	236	64	27.1
	Keoratala	Basar	250	75	30.0
		Kamarhat	250	37	14.8
	Srinarayanpur - Purnachandrapur	Purnachandrapur	710	457	64.4
		Meherpur	716	351	49.0
		Taranagar	700	556	79.4
		Srinarayanpur	934	549	58.8
Pathar Pratima	Digambarpur	Gurudaspur	900	136	15.1
		Uttar Mahendrapur & Parbatipur	457	250	54.7
	Ramganga	Devi Chak	332	80	24.1
		Dakshin Gobindapur	380	308	81.1
	Banasyam Nagar	Gangapur	498	225	45.2
		Banashyamnagar	474	191	40.3
	Dakshin Gangadharpur	Dhutkhali Durganagar	727	144	19.8
Total			**10,170**	**4,461**	**43.9**

Out of a total 10,171 households surveyed in the 21 villages, 4,461 (44 percent) had sold either rice or pulses or both. This shows the presence of a substantial local crop market. The strength of the crop market could be gauged from the fact that while the households (having sold produces) sold 4.35 percent of their total production of rice, the figure for pulses was 56.4 percent. Table 4.38 and Figure 4.2 show this clearly.

Figure 4.2 Households having sold produces in the reference year

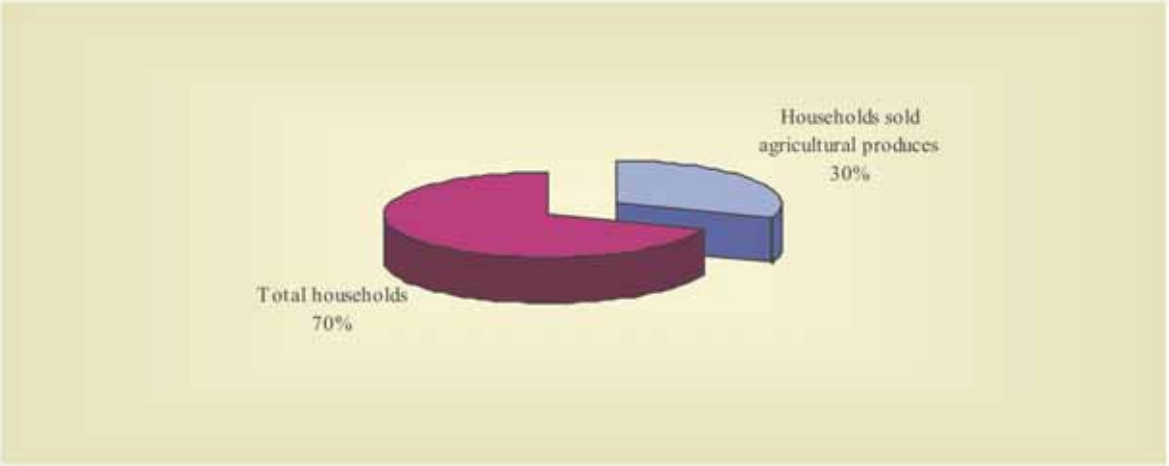


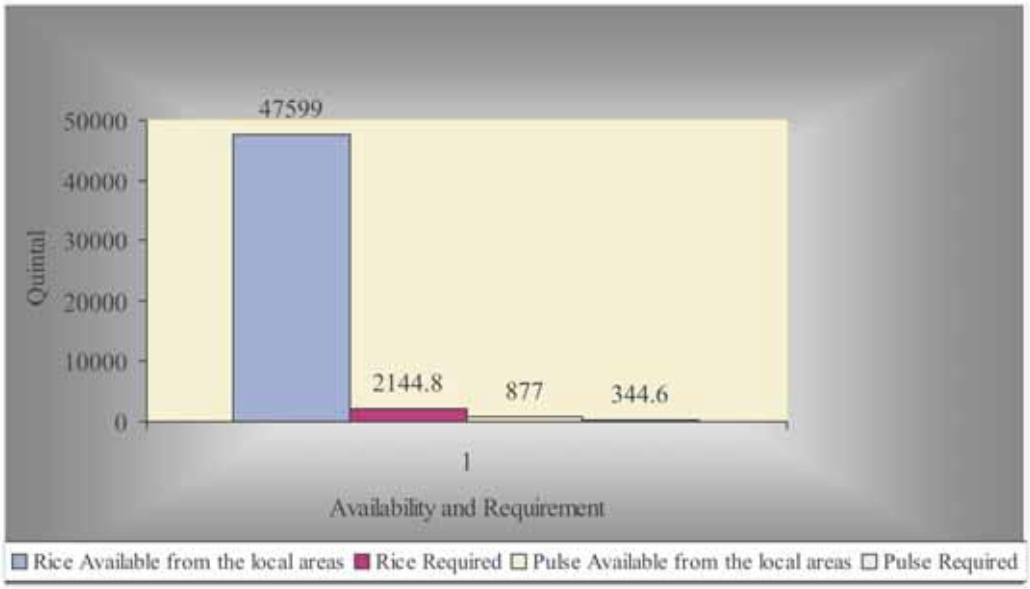
Table 4.38 Production and sale of food grains in the study villages in West Bengal

Block	Gram panchayat	Village	Surveyed household	Paddy produced (q)	Pulse produced (q)	Paddy sold (q)	Pulse sold (q)	Proportion of produced rice sold (%)	Proportion of produced pulses sold (%)
Sakdwip	Ramgopalpr	Uttar Kasiyabad	276	5,045	123	1,986	72	39.4	58.5
		Harendra Nagar	209	19,710	66	13,572	29.5	68.9	44.7
	Bapuji	13 No. Chandipur	160	1,232	Nil	295	Nil	23.9	NA
		Koutala	104	1,220	Nil	399	Nil	32.7	NA
Kulpi	Karanjali	Laxmipur Banstola	198	2,923	57	707	20.5	24.2	36.0
		Shyam Nagar	74	1,134	Nil	414	Nil	36.5	NA
	Belpukur	Kansarirchak	17	225	Nil	47	Nil	20.9	NA
		Kachuberia	64	713	88.5	148	31	20.8	35.0
	Keoratala	Basar	75	602	7	157	1	26.1	14.3
		Kamarhat	37	549	2	235	Nil	42.8	NA
Pathar Pratima	Srinarayan-pur –	Purnachandrapur	457	8,541	222	3,399	120	39.8	54.1
		Meherpur	351	6959	227	3,230	208	46.4	91.6
	Purnachan-drapur	Taranagar	556	8,497	326	2,647	138	31.2	42.3
		Srinarayanpur	549	11,938	310	6,003	207	50.3	66.8
	Digambar-pur	Gurudaspur	136	8,782.5	59	977	32	11.1	54.2
		Uttar Mahendrapur & Parbatipur	250	4,761	77.5	2,292	27	48.1	34.8
	Ramganga	Devi Chak	80	2,984	Nil	1,249.5	Nil	41.9	NA
		Dakshin Gobindapur	308	8,454	0.5	4,224.5	Nil	50.0	NA
	Banasyam	Gangapur	225	6,128	Nil	3,293	Nil	53.7	NA
	Nagar	Banashyamnagar	191	4,934	Nil	2,011	Nil	40.8	NA
	Dakshin Gangadhar-pur	Dhutkhali Durganagar	144	1,600	8	313	1	19.6	12.5
Total			**4,461**	**10,6931.5**	**1,573.5**	**47,599**	**887**	**44.5**	**56.4**

The availability of rice and pulses in the study villages as against the requirement of MDMS is provided in Figure 4.3.

Colour Page

Figure 4.3 Availability and requirement of rice and pulses in the study villages



While the quantity of rice production is sufficient, the quantity of pulses is insufficient. The survey collected data on paddy – as it is the general practice to sell the paddy rather than rice in the area. The conversion rate of paddy to rice was reported to be 149 percent; that is, each 100 kg of rice required 149 kg of paddy).

The calculation of requirement of rice and pulses for the midday meal programme in the areas shows that while 4.5 percent of the total rice sold in the areas could meet the requirement of the midday meal, the figure for pulses is 38.8 percent (it is a known fact that West Bengal is a pulses-deficit state. Yet, local level procurement could be helpful not only in running the MDMS smoothly but also in encouraging the farmers to incline towards growing pulses).Thus it is evident from the above observation that there is sufficient supply of food grains to meet the demand of the MDMS in the study villages. The availability of rice and pulses for the ICDS centres is provided in Table 4.39.

Table 4.39 Total annual availability of food grains for the ICDS in the study villages in West Bengal

Villages	Availability of rice for sale (q)	Proportion (q)	Availability of pulses for sale ((q)	Proportion of requirement to availability in the study area.
Uttar Kasiyabad	1,330.6	13.5	72	185
Harendra Nagar	9,093.2	3.7	29.5	1,173.6
13 No. Chandipur	197.7	86.8	Nil	Nil
Koutala	2,67.3	44.7	Nil	Nil
Laxmipur Banstola	473.7	29.9	20.5	561.9
Shyam Nagar	277.4	6.6	Nil	Nil
Kansarirchak	31.5	0.0	Nil	Nil
Kachuberia	99.2	37.5	31	104.5
Basar	105.2	54.3	Nil	Nil
Kamarhat	157.5	15.6	Nil	Nil
Purnachandrapur	2,277.3	11.2	120	174
Meherpur	2,164.1	11.5	208	1,13.9
Taranagar	1,773.5	14.1	138	123.0
Srinarayanpur	4,022.0	8.1	207	175.7
Gurudaspur	654.6	16.6	32	292.5
Uttar Mahendrapur & Parbatipur	1,535.6	7.8	27	462.2
Devi Chak	837.2	8.2	Nil	Nil
Dakshin Gobindapur	2,830.4	6.5	Nil	Nil
Gangapur	2,206.3	9.2	Nil	Nil
Banashyamnagar	1,347.4	18.5	Nil	Nil
Dhutkhali Durganagar	209.7	40.9	1	5,160
Total	**56,285.9**	**14.1**	**887**	**293.4**

The above calculation shows that about 14 percent of the rice sold in the previous year could sufficiently meet the needs of the ICDS centres. Thus there is no dearth of supply of rice to meet the demand by the ICDS programme. Putting together the total requirement for rice and pulses by both the MDMS and the ICDS programme, it was found that of the total quanitity of rice and pulses sold by the households in the 21 villages, 4.5 percent and 38.8 percent respectively could meet the entire demand of both the programmes.

Innovations in procurement

The Government of West Bengal made some innovations in procuring the food for the ICDS programme. In a few projects, one project each in Bankura, Howrah and North 24 Parganas, the required rice for the ICDS programme was procured through Self-Help Groups (SHGs). The SHGs were supplying the required rice to the ICDS centres. This benefited all — the farmers, the SHGs and the children. The district administration had facilitated the process. However, for some reason, the programme was stopped abruptly.

In another instance, the contractor lobby that supplied rice to the ICDS centres on behalf of the West Bengal Essential Commodities Supply Corporation (ECSC) influenced a section of the officials so powerfully, that the Government decided to procure the rice through the ECSC only. Since the ECSC has no direct supply mechanism, it depends solely on the contractors. So, precisely, 'the contractors' interest was at stake. So they manipulated the Government's policy in their favour. Nevertheless, the functionaries of the programme thought that the innovative procurement system opened up many possibilities.

4. Implementation Issues

In all the three villages the midday meal programme was suffering from many difficulties, the major one of which was irregular supply of both money and rice. "It's a country of rivers. Often flood and other calamities prevent the supply. Had there been a system of local procurement the programme would not have suffered any difficulty", said the local villagers participating in the group discussion. Also the teachers, the children and the parents complained about the quantity of rice: first, since the food was supplied for only 220 days the children were deprived of the meal on the rest of the days. Second, the allotment of rice is based on 85 percent attendance. In some schools, the teachers complained that they faced a problem on this ground as the attendance often went well above 85 percent! The third complaint was that the 100 g of rice was too insufficient for many children. The standard allocation of 100 g of rice for all children – from standard 1 to standard 8 has been creating problems and adding to the inadequacies of the programme.

The quality of the food served in the programme is poor. Rice is supplied from Kolkata, the capital city or elsewhere. It reaches the nearest PDS dealer from whom it is lifted by the schools and centres. Often it is full of fine stones and other particles that make the meal quality poor.The supply of rice to the Anganwadi centres was reported to be so inferior in quality that many of the children and mothers told us that they did not eat the food provided by the centres. "*Annaprasaner bhat uthe ase eto gandha* – it smells as bad as to make some one vomit." The research team collected samples of rice from some centres. While in some centres the rice was found to be of inferior quality, in some cases they were full of bugs. According to the monthly progress report for November 2008 the rates of attendance for the nutrition programme were only 55.7 percent for South 24 Pargana – the study district - and 62 percent for the state as a whole (henceforth these reports have been barred for public access).

5. Issues on Linkage with Local Farmers

In the villages studied, selling of farm produces was done entirely on private basis. Many were not aware that the government has also a system of procuring crops! Those who were aware reported that the procurement system ran poorly.

While the farmers sold coarse paddy at a rate of Rs 700 per quintal, the Government offered a procurement price of Rs 900. For the fine paddy the market rate and government price were Rs 900 and Rs 1,300 respectively. However, no single farmer benefited from the government procurement. It is the traders who bought the paddy to hoard and earned a lot of money by selling them later to the government or other agencies.

All the teachers and villagers said unequivocally that the midday meal programme could easily be linked to the local farmers' interest by procuring the rice and pulses from them. However, the government needs to change its policy. They said that the schools could be provided with the fund to buy the rice from the village itself and the procurement could be done either directly from the farmers or through the SHGs. There could be clusters of schools – that is, areas where farm produce was not available for sale, procurement could be from the neighbouring areas. Unemployed youths could be mobilised in this operation.

However, the Government thinks otherwise. An official of the School Education Department, in charge of the midday meal programme said that it would not be feasible to procure the rice from the local farmers, since there were many areas where sufficient quantities of rice were not available. However, the village community rejected this idea. According to them there is hardly any area where paddy is not grown and sold. Paddy was the main crop. Even if there were pockets where grains were unavailable, they could be easily mobilised.

But it cannot be denied that the Government of West Bengal had actually initiated a process to procure rice locally. Nevertheless, for some reason best known to the Government, the process has already died in infancy. The study suggests that some modifications in the system could generate immense possibilities of linking the MDMS with the interest of the small farmers.

Section - II

Study of Other Institutional Feeding Programmes and Linkages with Small Farmers

This section deals with the operational aspects of food procurement, cooking and serving in some large institutions other than the MDMS and the ICDS and explores the possibility of linking small farmers to these institutions. The institutions studied include

- Hospitals
- Hostels
- Prisons
- Industrial Canteens

Government hospitals and prisons were studied in the states of Maharashtra, Odisha and Tamil Nadu. A large-scale feeding programme in Andhra Pradesh implemented by the NGO, Rural Development Trust (RDT) Trust, was studied. The functioning of a large-scale industrial canteen was studied in Chennai City of Tamil Nadu. The choice of these institutions was based on the fact that they have a large clientele and cook food twice a day and almost round the year.

1. HOSPITALS

Health professionals agree that good nutrition keeps people healthy, promotes vitality and hastens recovery when they are sick or injured. The dietary service in hospitals is as important as the therapeutic service. The role of the dietary department is pivotal in ensuring that the nutritional care forms an integral component of patient care and it offers the necessary diet, specified according to the needs of every individual patient.

Since there are a large number of inpatients in public hospitals who are served food throughout the day, the hospitals utilise a large quantity of raw materials everyday in meal preparation, thus offering ample scope for direct linkages with small farmers. The system of procurement of food materials and issues of linkage with small farmers in the hospitals studied in the three states are presented here.

MAHARASHTRA

In Maharashtra, the TB hospital and the Government General hospital in Yavatmal Dsistrict were studied. The patient strength in the TB hospital was around 150. The hospital had a sanctioned

strength of 750 beds though at the time of survey, there was thrice the number of patients. Food was provided free of cost to the patients and managed by a dietetic department. The menu pattern followed in both hospitals is as follows:

7 a.m. - Tea, Bread
9 a.m. - Breakfast
12 noon & 7 p.m. - Meal
4 a.m. - Tea

Table 4.40 provides the daily requirement of food materials for a patient in the TB hospital.

Table 4.40 Daily requirement of food material for a TB patient in Maharashtra

Items	Quantity (g)
Flour	200 (Male) 150 (Female)
Rice	100
Tur dal	70
Milk	200 ml
Fruits	125
Vegetables	125
Salt	15
Spices	15
Sugar	25
Tea powder	5
Groundnut	40
Jaggery	30
Oil	30

The monthly and annual requirement of certain items needed in large quantities in the TB hospital is provided in Table 4.41.

Table 4.41 Monthly and annual requirement of food items in the TB Hospital in Maharashtra

Items	Monthly (q)	Annual (q)
Flour	9	108
Rice	4.5	54
Tur dal	3.15	38
Vegetables	5.63	67.50

A huge volume of 108 q of flour, 54 q of rice, 38 kg of tur dal and 68 kg of vegetables is required for feeding the inpatients throughout the year. The daily allocation of food grains per patient and the monthly and annual requirements of the General Hospital in Maharashtra are provided in Tables 4.42 and 4.43 respectively.

Table 4.42 Daily allocation daily allocations per patient in General Hospital in Maharashtra

Items	Quantity (g)
Rice	150
Flour	250
Dal	100
Fuel	600
Sugar for tea	20
Tea powder	5
Milk	50 ml
Vegetables	200
Oil	50

Table 4.43 Monthly and annual requirement of key food items in the General Hospital in Maharashtra

Items	Monthly requirement (q)	Annual requirement (q)
Flour	52.50	630
Rice	31.50	378
Tur dal (Pulses)	21	252
Vegetables	42	504

Procurement of raw materials and linkage with small farmers

The various stakeholders such as the District Tuberculosis Officer, the local branch manager of Maharashtra State Co-operative Consumer Federation (MSCCF) and the resident medical officer of the General Hospital were consulted for in-depth discussion on the issues of direct linkage with small farmers for the supply of food grains to the hospitals. The following issues emerged:

- The Government had a well-streamlined process of procurement. The food grains were provided by the district branch of the Maharashtra State Co-operative Consumer Federation (MSCCF), a retail marketing support provided by the Government to primary producers. Vegetables were procured from private contractors under license from MSCCF.
- The idea of direct linkage with farmers was exciting and had the potential to bring down the transport cost. However, there were certain limitations.
- It may not be possible to buy all the food items and only a few that are grown locally can be purchased. For example, majority of dry land farmers do not grow wheat as a winter crop.
- Other food items such as pulses and paddy are to be processed at the local level by the farmers before supplying them to the hospital.
- At the institutional level, there were limitations with regard to storage of food grains and vegetables.
- The possibility of linking with local farmers directly was possible with regard to green leafy vegetables. Other vegetables such as potatoes and onions were not cultivated locally.
- A group of marginal farmers may form a SHG co-operative and enter into contract with the concerned institution. A Federation of SHGs formed at the block level would be useful to facilitate linkage for procurement and supply.

- Local capacity at village level for storage and processing of raw grains would have to be built.
- It would be a viable solution to link organic farmers to the hospitals to provide healthier food for the patients. This might help in the early recovery of the patients and the promotion of organic food at the institutional level.
- However, organising a group of organic farmers is necessary.

ODISHA

The feeding pattern for inpatients in hospitals in Odisha was studied with reference to the

1. Two State run government hospitals namely the Capital Hospital and the Municipal Hospital in Bhubaneswar City, the capital of Odisha
2. ARV treatment centres for HIV/AIDS patients
3. Food programmes for TB patients

a. HOSPITALS

In all the government hospitals, food is provided free of cost to the patients. A qualified dietician prepares the menu for different categories of patients in consultation with the doctor. The diet normally depends on the disease specifications. After collecting the diet requirements of the different patients in the wards the menu is forwarded to the catering section. The diet normally changes very frequently and also for short intervals depending on the condition of the patients during admission, after operation, and during curative and convalescent periods. Normally the patient will be given morning breakfast and two meals in a day at 12 noon and 7 p.m. in the evening.

There are different types of diet. The regular diet consisting of rice, pulses, vegetables, eggs and fish; modified diet for those who cannot digest rice and dal; diabetic diet and milk, biscuit and egg diet. The weekly menu for the regular diet consists of rice, pulses and fried vegetables twice a week; rice, pulses and egg curry twice a week and rice, pulses and fish curry thrice a week. The weekly menu for those consuming modified diet consists of bread, eggs and milk. The allocation for a diabetic patient is provided in Table 4.44.

Table 4.44 Allocation for diabetic diet in Odisha hospitals

Sl.No	Ingredients	Quantity on Mondays and Thursdays (g)	Quantity on other days (g)
1	Flour	375	375
2	Dal	60	60
3	Mixed vegetables	450	300
4	Mustard oil	10	10
5	Spices	10	10
6	Salt	10	10
7	Egg	-	1

b. THE ANTI RETROVIRAL TREATMENT (ART) CENTRE

Anti Retroviral Treatment (ART) Centre is functional at MKCG Medical College, Berhampur since September 2006. Drugs for the AIDS patients are available in the ART centre. Apart from ART, drugs for Opportunistic Infections and condoms are available with the ART centers. Three more ART centers are functional since 2008 – one at SCB Medical College, Cuttack, another at VSS Medical College, Burla, and a third at Koraput.

In the ART centre the patients are provided with an instant food mix by the Central Government. The patients below 5 yrs received 50 g of instant food daily whereas adults receive 100 g each. The food is supplied by the World Food Programme (WFP) with the supervision of the staff of the ART centre. Any scope of linkage with small farmers is out of question since a ready-to-cook processed mix is served to the patients.

c. TUBERCULOSIS PROGRAMME

The Revised National Tuberculosis Control Programme (RNTCP) was started in 1993 as a pilot project in five selected districts of the country. In Odisha, RNTCP was launched in 1997 with DANIDA (Danish International Development Agency) support, first in 3 tribal districts then subsequently expanded to 14 districts in a phased manner from 1997 to 2003 (Phase –I). All the 30 districts were covered by 2004.

In a discussion with the officers of the TB Department of Directorate of Health, it was learnt that there was no separate scheme in the government to supply food to the TB patients, covered under the programme. But in the Capital Hospital in Bhubaneswar, the TB patients who were admitted in the TB ward received a meal which cost Rs 25/- (US$ 0.56) whereas other patients got a meal costing Rs 20 (US$ 0.45).

Procurement and linkage with small farmers:

The procurement of raw ingredients was done through local private agencies through tenders. According to the authorities since all the hospitals were located in urban areas, there was little possibility of direct linkage with small farmers within a reasonable distance. Hence, no attempt was made to estimate the demand for the various raw materials.

TAMIL NADU

The Government General hospital in Chennai City was chosen for the study. It is funded and managed by the Government of Tamil Nadu. The hospital has the reputation of being one of the best in the state and ranks among the top ten in India. The dietary department of the hospital has a role in the therapeutic care of patients as well as in providing standard food menus for patients and the staff. It follows a cyclical menu. Basic outlines are used and adjustments are made to handle the different types of diets. The diets are specified by the physician in consultation with the dietician.

The General Hospital follows a conventional system in menu preparation where the menu is prepared daily from basic ingredients with preparation, assembly and finishing completed on the premises. Food is centrally prepared, placed on the patient's tray in the substations of the patient's care unit. The central kitchen of the Government Hospital caters to the needs of approximately 2,150 patients on a daily basis.

The diet prepared in the General Hospital is of six types and is administered to the patients as per their dietary requirements. The different diets include

1. CHIOD : Children Indian Ordinary Diet
2. IOD : Indian Ordinary Diet
3. M&BD : Milk and Bread Diet
4. TBD : Tuberculosis Diet
5 DD : Diabetic Diet
6 ICUD : Intensive Care Unit Diet

The menus of the different types of diet are provided in the Annexure 5.

Estimating the daily demand and passing of indent

- A census is taken of the number of inpatients in the hospital.
- Each ward has a specially appointed staff-in-charge who takes the census and submits it to the Dietary Department of the hospital.
- Generally the patients of each ward are segregated as per their dietary requirement and the doctor's prescription.
- The Dietary Department in charge calculates the quantity of items to be provided to the patients in each of the ward.

The distribution sheet is prepared as per the norms written out in the diet sheet.

The menu and the amount to be cooked per person has to pass through 3 stages.

- Dietary Department: This makes the calculation as per the census of the day, writes out the ingredients and the quantity required per patient in the wards.
- Provision Store: In the second stage, the distribution sheet is passed on to the provision store which is under the control of the Provision Store Keeper. The Provision Store keeper assembles all the required quantity of ingredients required for the different menus and sends it to the central kitchen.
- Central Kitchen: It is in the central kitchen that the food is prepared as per the different diets to be given to the patients. Next the food is supplied by the kitchen staff to the respective patients.

System of procurement

- Rice (Boiled Rice): Rice for the inpatients is procured from the Tamil Nadu Civil Supplies Corporation (TNCSC)
- Pulses (Red Gram Dal), Oil (Groundnut) and Condiments: These are procured through a yearly Open Tender Method. The quotations are approved by the Dean and the Administrative Officer (AO) of the GH.
- Milk: Milk is procured from the Government Milk Plant on a daily basis.
- Vegetables: Vegetables are procured by the Open Tender Method.
- Bread: Modern Bread is sourced from the Hindustan Lever Plant.

The indent for the purchase of raw ingredients is prepared by the Provision Store Keeper and the Dietary Department of the GH. For the items under the Open Tender Procedure, the indent is approved by the AO of the GH. However, if any additional requirement arises, a separate indent is placed and the concerned agencies supply the provision at the doorsteps. Once the provision has been supplied, the reimbursement amount is sent to the approval of the Dean and the Administrative Officer and the finances are settled.

Issues of linking with small farmers

Rice is supplied directly to the hospitals at a subsidised rate by the Tamil Nadu Civil Supplies Corporation. Similarly, milk is also provided by the Government Milk Co-operative. Bread is directly sourced from the factory of a leading business house. It is only pulses, oil and vegetables that are floated by tenders. Notwithstanding the fact that local pulse production does not exist, the economic viability to farmers for supplying pulses is questionable since there is a huge gap in the rate for which the tenders have been sanctioned and the market rates. It is likely that these tenders are awarded to these traders with a scale of operation that enables them to incur a profit in spite of decreased profit. However, problems do persist. Since the tenders are with the agreement that the materials will be supplied at a fixed rate for a given time period, the traders land in trouble when inflation soars beyond the usual levels. A comparison of the financial allocation for different food items and the market price is provided in Table 4.45.

Table 4.45 Comparison of purchase cost for the Government General Hospital with current market rates in Tamil Nadu

Ingredients	Cost per kg/ l (Rs)	Current prices*
Wheat / Rice	7.50	30
Dal	17.00	40
Milk	22.00	
Vegetables	8.00	Fluctuates between 12 - 25
Bread	22.00	
Gingelly Oil	94.75	
Salt	6.00	
Tarmarind	47.50	50

Note: * Current rate as of August 2009.
Source: Provision Store Keeper, Government General Hospital as on 16th July 2009

Table 4.45 shows a substantial gap between what the government pays and the prevailing market price for the same food items. The interview with the Provision Store Keeper suggested that the cost of egg was so high and the financial allocation was so inadequate that the procurement of egg had to be terminated for a short while when the traders could not supply at that price

A discussion with a group of farmers in Red Hills area, a suburb of Chennai, suggested that these farmers who grew vegetables were selling it to the vendors in the wholesale vegetable markets in Chennai from whom they got competitive prices. Farmers after harvesting, sorted, graded and packed their produce and sold them to intermediary traders or take their produce to nearby markets, if any. In the case of farmers in suburban Chennai, there were two or three big local markets where they could easily sell either directly or through middlemen. The middlemen took care of the produce, sold it at the market and paid the amount to the farmers at their doorstep and charged a minimal commission for the same. Very often the farmers developed a bond with the middlemen who would provide them with timely financial help too.

According to the farmers, the price offered by the Government was not attractive. Thus, the pricing structure of the individual raw materials suggests that the linkage between small farmers and the hospital is not feasible.

2. *HOSTELS*

A survey of tribal hostels was carried out in Madhya Pradesh and Maharashtra. In Madhya Pradesh the survey covered 3 urban centres of Bagli Block in Dewas District and in Maharashtra, the Yavatmal District was chosen for the study.

MADHYA PRADESH

There were 15 hostels for ST boys and girls in Bagli Block, of which 9 were surveyed. The detail of the hostels surveyed is given in Table 4.46.The hostels chosen varied in size and student strength. They were all located in the slightly bigger villages or semi-urban areas of the region, surrounded by a large number of smaller villages.

Table 4.46 Enrollment of children in tribal hostels in Madhya Pradesh

	Name of Hostel	Location	No. of Children enrolled
1	Utkrisht Kanya Chhatravas	Bagli	50
2	Utkrisht Balak Chhatravas	Bagli	50
3	Ambedkar Chhatravas & Ashramsala	Bagli	100
4	Adim Jaati Kanya Chhatravas	Bagli	55
5	Buniyadi Prathamik Vidyalala	Udainagar	50
6	Adivasi Naveen Balak Chhatravas	Udainagar	33
7	Kasturba Gandhi Ashram	Udainagar	100
8	Adimjaati Balak Chhatravas	Punjapura	25
9	Adimjaati Kanya Chhatravas	Punjapura	50
	Total for 9 Hostels		**513**

Estimation of demand for food materials in the tribal hostels

Average daily consumption of essential food items in the hostels surveyed is shown in Table 4.47.

Table 4.47 Average daily consumption of food items (kg/l) in the tribal hostels of Madhya Pradesh

Hostels	Block	Wheat	Pulses	Vegetables	Milk(l)	Rice
Utkrisht Kanya Chhatravas	Bagli	25	2	10	0	5
Utkrisht Balak Chhatravas	Bagli	30	1.5	5		5
Ambedkar Chhatravas & Ashramsala	Bagli	50	3	5		25
Adim Jaati Kanya Chhatravas	Bagli	32	4	6	2	10
Buniyadi Prathamik Vidyalala	Udainagar	10	2	3		5
Adivasi Naveen Balak Chhatravas	Udainagar	11	1	4		1.5
Kasturba Gandhi Ashram	Udainagar	30	8	8	6	5
Adimjaati Balak Chhatravas	Punjapura	7.5	1	2.5		
Adimjaati Kanya Chhatravas	Punjapura	25	2	5		5
Total for 9 hostels		**220.5**	**24.5**	**48.5**	**8.0**	**61.5**
Average per surveyed hostel		25	3	5	1	7

Assuming that the hostels are in operation at least 300 days in a year, the total annual quantities required for the feeding in the hostels is given in Table 4.48.

Table 4.48 Annual consumption of food items in hostels in Madhya Pradesh

Hostel	Block	Wheat	Pulses	Vegetables	Milk(l)	Rice
Utkrisht Kanya Chhatravas	Bagli	7,500	600	3,000	0	1,500
Utkrisht Balak Chhatravas	Bagli	9,000	450	1,500	0	1,500
Ambedkar Chhatravas & Ashramsala	Bagli	15,000	900	1,500	0	7,500
Adim Jaati Kanya Chhatravas	Bagli	9,600	1,200	1,800	600	3,000
Buniyadi Prathamik Vidyalala	Udainagar	3,000	600	900	0	1,500
Adivasi Naveen Balak Chhatravas	Udainagar	3,300	300	1,200	0	450
Kasturba Gandhi Ashram	Udainagar	9,000	2,400	2,400	1,800	1,500
Adimjaati Balak Chhatravas	Punjapura	2,250	300	750	0	0
Adimjaati Kanya Chhatravas	Punjapura	7,500	600	1,500	0	1,500
Total for 9 hostels		**66,150**	**7,350**	**14,550**	**2,400**	**18,450**
Average per surveyed hostel		7,350	817	1,617	267	2,050

Procurement and local supply

All the food materials required for the feeding programme in the hostels were procured from the open market. The nearby villages have a significant agricultural segment producing food grains, pulses and oilseeds. This indicates that all the villages are producing considerable quantities of food materials, particularly food grains, which could be utilised for strengthening the feeding programmes in the hostels for ST boys and girls.

An assessment was made to know if these volumes were reasonably large to provide an economic opportunity for the small farmers in the villages located in close proximity to the hostels. Part of the produce generated from such farms will be consumed by the farming households themselves and only the surplus will be marketed. Assuming a net marketed surplus of 500 kg for wheat, 300 kg for rice, 200 kg for pulses, 400 kg for groundnut, 400 kg vegetables and 600 kg for

milk per small farmer, the number of farmers who could be linked to the feeding programmes in each hostel was estimated as follows (Table 4.49):

Table 4.49 Likely annual food demand (kg) for hostels in Madhya Pradesh

Category	Wheat	Rice	Pulses	Vegetables	Total
Village/Town					
Bagli (4 Hostels)	41,100	13,500	3,150	7,800	
Udainagar (3 Hostels)	15,300	3,450	3,300	4,500	65,550
Punjapura (2 Hostels)	9,750	1,500	900	2,250	26,550
Quantity supplied by farmers	1,000	500	200	400	14,400
No. of Farmers Needed					
Bagli (4 Hostels)	41	27	16	20	104
Udainagar (3 Hostels)	15	7	17	11	50
Punjapura (2 Hostels)	10	3	5	6	24
Total for 9 Hostels	**66**	**37**	**38**	**37**	**178**
Average per hostel	8	4	4	4	20

There appears to be the possibility of linking around 20 farmers to each of the hostels surveyed. Extrapolating this average number per hostel to all 15 hostels in the Bagli Block, about 300 farmers could be linked to the feeding programme in the hostels for ST boys and girls.

Issues in linkage

All the food materials were purchased at locally prevailing prices. The average annual expenditure in the hostels for ST boys and girls and the cost per student is estimated in Table 4.50.

Table 4.50 Annual expenditure and cost per student in Madhya Pradesh

Name of hostel	Village/town	Annual expenditure (Rs)	Cost per student per day (Rs)
Utkrisht Kanya Chhatravas	Bagli	1,23,900	8.26
Utkrisht Balak Chhatravas	Bagli	1,06,500	7.10
Ambedkar Chhatravas & Ashramsala	Bagli	2,36,400	7.88
Adim Jaati Kanya Chhatravas	Bagli	1,81,650	9.01
Buniyadi Prathamik Vidyalala	Udainagar	79,500	5.30
Adivasi Naveen Balak Chhatravas	Udainagar	57,750	5.83
Kasturba Gandhi Ashram	Udainagar	2,68,800	8.96
Adimjaati Balak Chhatravas	Punjapura	43,800	5.84
Adimjaati Kanya Chhatravas	Punjapura	1,08,900	7.26

The expenditure per student per day comes in the range of Rs 5 to Rs 9 per hostel. Though the rates are subsidised, there is sufficient bulk to warrant economy of scale. Further since it would be purchased at the source, it involves less of marketing costs for the farmers. There was both economic feasibility and local capacity to directly link small farmers with the student hostels for supply of food grains.

MAHARASHTRA

The Department of Social Justice runs the hostel in Yavatmal District. Students belonging to the SC and ST (socially backward) categories are accommodated here. In all 825 students are admitted in 10 hostels. The average capacity of each hostel is around 82 students.The daily menu for the inmates consists of milk for breakfast; Dal, rice, chapatti, and vegetable for meals. Meat is served once in a month. Sweets are also served on National holidays.

The quantity of allocated food items per day for a student and the monthly and annual requirement for all inmates of a hostel are provided in Tables 4.51 and 4.52.

Table 4.51 Allocation of food items per student in the tribal hostels in Maharashtra

Food items	Quantity (g)
Wheat (Millets)	300
Rice	100
Pulses	130
Sugar	20
Vegetables	250
Oil (ml)	40
Ghee (Clarified Butter)	15
Milk (ml)	200
Meat	250
Eggs	2 (no.)
Semolina	60
Groundnut	15
Salt	20
Fuel	100

Table 4.52 Monthly and annual requirement of key food materials in the hostels in Maharashtra

Items	Monthly requirement (q)	Annual requirement (q)
Flour	7.40	88.60
Rice	2.50	29.52
Tur dal (Pulses)	3.20	38.50
Vegetables	6.15	74

Procurement of raw materials

The supply of food grains and vegetables is done by the district branch of Maharashtra State Consumer Co-operative Federation, Mumbai. Divisional Social Welfare Officer along with the Branch Manager invites tenders for the food grains and vegetables. It is an open bid in which government agencies and even the private contractors can participate. The winner agency, the Federation or the private contractor supplies food materials from the open market at the fixed rate for that year.

Linkage with the small farmers

The economic viability of directly linking the farmers with the hostels for the supply of food grains was analysed. Food expenses sanctioned per student are Rs 600 /month. This works out to Rs 20 per student per day. This is twice as higher than what is earmarked for a student in Madhya Pradesh. Further the process of floating tender and inviting bids provides considerable scope for linking small farmers. However, while suggesting linkage, establishing a federation of farmers at the block level would be useful to facilitate linkage for procurement and supply. Local capacity at the village level for storage and processing of raw grains has also to be built.

3. *PRISONS*

A survey of district prisons was carried out in Yavatmal District in Maharashtra, Dhenkanal District in Odisha and Chennai City in Tamil Nadu.

MAHARASHTRA

Established in the British period, the district prison has a capacity of 300. The food served in the prisons is according to the Supreme Court norms and varies for men, women and children. Prisoners assist in the preparation of food. The allocation of food materials for undertrials and convicted prisoners as well as sick patients and children are presented in Table 4.53.

Table 4.53 Daily allocation of food materials for prisoners in Maharashtra

Ingredients	Male		Female	
	Undertrials (g)	Convicted (g)	Undertrials (g)	Convicted (g)
Rice	150	200	100	150
Flour	300	350	200	250
Cereals	115	115	115	115
Vegetable	200	200	200	200
Fluid (ml)	680	680	680	680
Sugar	20	20	20	20
Tea powder	5	5	5	5
Milk (ml)	50	50	50	50
Flour	60	60	60	60
Pressed Rice	20	20	20	20
Oil (ml)	5	5	5	5

The recommended dietary allowances prescribed by the Indian Institute of Medical Research for an individual is based on age, sex and activity. There is no ready explanation as to why the undertrial prisoners are served less quantities of food than the convicted prisoners, since the status of the prisoners is not a determinant of body requirement. On the other hand, there is no difference between undertrials and convicted prisoners in the allocation of food when they are sick.

Table 4.54 Daily allocation of food materials for patient prisoners in Maharashtra

Food items	Undertrials (g)	Convicted (g)	Undertrials (g)	Convicted (g)
Milk (ml)	300	300	300	300
Sugar	25	25	25	25
Vegetable	125	125	125	125
Beat, carrot	50	50	50	50
Tomato	100	100	100	100
Pulses Powder	20	20	20	20

Table 4.55 Food allocation for children (6months – 6 years) in Maharashtra prisons

Food items	Quantity (g)
Rice	50
Flour	50
Bread	30
Pea Beans	50
Vegetables	25
Milk (ml)	300
Onion	25
Tomato	25
Oil (ml)	10
Sugar	25
Banana	1
Groundnut	25
Jaggery	25
Salt	5

The monthly and annual requirement of raw materials for all categories of inmates of the district prison in Yavatmal District is provided in Table 4.56.

Table 4.56 Monthly and annual requirement of key food materials in Maharashtra Prisons

Items	Monthly requirement (q)	Annual requirement (q)
Flour	27	324
Rice	13.50	162
Tur dal (Pulses)	10.35	124
Vegetables	18	216

Linkage with small farmers

Most of the district jails in the state posses their own agricultural land. This is mainly because of the fact that agriculture is termed as an occupational therapy for the prisoners. Vegetables are cultivated by the prisoners and only a few vegetables like onion and potatoes are provided by the contractors. The food grains are supplied by the Maharashtra State Co-operative Consumer Federation. For the other items the DIGP floats a tender. The selected suppliers supply the grain to jail through the office of the DIGP.

The cost at which the raw materials are purchased could not be ascertained since the authorities were reluctant to discuss the details as a matter of policy. However, the open tender floated by the DIGP suggests that there may not be a huge gap between the open market rates and the allotted costs. However, there were serious implementation issues in linking the small farmers according to the branch manager of MSCCF. This was because the Co-operative Society, which supplied raw materials to the prisons, had not received payments from the prisons to the tune of 1.5 crore for the previous 18 months of supply! Unless the implementation issues are sorted out linkages cannot be developed.

ODISHA

The Jharpada Jail in Bhubaneswar was surveyed. There were 555 inmates, who were served food thrice a day. The daily menu is as follows:

Table 4.57 Daily menu - Jharpada Jail in Odisha

Sl. No	Item (Quantity has not been specified. Pl. ck)
Breakfast	Tea, pressed rice and banana
Lunch	Pulses, rice and curry
Dinner	Roti, dalma (gravy made of pulses)

Besides the above routine menu, fish and mutton are served on Wednesdays and Sundays respectively.

The cost of providing breakfast, lunch and dinner to the prisoners, the break-up cost for various ingredients that constitute the meal and the purchase cost of the ingredients are provided in Tables 4.58 and 4.59.

Table 4.58 Foodgrain and cost allocation for breakfast in Odisha jail

Sl. No	Ingredients	Quantity (g)	Purchase cost per kg	Cost allocation per patient (Rs)
1	Semolina	100	17.00	1.70
2	Sugar	25	21.00	0.53
3	Ghee	.05	60.00	0.03
4	Salt	2	8.00	0.01
5	Peas	50	18.00	0.90
6	Condiment	3	80.00	0.24
7	Edible oil	2	60.00	0.12
	Total			**3.53**

Note: Including the fuel cost of .50 paise, the total cost per prisoner works out to Rs 4.04 and it relates to the period September 2009.

Table 4.59 Foodgrain and cost allocation for lunch and dinner in Odisha jail

Sl No.	Ingredients	Quantity (g)	Cost* /kg	Cost allotted per prisoner	
				Convicts (Rs)	Undertrials (Rs)
1	Per convict - atta/rice	615	15.00	9.23	7.73
2	Dal	100	42.00	4.20	4.20
3	Salt	25	8.00	0.20	0.20
4	Edible oil	15	60.00	0.90	0.90
5	Onion	5	10.00	0.05	0.05
6	Lemon/tamarind	4	60.00	0.24	0.24
7	Condiment	5	80.00	0.40	0.40
8	Vegetables	275	14.00	3.85	3.85
9	Leafy vegetables	24	12.00	0.29	0.29
10	Fuel	-		3.00	3.00
11	Non-vegetarian item for Sundays	-		2.37	2.37
	Non-vegetarian item for Wednesday	-		1.51	1.51
	Total	-		**26.24**	**24.74**

Note: Relates to the period September 2009

It can be seen from Table 4.58 that the cost of a meal of an undertrial and a convicted prisoner is subsidized and the real cost is much higher. The subsidy is borne by the government. In case of pregnant female prisoners, additional food allowances are made over and above the regular diet (Table 4.60) and the cost also varies.

Table 4.60 Food allocation for a pregnant woman Prisoner in Odisha

Sl. No	Items	Quantity
1	Milk	250 ml
2	Sugar	60 g
3	Vegetable	100 g
4	Fish/Meat	500 or 200 g, 50 ml

Note: The cost of such a diet at the present market rate will be Rs 58.57 per day

In addition, if the children (between 6 months – 6 years of age) of female prisoners live in the prison, Rs 27.10 is earmarked for a child.

Procurement of food materials

Rice is procured from Civil Supplies Department, GOI. Milk and eggs are procured from Orissa State Co-operative Milk Producers Federation (OMFED) and Orissa State Poultry Products Cooperative Marketing Federation (OPOLFED), which are state run co-operative societies. Other items like dal, vegetable, oil, milk, flour and bread are locally procured through tender. The total cost of feeding a prisoner for the whole day amounts to Rs 35/- as seen in Table 4.61. On National holidays or festivals, an extra allowance of Rs 5.09 per day is provided.

Table 4.61 Per day cost of a prisoner's meal in Odisha

Sl. No	Diet	Convicts (Rs)	Undertrials (Rs)
1	Breakfast	4.04	4.04
2	Tea	1.03	1.03
3	Lunch and dinner	26.24	24.74
4	Before bed	4.00	4.00
	Total	**35.31**	**33.81**

Linkage with small farmers

The lack of economic viability in linking farmers to this programme is brought about by the fact that food materials are procured at lower levels than the market rate. While it is understandable that some of the food materials such as rice, egg and milk supplied by the Government are subsidised, it is not clear as to how private traders are able to 'quote lower than the market rates' for items that they supply. Perhaps economy of scale operates here.

However, 'a balancing act' is obviously in vogue by both the parties; that is, the traders and the prison authorities make constant efforts to minimise costs. According to the jailor, there are plans to establish 3 centres for processing dal in the state from where it will be supplied to all the jails.

TAMIL NADU

Puzhal Jail I, II and the Female Prison in Tamil Nadu

Puzhal prison is one of Asia's largest jails having an inmate capacity of about 3,000. It consists of 3 sections.

Puzhal Jail I consisting of 2,000 undertrial prisoners

Puzhal jail II consisting of 800 convicts

Female Prison having 202 prisoners

Details about the weekly menu, preparation and passing of the indent, the procurement of ingredients and the functioning of the central kitchen were collected from the jailor and the superintendent of the prisons.

Central kitchen at Puzhal Jail

The central kitchen of the jail is equipped with all the machinery based on the principles of body ergonomics. The kitchen has equipments such as de-stoning machines, masala (spices powder) makers, dough-making machines etc., which help in saving the time of the cooks and saves the expenses on manpower. The food is mainly steam cooked and LPG gas is used for the cooking process. There is storage facility for stocking groceries. Milk and curds are kept in a separate room with water facility to prevent early spoilage. The volunteers are prisoners many of whom have had experience from catering institutions or small hotels.

Weekly Menu

A cyclical menu is followed which is uniform in all the prisons across the state. Meals are served three times a day. On sundays both vegetarians and non-vegetarians get special foods. In addition there is a private canteen functioning in the prison from which prisoners can avail tea, snacks and tiffin at their own cost. Tokens are provided to the prisoners for the same.

Tea is served once a day at 6 a.m., followed by breakfast at 6:30 am. Lunch is served at 11:30 am followed by an early dinner at 5 pm. In the case of sick prisoners, the routine menu is altered based on the doctor's prescription and includes wheat bread, milk and tender coconut water. At the time of the survey about 10 – 20 inmates were on the prescribed diet. A similar pattern was observed in the female prison. There were six children below six years, who were provided a menu as per the guidelines of the Supreme Court. The menu served and the ration for each prisoner through the week are provided in the Annexure 6.

Process of passing the Indent

A. The indent is prepared by the Deputy Jailor depending on the strength of the inmates, requirement of the kitchen and produced before the jailor for approval.
B. The quarterly budget is prepared by the Director General of Police for all jails separately through the ECS Account
C. This indent is then passed to the respective agencies and the food items are supplied to the prison.
D. At any point of time, the store has an excess stock for 15 days to cope with unforeseen situations.

Procurement Agencies

A. Rice, wheat, rava (semolina) and sugar is procured from the Tamil Nadu Civil Supplies Corporation. Thus the major staples and bulk items are heavily subsidised by the Government (See Table 4.61).

B. The Amudham Government Co-operative stores provides 29 grocery items including vegetables, the rates of which are commensurate with market rates (see Annexure 7).

C. Aavin, a Government of Tamil Nadu undertaking, is the major supplier of milk for the prison. Milk is delivered at the doorsteps of the jail two times – morning and evening.

D. The bread for the doctor's prescribed diet is manufactured by the convicts themselves in the small bakery set-up within the premises of the jail with the help of Hot Breads Pvt Ltd.

Estimation of demand

Owing to the large number of inmates in the prison, there is a huge demand for food materials on a daily basis (provided in Table 4.62).

Table 4.62 Estimation of a day's demand for some major food materials in Puzhal Jail in Tamil Nadu

Sl No.	Days of the week	Quantity per individual				Total quantity for 2,000 individuals			
		Rice (g)	Dal (g)	Vegetables (g)	Milk (g)	Rice (kg)	Dal (kg)	Vegetables (kg)	Milk (l)
1	Monday	460	110	160	100 ml	920	220	320	160
2	Tuesday	460	110	110	100+ curd	920	220	220	160
3	Wednesday	470	100	150	100+curd	940	200	300	160
4	Thursday	460	110	160	100+curd	920	220	320	160
5	Friday	470	100	170	100+curd	940	200	340	160
6	Saturday	460	110	170	100+curd	920	220	340	160
7	Sunday	470	100	160	100+curd	940	200	320	160

Local supply and linkage with farmers

The staple items procured from the Tamil Nadu Civil Supplies Corporation are heavily subsidised by the government. A comparison of the government rate and the prevailing market price is provided in Table 4.63.

Table 4.63 Food stuffs supplied by the Tamil Nadu Civil Supplies Corporation

Sl No.	Items	Cost per kg (Rs)	Market rate
1	Rice	9.40	30
2	Wheat	12.70	30
3	Rava (semolina)	21	
4	Maida (refined flour)	20	
5	Sugar	20.50	25 - 30

Though there were 29 grocery items being purchased at market rates, there was not much scope for linking farmers for supplying groceries. This is due to the fact that there are no primary producers of these items in and around Chennai.

Further, the jail authorities reported that earlier they used to float tenders for procuring the groceries and then select the suppliers on the basis of quality and rates. However, the system was unsatisfactory since there were delays in delivery and lack of availability of some items. This led to the Government supported Co-operative Societies to purchase and sell groceries to cater to the needs of Government-run institutional feeding programmes. However, the jailor was interested in purchasing vegetables daily from farmers if they would ensure timely supply.

The economic advantage to farmers in the event of sale of vegetables to the prisons could not be ascertained since no information was available on the break-up cost per item. Unless economic viability is ensured coupled with timely settlement of bill, it may not be feasible to link farmers with the programme.

4. NGO SUPPORTED SUPPLEMENTARY NUTRITION PROGRAMME

Background

Similar to the ICDS, a large-scale feeding programme run by an NGO, the Rural Development Trust (RDT) in Andhra Pradesh was taken up for study. RDT, a non-profit organization, was founded in Anantapur District in the state of Andhra Pradesh in India in 1969 by Father Vincent Ferrer. Anantapur District is one of the poorest and chronically drought-prone areas in the country receiving the least rainfall in the state. The district is characterised by predominantly rain-fed farming. Against the state average of 43 percent, only 15 percent of the agriculture land in the district is irrigated. People in this district depend on a single crop.

RDT, since its inception, has been striving to alleviate the impact of droughts and poverty in Anantpur District. At present it is working in 1,874 villages covering a population of more than 20 lakhs consisting of one of the poorest and most excluded communities – the dalits. RDT is working in the areas of education, housing, women, health, ecology and the differently abled with the objective of improving the living conditions of the poor and contributing to the eradication of poverty.

Nutrition programme

Supplementary nutrition programme is one of the supportive measures taken up by RDT with a view to improving the health of both the children and the antenatal/postnatal mothers hailing from poor households with low socio-economic background. It was launched in 350 villages in the year 2001 to improve the health status of children (0 – 4 years) and antenatal/postnatal mothers through providing a supplement consisting of boiled eggs and Ragi malt (beverage) made of jaggery and ragi flour.

In the beginning boiled eggs were distributed to the selected beneficiaries on alternative days. Later, from the year 2006, Ragi Malt (a millet beverage) was also introduced. It is distributed on all week days except Sundays for 26 days in a month. Each beneficiary receives 200 ml of Ragi Malt. Each 200 ml of Ragi Malt is made using 16 g each of ragi flour and jaggery.

The targeted participants of the programme include children of 0 - 4 year age group, antenatal mothers (from 5th month of pregnancy) and postnatal mothers (until the children are weaned away from mother's milk). Other categories of the population such as Backward Classes, old-age pensioners with no support and children with chronic diseases like TB, heart ailment and HIV are also included. Participants are identified through regular household surveys and periodic reports from the village-level health workers. In the year 2008 the nutrition programme covered 1,573 villages reaching out to 47,416 beneficiaries. The total coverage of participants is provided in the Table 4.64 and it can be seen that the children form a major group.

Table 4.64 Coverage of participants by RDT, Andhra Pradesh

Details	No. of persons
No. of villages	1,573
No. of Nutrition centres	1,637
No. of 0-4 age group children	33,216
Antenatal & postnatal mothers	5,102
Old-age persons	8,293
Chronic cases	805
Total no. of persons	**47,416**

The supplementary nutrition centres are run with the help of community health workers, teachers and members of the women's groups in the village or mothers' committees. The identified villages are grouped into 26 areas. Each area covers 50 to 60 villages, approximately 2 'mandals'. Each team consists of a team leader, a health organiser and health workers. Eggs are distributed village wise thrice a month on 10th, 20th and 30th of every month. Ragi flour and jaggery are distributed once in a month. Health workers from the identified villages assemble at the central village of their area to collect the material. Stock and attendance registers are maintained at the village level. During each distribution the health worker is paid travel costs, luggage costs for transporting the material and Rs 15/- towards food. Rs 3/- is provided as grinding charges for grinding of ragi flour.

Firewood is used for boiling eggs and for preparing Ragi Malt. A token monthly contribution is collected from the beneficiaries for firewood collection. At the village level a health activist/ a committee member/ a teacher is responsible for cooking. For this a service charge of Rs 200/- is paid per month. The cost of providing egg and the Ragi Malt works out to Rs 45 per person and it includes the administrative cost of Rs 5.

Procurement of food materials

To run the nutrition programme RDT needs to procure more than 7 lakh eggs and nearly 200 q of ragi and jaggery every month. During the recent past, the price of ragi has increased from Rs 9 to Rs 13 per kg and that of jaggery from Rs 14 to Rs 38 per kg thereby pushing up procurement cost by nearly Rs1.2 crores every month.

Procurement and distribution is done on a monthly basis for convenience and to avoid problems of storage. Besides it is the responsibility of the trader to distribute the materials village wise when the health workers gather at the area centre. Traders are provided with the list of villages and their requirements. This further simplifies the distribution process for the organisation.

For procurement of eggs, ragi and jaggery a decentralised system of bidding is followed. Three bids/quotations are invited area wise. The quotations are not called for at the organisation level covering all the areas/villages. Important criteria for selection of trader/bidder are quality and price of the material. In the case of eggs, each egg is to weigh 50 to 55 g. The quotations are called for once in three months. At the local, 'mandal' level traders participate in bidding. If there are significant changes in prices between the time of bidding and distribution, the bids will be renegotiated. This initiative may come from either the organisers or traders. The organisers keep a tab on prices through formal and informal contacts. They depend on the Bengaluru market in the nearby Karnataka State for price indications as reported in newspapers.

Annual and centralised procurement will give rise to storage and administrative problems. An administrative set-up would be needed leading to extra expenditure without any benefits. Eggs can be procured and distributed only at intervals of short time periods. Given these problems RDT has chosen to procure the food materials at the local level on a monthly basis.

Capacity for local supply and linkage with farmers

Though the trader/supplier is from the local area / 'mandal' the food materials come from outside the state, particularly from Karnataka. Eggs are not available on such a large scale locally too. In the case of ragi and jaggery too, the area under cultivation for ragi and sugarcane crops have declined in the district. Hence, it appears that there is no local capacity for supplying raw materials.

Declining groundwater is an important reason for this. In the past in Anantpur District ragi was grown under wells as the third crop, paddy and ground nuts being the first and second crops. As the groundwater levels dwindled now wells could irrigate only two crops and some times just only one crop. This led to a drastic decline in the area under ragi cultivation in the district.

At one time Hindupur in the district was an important market centre for jaggery. As sugarcane cultivation came down importance of Hindupur for jaggery also declined. In the neighbouring state of Karnataka, ragi is grown under rain-fed conditions and the area receives good rainfall. Besides, in large parts of Karnataka ragi continues to be an important staple crop. Because of these reasons ragi as well as jaggery to a great extent are being procured by the traders from the neighbouring state of Karnataka. Even when some farmers grow ragi in Anantpur District it is mostly for self-consumption and very little is left for the market. Thus RDT is of the view that linkage with local farmers for supply of ragi and sugarcane for the nutrition programme is not feasible.

5. INDUSTRIAL CANTEEN – SRF INDUSTRIES, MANALI

Industrial feeding usually takes the form of a meal provided to the workers in an industry either free of charge or at subsidised rates. This practice is widespread in many industrialised countries. Industrial feeding is feasible mainly in urban areas and is a sound investment in large enterprises. As a rule a fully balanced meal is provided, covering nearly half of the daily nutritional requirement.

The SRF Polymers Ltd., Manali, Chennai was selected to study the existing canteen facility in the unit. SRF established in 1973 has grown into a global entity with operations in 4 countries. Apart from Technical Textiles Business in which it enjoys a global leadership position SRF is a domestic leader in refrigerants, engineering plastics and industrial yarns as well.

Canteen Management

The SRF canteen is maintained by M/S Ramachandra Caterers. The SRF management only provides the infrastructure necessary for the kitchen, water supply and the canteen facilities. The canteen serves approximately 800 – 900 people a day. The canteen has a cyclical menu. A Biometric Reader installed in the canteen premises keeps track of what the workers consume and the billing is done accordingly. The kitchen has different categories of labourers. The kitchen is managed by 8 skilled workers while there are five people at the managerial level. There are about 40 unskilled labourers to help in the upkeep of the kitchen and the canteen premises. The menu of the SRF canteen for all days of the week is provided in Annexure 8. The quantum of raw materials required for food preparation on any one day is estimated as follows:

Table: 4.65 Daily requirement of food materials at the SRF industrial canteen in Tamil Nadu

Sl No.	Items	Requirement per day (kg)	Requirement per month (q)	Annual requirement (q)
1	Rice	65	19.50	237.25
2	Dal	30	9.00	109.50
3	Flour	50	15.00	182.50
4	Vegetables	45	13.50	164.25
5	Oil	30 (ml)	9.00 (ml)	109.50 (ml)
6	Salt	5	1.50	18.25
7	Milk (Tea)	80 (ml)	24.00 (ml)	292.00 (ml)
8	Milk (Curd)	80 (ml)	24.00 (ml)	292.00 (ml)

Source: Personal communication with canteen supervisor

From the table above we can see that the quantum of requirement for the meals in the SRF canteen is very high. Hence, technically linkage between the smallholder farmers and the caterers serving the meal is possible provided that a viable price is paid to the producers for the same.

Procedure of passing on the indent

The Ramachandran Catering Services is in overall charge of the central kitchen of the SRF and takes care of procurement of raw materials and food preparation.

The indent for the kitchen is passed on a monthly basis by the Provision Store Keeper who is a regular employee of the caterers. The indent is prepared based on the availability of the provisions. Some of the raw materials are procured from the respective agencies selected as per convenience. Some of the ingredients are procured from wholesale markets located in and around the organisation. This is done to save transportation charges. Appalam, pickle, spices and condiments are got from 'Shakti' masalas, a food-based business industry, from another city — Coimbatore. The caterers prefer branded items to non-branded ones to ensure a better quality food. Vegetables are purchased from the Koyembedu market in Chennai. The managers of the different departments of the catering firm are entitled to take a stand regarding what is to be procured and from which place.

Financial Management

The Ramachandran Caterers are entrusted with a multiplicity of tasks starting from the procurement of the raw provisions to the cooking and the staffing. At the end of every month, the amount incurred in the preparation of the meals is produced in the form of a bill to the SRF Finance Department which clears it.

Linkage with local farmers

Since the economic state of the farmers is an important issue to linkage, the cost price of raw materials was analysed. It is provided in Table 4.66.

Table 4.66 Cost price of the food materials incurred by the caterers at SRF Canteen, inTamil Nadu

Sl No.	Food items	Cost per kg (Rs)
1	Rice	24 – 38
2	Tur dal (pulses)	96
3	Urad dal (pulses)	58 – 65
4	Bengal gram dal (pulses)	56 – 68
5	Green gram dal (pulses)	68
6	Sugar	35

Source: Procurement Manager, Ramachandran Caterers as on 19 August 2009

The prices mentioned above are commensurate with market prices and would be economically advantageous to the farmers.

A focus group discussion was held with about 15 farmers in Red Hills area of north Chennai to know about their current marketing practices. The discussions brought forth the fact that most of the farmers sold their produce to a wholesale market in T-Nagar since the procedure is very simplified. The vegetables are plucked, sorted and packed into gunny bags and handed over to the agents. From here the agents take charge of the produce and make payments to the farmers as per the weight of the bags. However, the cost given in return of the produce is not at all competitive to the farmers who could have managed a better profit.

Several retail chains are increasingly entering into contracts with farmers to encourage them to cultivate farm products (vegetables, fruits etc). Here the farmers are assured of procurement of the produce at pre-decided prices. Marketing tie-ups between farmers or processors or bulk purchases have special significance for small farmers who have small-marketed surplus but no staying power. Thus besides linking with the wholesale markets, a group of farmers can be organised to supply vegetables to industrial canteens in and around Chennai City

Chapter V

CONCLUSIONS AND RECOMMENDATIONS

The study on large-scale publicly funded feeding programmes run by the Government, an NGO and the private sector was undertaken to explore the feasibility of linking small farmers to the programmes for market access. The study was carried out in six states namely Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu and West Bengal belonging to the southern, western, central and eastern regions of India. The Government Feeding Programmes studied were the MDMS, the ICDS and those in hospitals, prisons and hostels. A supplementary feeding programme run by an NGO in Andhra Pradesh and a private individual canteen in Chennai were studied.

On the issue of linking farmers directly to the feeding programmes the study addressed the following questions:

- Would it be economically advantageous for farmers to be linked with the programme?
- Would there be sufficient demand for food materials at the local level and would there be capacity for local supply?
- How would such a linkage influence policy and implementation issues?

Economic Viability to Farmers

In all the programmes some of the raw ingredients are supplied in kind, while for the rest financial allocation is made for local purchase. The MDMS and the ICDS programmes are jointly implemented by both Central and State Governments. The centre's share in the programme is the provision of food grains, that is, rice and wheat and bearing the transportation and cooking charges. Financial allocation for infrastructure is provided on an ad hoc basis. The menu served provision of other food materials as well as implementation aspects are taken care of by the states.

It is here that there is tremendous variability among the states. More ingredients are added to the menu by the states, for example, Andhra, Odisha, Tamil Nadu and West Bengal provide eggs in the midday meal. Fish is provided in West Bengal. Madhya Pradesh is the only state that serves wheat-based preparation instead of rice. With regard to the ICDS, Andhra and Madhya Pradesh do not serve a hot cooked meal and provide a 'ready –to-cook' packaged mix clearly flouting the norms of the Supreme Court of India. The ICDS in Odisha and Tamil Nadu besides catering to

women and children also undertake feeding of old and infirm persons living below the poverty line. In Tamil Nadu the ICDS provides a nutritious *ladoo* (a sweet snack) every morning when the children come to the centre and some cooked pulses and potato once a week in the afternoon besides the noon meal (in which eggs are served thrice a week) thus far exceeding the mandatory provisions.

Both centralised and local procurement of food materials is done at the MDMS and the ICDS centres. In all states rice or wheat is supplied by the Food Corporation of India. In Odisha and Tamil Nadu rice reaches the doorstep of the noon-meal centres directly from the FCI godown. In other states it is supplied through the Public Distribution System, from where the schools have to lift the stock. For procuring other items each state has evolved its own methods. In Andhra Pradesh, Madhya Pradesh and West Bengal all other items such as pulses, oil, spices, vegetables etc. have to be purchased locally. In Tamil Nadu except for vegetables, spices and condiments which are purchased locally, procurement of all items is centralised and is supplied to the centres in kind directly by the State Government. Even the eggs supplied to the centres are sent only after boiling. In Odisha dal, oil and eggs are supplied directly to the centres while vegetables have to be purchased locally. Hence the financial allocation per student varies across states depending on the number of items to be purchased locally. The cost allocation for a child in the MDMS and the ICDS for purchase of food materials and the items they are expected to cover are provided in Tables 5.1 and 5.2 respectively.

Table 5.1 Cost allocation per child in the MDMS in the various states

Sl No.	States	Cost per head (Rs)*		Items to be covered
		Primary	Upper primary	
1	Andhra Pradesh	3.25 (US$ 0.07)	3.25 (US$ 0.07)	Cooking cost, veg, pulse, eggs & other ingredients.
2	Madhya Pradesh	2.08 (US$ 0.05)	2.60 (US$ 0.06)	Cooking cost, pulses, veg, oil, spices etc
3	Odisha	2.22 (US$ 0.04)	2.74 (US$ 0.06)	Veg, spices, and oil
4	Tamil Nadu	0.44 (US$ 0.01)	0.44 (US$ 0.01)	Veg, spices and fuel
5	West Bengal	2.58 (US$ 0.06)	3.10 (US$ 0.07)	Cooking cost, veg, pulse, eggs, fish, meat and other ingredients.
6	Maharashtra	2.00 (US$ 0.04)	2.50 (US$ 0.05)	Pulses, vegetables, oil & administrative charges.

Note: *Figures represent period between 2008 – 2009

Table 5.2 Cost allocation per child in the ICDS in the various states

Sl No.	States	Cost per head (Rs)*	Items to be covered
1	Andhra Pradesh	Only packaged food served	Not applicable
2	Madhya Pradesh	Instant packaged food	Not applicable
3	Maharahstra	1.98 (US$ 0.04)	Dal, salt and oil
4	Odisha	2.00 (US$ 0.04)	Dal, oil, condiments and fuel
5	Tamil Nadu	2.59 (US$ 0.05)	Vegetables, spices & condiments, banana, and salt
6	West Bengal	4.00 (US$ 0.08)	Vegetables, soya, egg, vita-shakti (micronutrient)

Note: *Figures represent period between 2008 – 2009

It can be seen from Table 5.1 that the least allocation in the MDMs is for Tamil Nadu which purchases least number of items locally. In Andhra Pradesh, Madhya Pradesh and West Bengal the cost of cooking is built into the per child allocation for purchase of food items. In all the states the unanimous complaint of the local functionaries was the inadequate per day cost allocation for a child in the MDMS and the ICDS. It was impossible for those in charge of cooking and serving the meal to be able to provide a balanced meal according to the norms prescribed, leading to the supply of poor quality and quantity of food. Hence several coping strategies were adopted by those in charge. In Andhra the egg was replaced with a banana on one of the days. In Tamil Nadu the schools were maintaining kitchen gardens to supplement the noon meal. In Odisha, the quantity of oil used in the cooking was lower than the recommended amount.

Further in all states except Tamil Nadu, the Women Self-Help Group members who were involved in the cooking complained that there was nothing left to recover as cooking cost since it was already difficult to make both ends meet. This amounts to exploitation wherein the labour of poor rural women is utilised cheaply. It is only in Tamil Nadu that a separate set of staff on a time scale have been appointed as noon-meal organizers in schools for cooking and serving the meal. In the ICDS too cooks and helpers are appointed and paid an honorarium. Nevertheless even in Tamil Nadu where supply of most of the ingredients is centralised and the cooking expense taken care of, the amount provided is too meager to buy adequate quantities of vegetables for the children. Thus unless the financial allocation is increased for those food items to be purchased locally, there is no financial viability for farmers to link with the programmes.

The scenario is slightly better in the case of other large public institutions where cooked meals are served. Even here there is tremendous scope for improvement in financial allocation. In the public hospital in Odisha, the per day allocation for a patient was fixed at a flat rate of Rs 20 (US$ 0.43) which is inadequate to cover the cost of feeding a patient for the whole day. However, since all the items are purchased in bulk from local agencies by floating tenders the people in charge of cooking and serving the meal are relieved of the problems of making ends meet. It is not clear as to how this proves to be profitable to the traders. Probably the economics of scale operates here.

In the General Hospital in Tamil Nadu, there was no per day allocation of food materials for patients since it was rationalised that the dietary needs of the patients varied according to their conditions and hence the quantity and type of food supplied for each patient would vary. Based on individual requirements for all the patients in the hospital the total requirement for food materials on a per day basis is estimated by the dietitian. The day's requirement was then supplied by the stores in the hospital. Annual open tender method was awarded with fixed rates of supply for purchase of pulses, oil and condiments from private traders. However, there were problems when costs escalated beyond the ability of the trader to cope, that is, at the time of the study, supply of eggs to the patients had to be stopped for want of funds.

In Maharashtra bulk purchases were made from Government-run co-operative stores at the state level for most of the items. Only for a few items such as eggs or vegetables were private tenders solicited. However, the co-operative society had not yet been reimbursed with an amount to the tune of Rs 1.5 crore (US$ 336,602.21) by the hospitals.

In the case of free residential hostels in Maharashtra for students from disadvantaged backgrounds, the budgetary allocation for a student was Rs 600 (US$ 12.98) per month. The supply of food grains and vegetables was usually done by the State Consumer Co-operative Federation, Mumbai, though the process of selection of the supplier was through a tender floated as an open bid in which private contractors could also participate. In Madhya Pradesh the expenditure per student for a month ranged from Rs 150 – 270 (US$ 3.36 – 6.05). All food items were purchased from the open market at locally prevailing prices. Hence the scope for directly linking farmers was fairly high.

In the case of prisons in Maharashtra, the food grains are supplied by the State Co operative Consumer Federation. The inmates cultivate vegetables and only roots such as potato or onion are supplied by the contractors. Per day cost allocation for each prisoner was not available. Since the rest of the food items are procured through a tender process, it is likely that the traders find some economic viability in the programme. In Jharpada Jail in Odisha rice is supplied by the Civil Supplies Corporation. An amount of Rs 35 and Rs 34 (US$ 0 .73) per person is earmarked everyday for convicts and undertrial prisoners respectively. This covers the cost of pulses, vegetables, oil, milk, flour, bread and eggs. An extra allocation of Rs 5 (US$ 0.11) per day for each prisoner is made on National holidays and festivals. Selection of supplier is by floating a tender.

According to the Inspector General of prisons, the actual cost of providing food to a young child (of women prisoners) is Rs 27 (US$ 0.60) while for a pregnant woman it works out to Rs 58/ day (US$ 1.30). Though no complaint was made about the inadequacy of the financial allocation, cost cutting measures were under way. According to the jailor 3 centres for processing pulses were to be established in the State to supply pulses to all the prisons in Odisha. Linkage with farmers is doubtful since the prisons are situated in urban or semi-urban areas with no farming activity in nearby places. Linkage with farmers from far off places would add to transportation costs.

In the Puzhal Jail in Tamil Nadu, the State Civil Supplies Corporation supplied some major items such as rice, wheat, semolina, refined flour and sugar at subsidised cost while about 29 other items including vegetables were procured from the State owned 'Amudham' Co-operative Society, the rates of which were found to be comparable with market rates. The subsidy offered for major items (including staples) was helpful in purchasing the rest of the food materials at market rates. Further there was no cereal or pulse cultivation in the immediate vicinity. The possibility of linking farmers existed only for vegetables.

On comparing the cost allocation for the participants (whether children or adults) in the various state-feeding programmes, it is clear that it is for the ICDS and the MDMS that the gap between what is required and what is provided is huge such that the quality of service delivery is affected. As far as the institutional feeding programmes are concerned except in a few instances where the market rates are adequately met, a 'balancing act' is being carried out to bridge the gap.

In contrast in the supplementary feeding programme undertaken by RDT Trust, an NGO in Andhra, the procurement is done through floating tenders keeping in view both the qualitative and quantitative aspects. Though purchase costs are initially agreed between the vendor and the buyer, there is room for renegotiation based on market price fluctuation and correction. This process can be initiated by either of the parties. The organisation also carefully watches the market and keeps track of the movement of prices. Thus there is no threat of loss to the farmers or lack of supply for the RDT programme.

The private industrial canteen offered the best scope for direct linkage since the procurement prices are very competitive at market rates. Procurement is done through wholesale dealers in and around the organisation to avoid transportation cost. Except for vegetables, which are grown in the suburbs for which direct linkages with farmers can be made, other items have to be purchased through traders.

Demand and supply of food grains and vegetables

For any one of the public / private feeding programmes there was sufficient bulk or demand of rice/wheat to enable a group of farmers to supply food grains. As far as the MDMS and the ICDS are concerned there are a large number of rural centres with considerable demand and in principle these can be directly linked to farmers cultivating rice and wheat. With regard to supply, agricultural production varied from place to place on the type of crops that were grown. Except for Theni Block in Tamil Nadu, in all places rice was grown in the immediate local area. However, the capacity for local supply should not be seen from the perspective of only the three villages in which the study was undertaken. The demand, supply for food grains and linkage with farmers should be seen from the perspective of the Panchayat (unit of five villages) or at the block *mandal* level. This is due to the fact that staple crops (wheat or rice) are cultivated, if not in the immediate villages, in nearby villages or some where in the block. Even if there exists a shortfall in the immediate village this can be overcome by linking with the villages at the block level/Panchayat level for procurement.

Further demand triggers supply. Production of pulses is low in West Bengal when compared to other states. A move towards decentralised procurement for local feeding programmes would trigger pulse production. The other question that arises here is that why local linkage with farmers should at all be explored when the Government is anyway buying paddy from the farmers directly through its procurement centres set up in various parts of the country for running its feeding programmes and maintaining a buffer stock to ensure food security. The Government is also offering a Minimum Support Price to protect the interests of the farmers.

However, the procurement centres are present only in limited areas and a majority of small and marginal farmers with limited production capacities may not find it economically feasible to transport their grains to the centres for sales and may prefer to sell it to the traders in their own villages. In West Bengal the farmers were unaware of the procurement centres and had sold their produces only to the traders. In Tamil Nadu unlike other products there is no organized farmers' forum for marketing of paddy and the farmers are dependent upon middlemen. The farmers did not want a time-bound contract with fixed rates since sometimes the market prices exceeded that of the MSP offered by the Government. However, the reverse was true in West Bengal where the farmers sold rice at a price much lower that that of the MSP! An attempt had been made in West Bengal for local procurement of rice for the ICDS programme but the scheme was abandoned for reasons that are not clear.

Ragi millet is used in the preparation of the supplementary feeding mix distributed to mothers and children in the ICDS. The example of RDT Trust, the NGO which runs the supplementary feeding programme in Andhra Pradesh included in the study, shows the lack of local supply though there is a demand. This is due to the drought conditions that prevail there and the exploitation of ground water. This suggests that any move to link local farmers should be embedded in the larger picture of agricultural development in the State. The scope for creating a demand for the crop, support for farmers and its production should be seen as an opportunity for improving the agro-ecological climate.

With regard to vegetables which are being procured locally across states in the existing schemes, the allocation in the MDMS and the ICDS is so poor as to deem it as 'no demand'. Unlike cereals, vegetables have an unregulated market with prices being elastic and going to exorbitant heights when its movement is affected, thus making it very hard for the functionaries to purchase vegetables. This has resulted in the meals being poor in micronutrients. This factor has become a powerful reason for pushing 'micronutrient rich' ready-to-eat mixes in the feeding centres. However nutritionists have maintained that a balanced meal with adequate supply of vegetables can contribute the needed micronutrients.

Of all the states studied, it is only in Tamil Nadu that the Government has made efforts to support farmers for marketing of vegetables through '*Uzhavar Sandhais*' at the local levels. However, this is for helping farmers to gain access to open market rather than for buying from farmers themselves. Unless the financial allotment is increased, demand for vegetables cannot be created.

Policy changes and implementation issues

The publicly funded feeding programmes such as the MDM and the Integrated ICDS as well as those in a large institutional setting cater to a huge clientele on an everyday basis. The MDM reaches out to about 1,200 million children and the ICDS to about 157.86 million children as well as 8.105 million pregnant and lactating women. Similarly thousands of inmates, patients and students in prisons, hospitals and hostels respectively are served with food everyday. In such a scenario it is essential to have efficient structures and systems to streamline procurement, processing, cooking and serving of meals such that the programme is implemented smoothly.

In principle, if linkage of farmers directly to the programme at the local level is accepted some policy changes would be needed in order to make it feasible. The first would be a decentralised mechanism of procurement where farmers' federation (existing or new) would be called upon to supply the food materials to local procurement centres. This would mean setting up of local procurement centres at the block or Panchayat level, facilities for converting paddy to rice and storage space for farmers. Notwithstanding the direct linkage of farmers to the feeding programme, efforts should be made to improve the existing Government procurement of paddy/wheat directly from farmers. There should be sufficient procurement centres such that small and marginal farmers do not travel long distances to reach the centres. Storage facilities should be stepped up to prevent distress sale. Such a policy would be a major departure from the existing philosophy of centralised procurement which seems to find favour with the State for a number of reasons. Prevention of leakage is a chief motive, so much so that in Tamil Nadu only boiled eggs are supplied to the centre.

In such a centralised procurement the mechanism has to be extremely efficient with no loophole in operation. In Tamil Nadu there is an extremely well-oiled machinery in place as a result of a strong political will to deliver and years of experience in implementing the scheme. There is a dedicated department called Social Welfare and Noon Meal Programme, whose only role is to implement the various programmes effectively. The food supplies are delivered at the doorstep. However, in the other states where the political will had to be enforced by the Supreme Court, it is an 'add on' programme to some existing department such as the Education or Women and Child Development Departments or the Civil Supplies Corporation. The food supplies are delivered to the PDS from where the stocks are to be lifted by the school. The functionaries in some of the states studied were in perpetual fear of 'diminished stocks'.

In the case of West Bengal the grains supplied were of poor quality since they had to be transported from the FCI godowns in the State capital to far-flung villages. India's own experience in milk production is an example of village-based decentralised procurement. Termed as the 'white revolution' the initiative begun in the village of Anand in rural Gujarat saw procurement points set up at every Panchayat level where the primary producers would go and sell their milk. A similar exercise can be recommended for staples which would open up more marketing avenues for farmers.

In centralised operations there is no scope for flexibility to accommodate local needs and there is no automatic guarantee of 'no leakage'. In Odisha the number of eggs supplied to two of the schools studied was in excess of the student strength and it is not clear how the school handles the excess. Further as in the case of Andhra Pradesh there is a mind set to cut down on costs by avoiding local procurement, cooking and serving and to provide with ready-to-eat mixes which can be just mixed with boiling water and served.

The second major policy issue is one of enhancement of the per head financial allocation for the participants in the programme at least for the MDM and the ICDS if not for all programmes. Notwithstanding the linkage with local farmers even for the existing operations an enhanced allocation based on current market prices is needed with provision for periodic revision.

Agriculture in India is a state subject. The various states have enacted their own agricultural policies with regard to agricultural production, credit, incentives and marketing support to farmers. They have also evolved their own methods of food material procurement and implementation of their feeding programmes. Hence any attempt at forging linkages between farmers and the programmes directly at the field level should take into consideration the existing strengths and weaknesses of the programmes, marketing options for farmers, their views and those of the government functionaries. Keeping in mind the diversity of each state some general recommendations have been made across states. Specific recommendations have been made for the States of Andhra Pradesh, Madhya Pradesh, Tamil Nadu and West Bengal. Further investigations are needed for the States of Odisha and Maharashtra before any conclusive recommendations can be made.

Recommendations

A. General Recommendations

1 The financial allocation for local purchase of food materials in any of the large-scale feeding programmes across states has to be increased, particularly for the MDMS and the ICDS. Unless this is done, the quality of the meal cannot be improved and the nutrient norms would not be met.

2 The issue of linkage has to be seen from the larger agrarian context of shift by farmers to commercial cultivation of non-grains, shrinking land base and lack of economic return. The comprehensive recommendations of the Farmers' Commission need to be implemented to make agriculture a viable source of livelihood.

3 Marketing support to farmers by the state has to be enhanced for a number of crops. The local procurement of food grains has to be stepped up, through setting up of more procurement centres. Federation of small and marginal farmers at the local level would be a useful strategy to support marketing.

4 Storage facilities for farmers have to be created in villages where a group of small and marginal farmers can store the surplus grain for marketing.

State specific recommendations

1. Andhra Pradesh

1. As far as the Mid Day Meal programme is concerned, there is scope for linking small and marginal farmers for sale of vegetables. There is adequate production at the 'mandal' level for supplying vegetables.
2. Advocacy is needed to step up the financial allocation for local procurement in the MDMS on the basis of current market rates since the present allocation is inadequate.
3. A change in menu is needed in the ICDS. Instant 'ready-to-cook' mix has to be replaced by a hot cooked meal for children to conform to the Supreme Court specification for meeting nutrient requirement.

2. Madhya Pradesh

1. There is a huge scope for linking small and marginal farmers with public feeding programmes. The available numbers of beneficiaries, annual and seasonal demand and existing food production in the village clearly show such a linkage is possible.

2. To be linked to the MDMS, the small and marginal farmers will have to be first organised into groups of primary producers, through SHGs, farmers' groups etc.
3. Once the farmers become part of a primary producer group, linkages can be made easily.
4. The existing financial allocations have to be stepped up and the system of fund transfer has to be streamlined.
5. An important step is to strengthen the system of local procurement and storage of food grains. There is no such system in existence at present. A new system of local food reserve could be proposed under which capacities are created at the block level to procure and store food grains and to allocate it to the schools (and other feeding centres) falling within its geographical area. In addition to minimising the transportation costs, this scheme also ensures that adequate grain is available for the programmes to run and paucity of food materials does not become a constraint on the performance of these crucial programmes. Local procurement will ensure that the grain provided through the programmes is fresh and of reasonable quality.
6. Local procurement allows preparation of meals to suit local food consumption patterns. This will give a chance for necessary items like pulses to be included in the PDS in areas like Madhya Pradesh, where cereals like maize and millets like *jowar* and *bajra* are part of the daily diet of the households, the local food reserve could allow for procurement of such items and their inclusion in the meals provided in schools. This could introduce a much-needed variety in the meals provided as well as making it more relishing for the children.
7. The menu for feeding under the ICDS in Madhya Pradesh at the time of the study does not offer any scope for linkage with small and marginal farmers. This is because packaged, ready-to-eat food is served. Therefore, the first step is to facilitate a change in menu**,** to revert to the varied weekly menu of hot cooked meals
8. The coverage of the ICDS programme in Madhya Pradesh is far from satisfactory. The coverage must expand to include all the needy population, in particular pregnant and nursing mothers and children under three years.
9. Small farmers should be linked with tribal hostels since there is adequate supply and demand. At the block level, a Federation of 300 farmers could be linked up with the programme.

3. Tamil Nadu

1. There is scope for linking up small and marginal farmers with the MDMS and the ICDS for supply of vegetables since they are procured locally.
2. However, increased financial allocation for procurement of vegetables[1] is needed for meeting the nutritional norms. Advocacy to this effect should be stepped up and it should be seen as a rights issue.
3. Bananas for non-egg eating children are procured from the local markets by the noon-meal organisers. Hence a group of farmers can be formed into a co-operative for supplying bananas to the centres.
4. Improved storage facilities should be made available at the block level so that the farmers can sell off the grains during the lean periods and earn a better amount for the yield instead of selling it immediately after harvest.

4. West Bengal

There is scope for linking small farmers with the MDMS and the ICDS.

1. All the schools and the ICDS centres should get adequate financial allocation to procure the raw materials for the programmes locally. The Self-Help Groups (SHGs) engaged in cooking the midday meal could be in charge of procuring and preparation of the raw materials; that is, de-husking of paddy.
2. Food materials not available locally, can be bought from outside on wholesale basis. On the other hand, this process would also open up the possibility of growing newer crops. For example, in many areas pulses are not grown, but given a ready opportunity of procurement of pulses for the MDMS and the ICDS, farmers will take interest and grow them.
3. Farmers' SHGs can be formed to encourage them to supply to schools, the ICDS centres, hospitals etc. In the course of time when farmers see the benefits they may take interest in supplying the raw materials to the schools, the ICDS centres, hospitals and other places.
4. It should be ensured that the farmers get the Minimum Support Price for the produce. However, the initiative requires a number of consultative discussions before a consensus is arrived on the best possible way to work this out.

In the backdrop of the study and its findings, a few pilots can be initiated in selected blocks of a district, of linking small farmers to local feeding programmes based on which a case could be built for upscaling and replication. The district/block administration would have to be involved as a partner to operationalise this initiative.

[1] At the recent meeting of the State level Monitoring Committee for Noon Meal Programme in Tamil Nadu (in October 2009) in which MSSRF participated, the vegetable allocation has been recommended to be increased.

ANNEXURES

Annexure- 1

Existing nutrition and health interventions

Malnutrition being a multifaceted problem requires a multisectoral approach for its prevention and control. A number of direct and indirect nutrition interventions are being undertaken by different sectors of the government with a view to promote nutrition of the people. Some of the direct interventions are as follows:

Ministry of Women and Child Development

- Integrated Child Development Services (ICDS) Scheme
- Nutriton Programme for Adolescent girls (NPAG)
- Nutrition Advocacy and Awareness Generation Programmes of Food and Nutrition Board (FNB)
- Follow-up action on National Nutrition Policy (1993)

Ministry of Health and Family Welfare

- Iron and Folic Acid supplementation for pregnant women
- Vitamin A supplementation for Children of 9 – 36 months age group
- National Iodine Deficiency Disorders Control Programme

Department of Elementary Education and Literacy

- Midday meals for primary school children

Some of the indirect interventions include

Department of Agriculture and Co-operation

- Increased food production
- Horticulture interventions

Food and Public Distribution

- Targetted Public Distribution System
- Antyodaya Anna Yojana
- Annapurna scheme

Ministry of Rural and Urban Development

- Food for Work Programme
- Poverty Alleviation Programme
- Safe Drinking Water and Sanitation
- National Rural Employment Guarantee Scheme

Ministry of Health

- National Rural Health Mission
- Integrated Management of Neonatal and Childhood Illnesses (IMNCI)
- Various public health measures

Department of Elementary Education and Literacy

- Sarva Siksha Abhiyaan
- Adult Literacy Programme

(11th Five Year Plan 2007 – 2012).

Annexure – 2

Schematic presentation of the structural mechanism for the delivery of raw materials to the MDMS in the different states

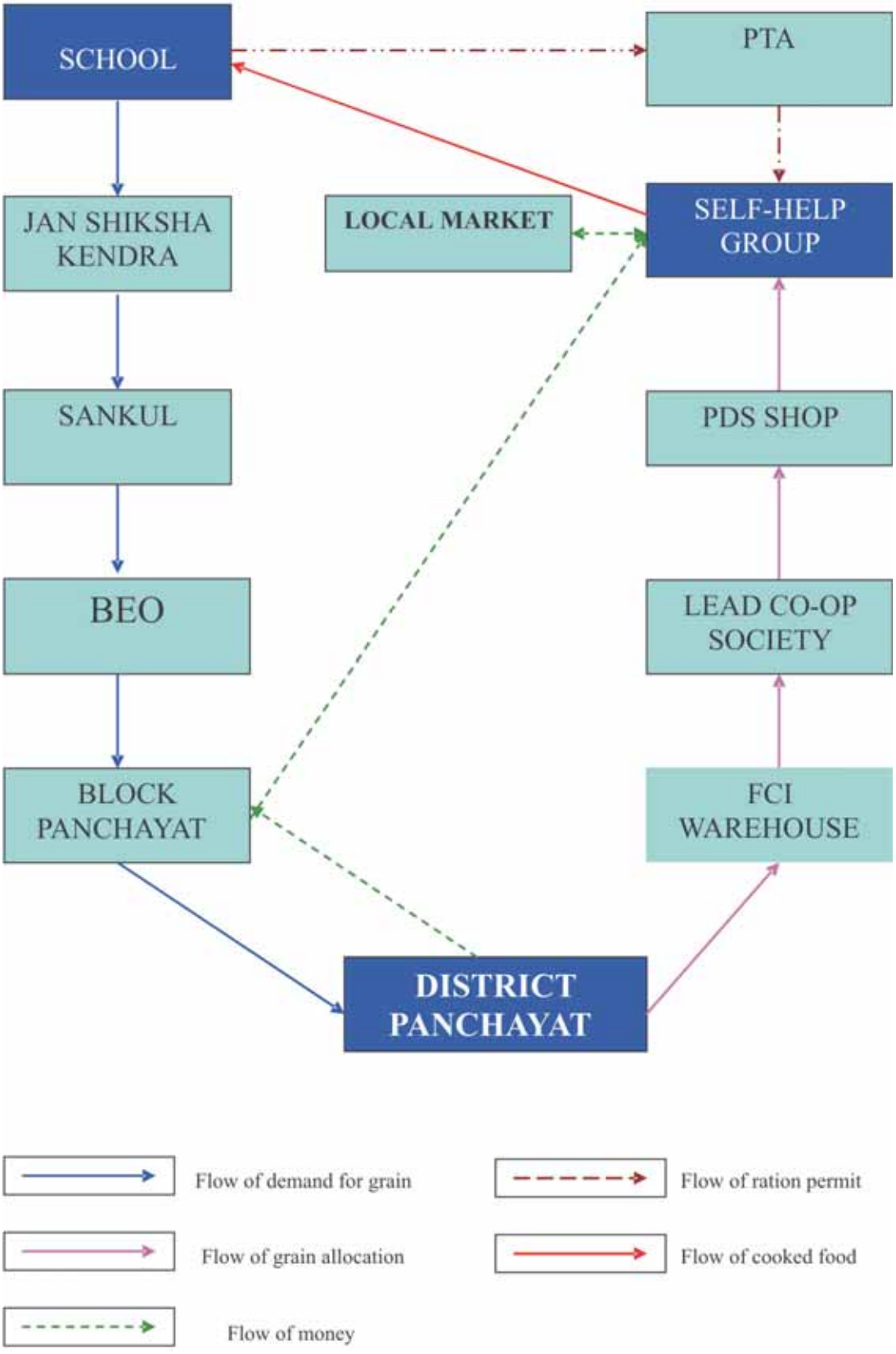
3a. Operational system of MDMS (Andhra Pradesh)

Mandal Education Officer (MEO)
↓
Mandal Revenue Officer (MRO)
↓
PDS Dealers
↓
PDS Dealers to Schools

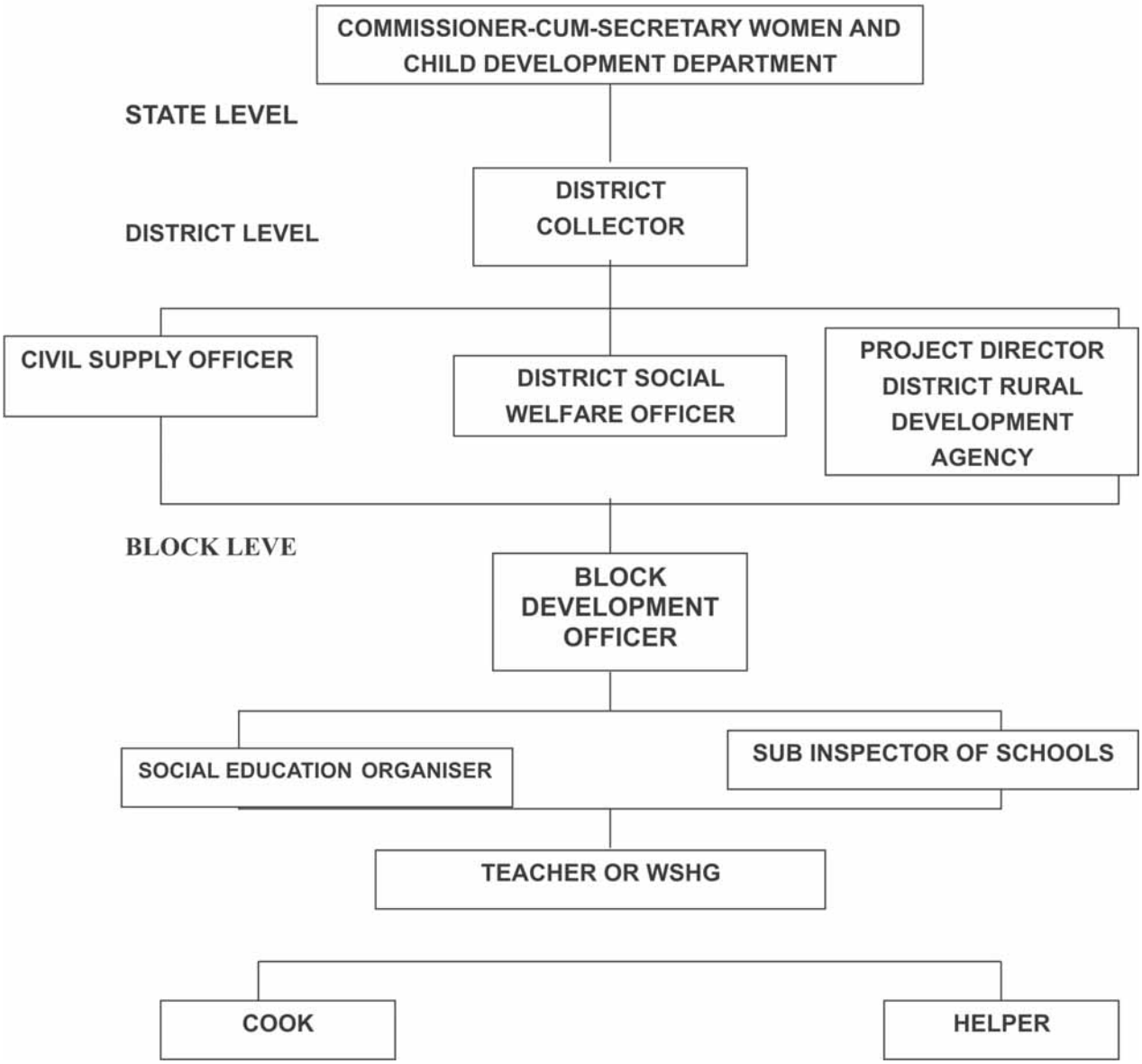
3b. Operational system of MDMS (Maharashtra)

Food and Civil Supply Department
↓
District Supply Officers and Tahasildars
↓
Transport Contractors
↓
PDS Dealers
↓
School Headmaster

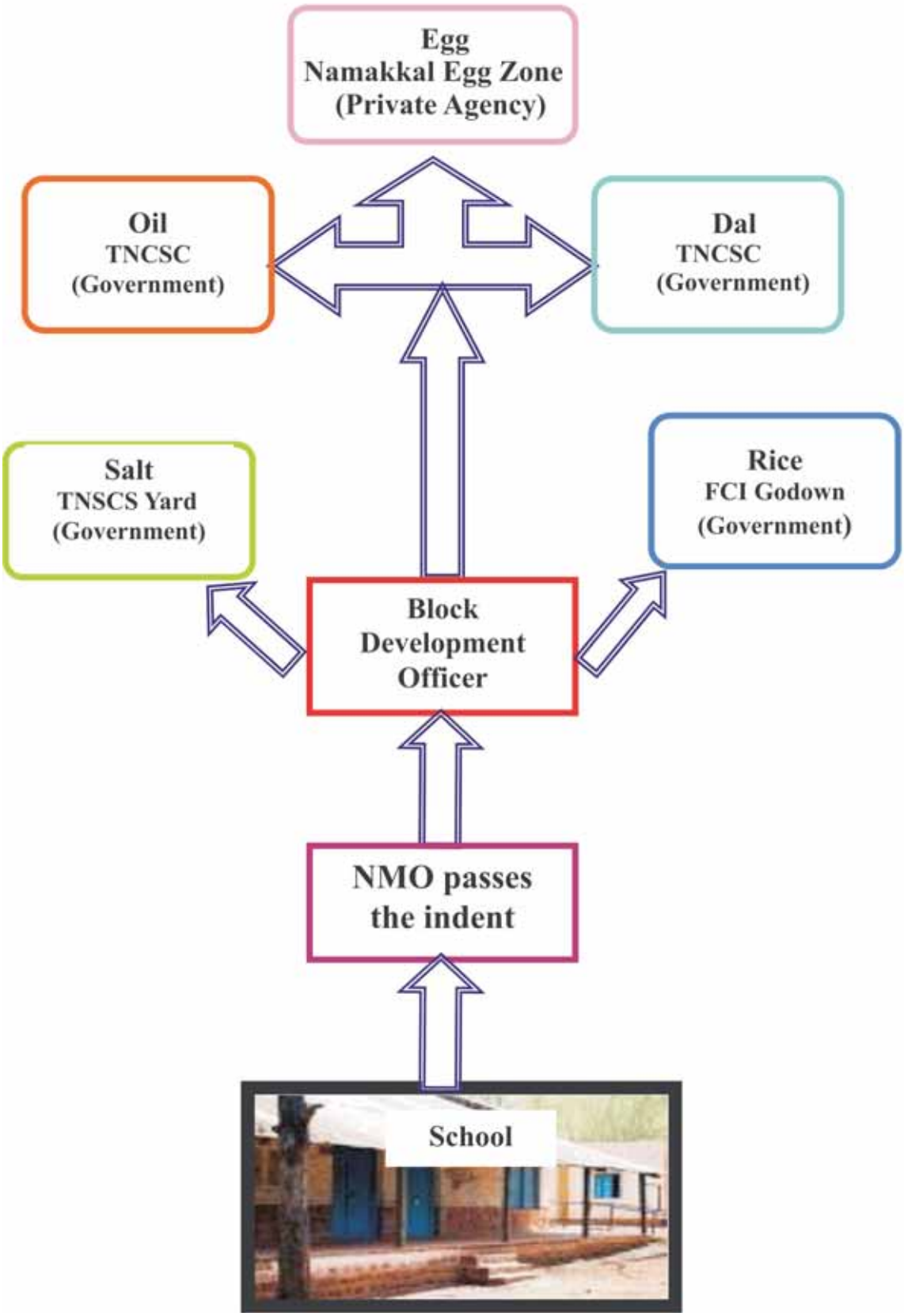
3c.Operational system of MDMS (Madhya Pradesh)



3d. Operational system of MDMS (Odisha)



3e. Operational system of MDMS (Tamil Nadu)



3f. Operational system of MDMS (West Bengal)

Department of School Education
↓
FCI to District distributors
↓
Sub-Divisional Level Wholesalers
↓
Wholesalers to PDS Dealers
↓
PDS Dealers to Schools

Annexure – 3
Menu for the midday meal in the six study states

a) Weekly menu for the midday meals, Andhra Pradesh

Sl No.	Day	Menu	Ingredients
1	Monday	Rice, dal and egg	Rice, red gram, tamarind, cooking oil, salt, chilly powder, vegetables, egg.
2	Tuesday	Rice, dal	Rice, red gram, tamarind, cooking oil, salt, chilly powder, vegetables.
3	Wednesday	Rice, dal	Rice, red gram, tamarind, cooking oil, salt, chilly powder, vegetables.
4	Thursday	Rice, dal and egg	Rice, red gram, tamarind, cooking oil, salt, chilly powder, vegetables, egg.
5	Friday	Rice, dal	Rice, red gram, tamarind, cooking oil, salt, chilly powder, vegetables.
6	Saturday	Rice, dal	Rice, red gram, tamarind, cooking oil, salt, chilly powder, vegetables.
7	Sunday	School is closed	

b) Weekly menu under ICDS for Dewas District, Madhya Pradesh (2007)

Day	Menu	Quantity to be Served (g)			Allocation (Rs)
		Children	P&N M	Malnourished children	• Rs. 2 for children under 6 years • Rs. 2.30 for Pregnant and Nursing Mothers and Adolescent Girls • Rs. 2.70 for malnourished children
Monday	Poori-sabji	115	130	150	
Tuesday	Kheer-poori	140	160	185	
Wednesday	Nutritious poha	80	90	110	
Thursday	Halwa	95	105	125	
Friday	Dal, sabji and upma	90	100	120	
Saturday	Suji-besan laddu	100	115	135	

c) Weekly menu for midday meals, Maharashtra

Sl no.	Day	Food	Contents
1.	Monday	Dal +rice	Rice, tur dal, palak, tomato
2.	Tuesday	Vegetables +rice	Potato, brinjals, tomato, cabbage, rice
3.	Wednesday	Rice+ 'Usal'	Rice, cereals- mung, burabati, peas, chana
4.	Thursday	Khichadi+ vegetables	Rice, tur dal, methi, palak
5.	Friday	Masala rice	Potato, peas, chana
6.	Saturday	Kadhi+ rice	Curd, rice

d) Weekly menu for midday meals, Odisha

S No.	Day	Menu for the day	List of ingredients
1	Monday	Rice, dalma	Rice,dal.vegetable
2	Tuesday	Rice, dalma	Rice,dal,vegetable,egg
3	Wednesday	Rice, dalma, egg curry	Rice,dal,vegetable,egg
4	Thursday	Rice, dalma	Rice,dal.vegetable
5	Friday	Rice, dalma, egg curry	Rice,dal,vegetable,egg
6	Saturday	Rice, dalma	Rice,dal,vegetable

e) Weekly menu for midday meals, Tamil Nadu

Sl No.	Name of the village and the school	Monday	Tuesday	Wednesday	Thursday	Friday
1.	Mellamangallam Village, Elementary School	White rice with sambar and an egg	White rice with sambar and boiled Bengal gram or Green grams	White rice with sambar and an egg	White rice with sambar and an egg	White rice with sambar and boiled potato each
2.	Vadugapatti Village, Government Higher Secondary School					
3.	Sillamarathupatti Village, Government Higher Secondary School					

f) Weekly menu for midday meal, West Bengal

Sl No.	Days of the week	Menu
1	Monday	Rice, dal, egg
2	Tuesday	Rice, dal, vegetables
3	Wednesday	Rice, dal, fish
4	Thursday	Rice, dal, vegetables
5	Friday	Dal and egg/ meat (on every last Friday of the month)

Annexure – 4

Questionnaire for data collection

Study of the Institutional feeding Programmes and Linkage with Smallholder Farmers

1) Name of the respondent-
2) Name of the Organisation -
3) Managing Authority-
4) Menu served each day (Weekly/Cyclical)

Ingredient	Quantity	Cost
Rice		
Dal		
Vegetables		
Oil		
Salt		
Wheat/maida/ragi		
Milk for tea/coffee		
Milk for curd		
Vegetables		
Bread		

5) Cost of each ingredient

Ingredient	Quantity	Cost
Rice		
Dal		
Vegetables		
Oil		
Salt		
Wheat/maida/ragi		
Milk for tea/coffee		
Milk for curd		
Vegetables		
Bread		

7. Skilled/ unskilled workers

8. Benefits and allowances of the workers

9. Procurement procedure adopted

10. Method of passing on the indent

11. Total quantity of ingredient used/day

Food Items	Quantity used per day	Cost per Kg
Rice		
DAL (TYPE)		
Flour		
Wheat		
Oil		

12. Number of employees availing the meal per day

13. Procurement is done on

(Weekly basis/monthly basis/yearly basis)

14. Who is in charge of passing on the indent?

15. Who is the authority in charge of approving the indent?

16. Is a budgeting system followed for the meal?

17. How many female workers are employed?

18. Are they engaged in skilled or unskilled jobs?

Annexure – 5
Different diets in the General Hospital, Tamil Nadu

5a. Acute special diet for inpatients in GH

Sl No.	Time of the day	Menu	Diet ingredients
1	Morning	Boiled Milk Lime Raw Egg	Milk: 750 ml Lime: 6 nos. Egg: 6 nos.
2	Evening	Boiled Milk	Milk: 750 ml

Note: In the mornings a mixture of raw egg, milk and lime is given to the patients through nasal feeding

5b. Milk and bread diet for inpatients in GH

Sl No	Time of the day	Menu	Diet ingredients
1	Morning	Bread Boiled milk	Bread: 400 g Milk: 500 ml
2	Evening	Boiled milk	Milk: 400 ml

5c. Tuberculosis diet for inpatients in GH

Sl No.	Time of the day	Menu	Diet ingredients
1	Morning	Bread Boiled milk Boiled egg (1 no.)	Wheat Flour: 200 g Milk: 500 ml Egg: 1
2	Afternoon	Sambar rice Boiled egg (1 no.)	Rice: 450 g Dal: 50 g Egg: 1
3	Night	Rice Pepper water Boiled milk	Rice: 150 g Chilli (5g), Garlic (3g), pepper (3g), Spices Boiled Milk: 750 ml

5c. Tuberculosis diet for inpatients in GH

Sl No.	Time of the day	Menu	Diet Ingredients
1	Morning	Idly (1 no.) Sambar Boiled egg (1 no.) Boiled milk Raw tomato	Boiled rice: 22.5 g Black gram: .9 g (Au: Is this 0.9 or 9?) Dal: .20 g Oil: 0.02 g Spices and condiments Milk: 500 ml Tomato: 50 g
2	Afternoon	Sambar rice Boiled egg (1 no.) Butter milk	Dal: .20g Rice: 50 g Egg: 1 no. Milk : 50 ml for curd for Buttermilk
3	Night	Rice Vegetables Pepper Water Boiled Milk	Rice: 50 g 50 g Chilli (5g), Garlic (3g),pepper (3g), Spices 400 ml

Note: For vegetables 1/4th wastage is added to the total requirements.
For greens1/8th wastage is added to the total requirements.

Annexure - 6

Menu and ration for breakfast and lunch for the inmates of Puzhal Jail, Tamil Nadu

6a. Menu for breakfast

Sl No	Days of the week	Item served	Quantity
1	Monday	Rice upama Coconut chutney	Rice: 90 g Dal: 10 g Coconut: 10 g Spices and condiments
2	Tuesday	Pongal Coconut chutney	Rice: 90 g Dal: 10 g Spices and condiments Coconut: 10 g
3	Wednesday	Rice porridge Onion chutney	Rice: 100 g Spices and condiments Onion: 20 g Spices and condiments
4	Thursday	Rice upama Coconut chutney	Rice: 90 g Dal: 10 g Coconut: 10 g Spices and condiments
5	Friday	Rice porridge Onion chutney	Rice: 100 g Spices and condiments Onion: 20 g Spices and condiments
6	Saturday	Pongal Coconut chutney	Rice: 90 g Dal: 10 g Spices and condiments Coconut: 10 g
7	Sunday	Rice porridge Onion chutney	Rice: 100 g Spices and condiments Onion: 20 g Spices and condiments

6b. Menu and ration for lunch for Puzhal inmates, Tamil Nadu

Sl No	Days of the week	Menu	Quantity
1	Monday	Tarmarind/white rice Porrriyal Vegetable sambar (165 ml)	Rice: 200g Vegetable: 50 g Spices and Condiments Dal: 50 g Vegetable: 50 g Spices and condiments
2	Tuesday	White rice Porriyal (greens) Vegetable sambar (165ml) Curd	Rice: 200 g Greens: 50 g Dal: 50 g Vegetables: 50 g Milk:
3	Wednesday	Curd rice/white rice Rasam Vegetable sambar (165 ml) Buttermilk Potato cutlet	Rice: 200 g Dal: 50 g Vegetables: 50 g Spices and condiments Milk: Potato: Spices and condiments
4	Thursday	White rice Porriyal (Greens) Vegetable sambar (165 ml) Buttermilk	Rice: 200g Greens: 50 g Dal: 50 g Vegetables: 50 g Milk
5	Friday	Coconut rice/white rice Porriyal Vegetable sambar (165 ml) Buttermilk	Rice: 200 g Coconut: Vegetables: 50 g Dal: 50 g Vegetables: 50 g Milk:
6	Saturday	White rice Porriyal Vegetable sambar (165 ml) Curd	Rice: 200 g Vegetable: 50 g Dal: 50 g Vegetable: 50 g
7	Sunday	White rice Chicken Rava kesari Potato cutlet Banana Vegetable sambar (165 ml) Curd	Rice: 200 g Chicken: 115 gm Rava: Sugar: Dal: 50g Vegetables: 50g

6c. Menu and ration for children in Tamil Nadu jails

Sl No	Items	6 - 12 months	1 – 3 years	4 - 6 years
1	Cereals (rice)	45 g	60 g	120 g
2	Millets (wheat)	-	150	210
3	Pulses (tur dal)	15	30	45
4	Milk	500	500	500
5	Roots and tubers (Potato)	50	50	100
6	Greens	25	50	50
7	Vegetables	25	50	50
8	Plantain (fruits)	100	100	100
9	Sugar (white)	25	25	30
10	Gingelly oil	10	20	25
11	Egg/ chicken			1/50

Annexure – 7

A comparison of the prices of ingredients supplied to Puzhal Jail by the co-operative stores and the prevailing market prices

Sl No.	Items	Cost / kg	Sl No.	Items	Cost/kg
1	Turmeric	68.85	16	Jaggery	32.85
2	Tarmarind	32.40	17	Vegetables	27.00
3	Tur dal	64.25	18	Greens	18.15
4	Red chilli	54.90	19	Potato	18.15
5	Mustard	33.25	20	Onion	16.20
6	Groundnut	47.40	21	Curry leaves	32.40
7	Bengal gram dal	29.20	22	Coconut	8.65
8	Green gram dal	54.00	23	Chicken	129.60
9	Fried Channa dal	35.65	24	Egg	3.00
10	Pepper	147.40	25	Groundnut oil	80.00
11	Garlic	44.80	26	Gingelly oil	129.60
12	Jeera	125.30	27	Coconut oil	80.00
13	Channa dal	29.50	28	Salt	8.65
14	Coriander	53.50	29	Tea dust	162.00
15	Sugar	31.75	30	Banana	2.00

Note: The cost of these items fluctuates every month since these are run by the government run co-operative societies. Hence, there is no fixed price allotted.

Annexure – 8

Menu of the SRF Canteen

Days of the week	Menu			
Monday	Dosa, Coconut chutney	Idly, vadai, sambar	Rice, Chapathy, Sambar, Beetroot porriyal, Curd, buttermilk, Rasam, fryums, pickle, special vadai	Rice Chapathy Radish Sambar Beans Porriyal Special Vadai Curd, buttermilk Rasam Fryums Pickle
Tuesday	Idly Sambar	Uthapam Vadai Kara chutney	Rice-Poori Dal fry Allo-Gobi Kurma Onion Pakora Curd, buttermilk Rasam Thuvaiyal Appalam	Rice Chapathy Vatha kuzhambu Chow Chow Kuttu Onion Pakora Curd, buttermilk Rasam Thuvaiyal Appalam
Wednesday	Dosa Kara Chutney	Poori Vadai Chutney	Rice Chapathy Mochai kuzhambu Snake gourd kuttu Cabbage vadai Curd, buttermilk Pickle Rasam Appalam	Rice Chapathy Drumstick sambar Raw banana porriyal Cabbage vadai Curd, buttermilk Pickle Rasam Appalam

Thursday	Idly Tomato Chutney	Idly Masala vadai Samber	Tarmarind rice Curd Rice Chapatthy Chena masala Sambar vadai Fryums Sweet Pickle	Tomato rice Curd rice Chapatthy Peas maasal Curd vadai Fryums Sweet Pickle
Friday	Dosa Sambar	Pongal Vadai Kosthu	Rice Chapatthy Radish sambar Cabbage porriyal Groundnut pokora Curd, buttermilk Rasam Pickle Appalam	Rice Chapatthy Mochai kuzhambu Cucumber kuttu Groundnut pakora Curd, buttermilk Rasam Pickle Appalam
Saturday	Idly Onion Chutney	Masala dosa Vadai Chutney	Rice Chapatthy Mixed vegetable kuzhambu Greens kuttu Vadai Curd, buttermilk Rasam Fryums Pickle	Rice- Poori Dal fry Aloo-Gobi kurma Vadai Curd, buttermilk Rasam Pickle Fryums

Bibliography

- Acharya, S.S (2004). "Agricultural marketing". "State of the Indian farmers- A millennium study", Vol 17. Depart\ment of Agriculture and Co operation, GoI. New Delhi.
- Acharya, S.S (2006). "Agricultural marketing and rural credit for strengthening Indian agriculture", INRM Policy Brief No. 3, Asian Development Bank.
- Adhikari, S and Bredenkamp, C (2009). "Monitoring for nutrition results in ICDS: Translating vision into action", IDS Bulletin, Vol. 40, No. 4, July, pp 70 – 77.
- Ahluwalia, D (1993). "Public distribution of food in India – Coverage, Targeting and Leakages", Food Policy, Vol. 18, No.1, February, pp 33 – 54.
- Allen, L.H. and Gillespie, S.R (2003). "What works? A Review of the Efficacy and Effectiveness of Nutrition Interventions", Geneva ACC/SCN in collaboration with the Asian development Bank, Manila. (http://jn.nutrition.org/cgi/content/full/138/3/646)
- Bapna, S.L (1990). " Food Security through the PDS: The Indian experience" in D S Tyagi and V S Vyas (eds.), Increasing access to food: The Asian Experience. Sage pUBLICATIONS. New Delhi.
- Bhasin, S.K., Bhatia, V, Kumar, P and Agarwal, O P (2001). "Long term nutritional effects of ICDS", Indian Journal of Pediatrics, Vol. 68, No. 3, March, pp 211 - 216.
- Bhatty and Kiran (2006). "Employment guarantee and child rights", Economic and Political Weekly, Vol. 41, No. 20, May, pp 1965 - 1967.
- Biswas, J and Verma, J.S (2009). "Tackling child undernutrition in India: Governance challenges need more attention". IDS Bulletin, Vol. 40, No.4, July, pp 111 – 123.
- Centre for Child Rights (2005). "Resource allocation in the Union Budget 2005-06 —Is it sufficient to fulfill the rights of India's children?" New Delhi, (www.haqcrc.org).

- Cheriyan, G, Sharma, K.C, Murthy, J.V.R. Agrawal, S and Shah, P (2007). "Rajasthan, India: An assessment of the Mid Day Meal scheme in Chittorgarh district", Case Study 3 in Social Accountability series, South Asia Suatainable Development Department, Note Number 3, pp 1 – 8. (http://www.sasanet.org/documents/Newreport/Rajasthan/Case3_Rajasthan_CUTS_SAc_August%202007.pdf)
- Chidambaram, G (1989). "Tamil Nadu Integrated Nutrition Project. Terminal Evaluation". Vol 1. Madras. Directorate of Evaluation and Applied Research, State Planning Commission, Government of Tamil Nadu.
- Chowdhury, S. (2002). "Co operative marketing of fruits and vegetables in India: Need of the 21st century", Economic Affairs, Vol. 47, June, pp 56.
- Christiana, J. J. R. (1999). "The first teacher", Research Report No. 3., M S Swaminathan Research Foundation. Chennai
- Citizens Initiative for the Rights of Children under Six [CIRCUS] (2006). "FOCUS on children under six". Abridged Report published by CIRCUS. New Delhi. (http://www.tribuneindia.com/2007/20070304/spectrum/book8.htm)
- Commissioner's Report (2005). "Sixth report of the Commissioners to the Supreme Court of India". Submitted to the SC in CWP 196/2001, December, New Delhi.
- Dharmarajan, S. (2000). "Farmers' market in Tamil Nadu". Kisan World, Vol. 27, No. 4, November, P 12.
- Dixit, R. S. (2004). "Agricultural marketing in India: The case of regulated markets in UP (1998 – 1999)", Shubhi Publications, New Delhi.
- Dogra, M. and Dogra, B (2003). "Reforming the Mid Day Meal Programme". Commissioners of the Supreme Court, cwp 196/2001. (http://www.sccommissioners.org/pdfs/articles/reformingthemiddaymealprogramme.pdf).
- Dreze, J (2006). "Children under six-out of the spot light". The Hindu, October, 20. (www.thehindu.com).
- Dreze, J (2006). "Universalization with Quality: ICDS in a rights perspective". Economic and Political Weekly, Vol. 41, No. 34, August 26, pp 3706 – 3715.

- Dreze, J and Goyal, A (2003). "Future of Midday Meals", Economic and Political Weekly, Vol. 38, No. 44, November 1, pp 4673 - 4683
- Dreze, Jean and Shonali Sen (2004). "Universalisation with quality: An agenda for ICDS". Report prepared for the National Advisory Council, GoI.
- Dubowitz, T, Levinson, D, Peterman, J.N, Verma, G, Jacob, S and Schultink, W (2007). "Intensifying efforts to reduce child malnutrition in India: An evaluation of the Dular programme in Jharkhand, India", Food Nutrition Bulletin, Vol. 28, No. 3, pp 266 – 273.
- Food and Agriculture Organisation (2003). "The State of Food Insecurity in the World: Monitoring progress towards the World Food Summit and Millenium Development Goals", Rome.
- Garg, S (2006). "Grassroot mobilisation for children's nutrition rights". Economic and Political Weekly. Vol. 41, No. 34, August 26, pp 3694 - 3700.
- George, P. S. (1983). "Government interventions in food grain markets: Procurement and public distribution of food grains in India", Center for Management in Agriculture, Indian Institute of Management, Ahmedabad.
- Ghosh, G. N. and Gupta, S (2000). "Agricultural diversification opportunities for smallholder farmers". The Food and Nutrition Security Community Consolidated Reply. (http://www.solutionexchange-un.net.in/cr-public/cr-se-food-02030701-public.pdf).
- Ghosh, S (2003). "Integrated Child Development Services Programme". The National Medical Journal of India, Vol.16, Supplement – 2, May, pp 20 – 23.
- Ghosh, S (2006). "Food dole or health, nutrition and development programme?". Economic and Political Weekly, Vol. 41, No. 34, August 26, pp – 3664 – 3666.
- GoI (2001). "Census of India". Ministry of Home affairs. (http://www.censusindia.net/)
- GoI (2006). Agriculture Census 2005 – 2006. Agriculture Census Division. Ministry of Agriculture. New Delhi.
- GoI (2006)." National Program of Nutritional Support to Primary Education: Guidelines", Ministry of Human Resource Development, New Delhi.

- Gopal, A.K. and Khan. N (1998), Crèches Services in India. National Institute of Public Cooperation and Child Development (NIPPCD), New Delhi.
- Gopinath, K, and Nagarajan, K (2008). "Indian agricultural marketing: Issues and challenges". Kissan World, Vol. 35, No. 2, October, pp 49 – 50.
- Government of India (2002). "The Indian child: A profile", NIPCCD. Ministry of Human Resource Development, Department of Women and Child Development.
- Government of India (1982). "Evaluation report on the Integrated Child Development Services project (1976 - 78) – 1982", PEO Study No 120, Planning Commission.
- Government of India (2004). "Children and Work", Annual Report 2004 – 2005, Ministry of Labour, New Delhi.
- Government of India (2006). "Working group on child development for the Eleventh Five Year Plan (2007 - 2012)", Final report of the sub-group on "ICDS and Nutrition", Mimeo, Department of Women and Child Development, New Delhi.
- Government of India (2006). "National programme of nutritional support to primary education; Mid-Day Meal Schemes", Ministry of Human Resource Development, September.
- Government of India (2007 - 2012). "ICDS and Nutrition in the Eleventh Five Year Plan (2007 – 2012)", Report of sub-group on Development of Children for the Eleventh Five Year Plan, Planning Commission, New Delhi.
- Government of India (2007). Ministry of Human Resources Development's Presentation at Meeting of Sub-Group on Child Nutrition for Eleventh Five Year Plan, , September 28, New Delhi.
- Government of India (2009). "Child Development", Ministry of Women and Child Development. (http://wcd.nic.in/childdet.htm)
- Government of India (2002). "Sectoral policies and programmmes". Tenth Five Year Plan 2002 – 2007, Planning Commission, GoI.
- Government of India (2009 – 2010). Economic Survey, Ministry of Finance. New Delhi.
- Government of India (2008 – 2009). Economic Survey, Ministry of Finance. New Delhi.

- Government of Jamaica (2003). "School Feeding Programme- Jamaica", Ministry of Education and Youth.
- Government of Odisha (2009). "Report on the activities of Women and Child Development department for the year 2009 – 2010". Ministry of Women and Child Development, Odisha.
- Government of Tamil Nadu (2006). Policy Note 2006 - 2007, Social Welfare and Nutritious Meal Programme Department, Chennai.
- Government of West Bengal (2003). "Impact of the cooked mid day meal programe in Murshidabad district". A study by district, Murshidabad. Office of the District Magistrate.
- Government of West Bengal (2008). Department of Higher Education. West Bengal.
- GoWB (2005). "South Twenty Four Parganas". District Statistical Handbook, Bureau of Applied Economics and Statistics.
- Gupta, A (2006). "Infant and young child feeding: An 'Optimal' Approach". Economic and Political Weekly, Vol. 41, No. 34, August 26, pp 3666 - 3684.
- Gupta, A and Gupta, Y P (2004). "Status of Infant and Young Child Feeding in 49 Districts (98 Block) in India, 2003", Breastfeeding Promotion Network of India, New Delhi.
- Gupta, A, Patnaik, B, Singh, D, Sinha, D (2007). "Strategies for Children Under Six: A Framework for the 11th Plan". Prepared at the request of the Planning Commisssion, June, GoI.
- Hallsworth, M and Hatziandreu, E (2008). "Baby Steps: Comparison of neonatal services. Points to National Health Care Lessons". RAND Review. Spring. Vol. 32, No.1, pp 18 21.
- Harriss, J and Kohli, N (2009). "Notes on the differing 'states' of child undernutrition in rural India". IDS Bulletin, Vol 40, No.4. July. pp 9 – 15.
- Harriss-White B (2004). "Nutrition and its politics in Tamil Nadu". South Asia Research 1. Vol. 24, No. 1, pp- 51 – 71.
- Heaver, R (2002). "India's Tamil Nadu nutrition programme: Lessons and issues in management and capacity building". HNP Discussion Paper, Health, Nutrition and Population, World Bank, November, Washington DC.
- Indian Council of Agricultural Research (2006), Handbook of agriculture, ICAR, New Delhi.

- Inter ministerial Task Force on ICDS (2006). Ministry of Women and Child Development, GoI.
- International Food Policy Research Institute (2002). IFPRI Briefs on "Green Revolution- A curse or blessing?", IFPRI Brief. (http://chapters.ewb.ca/pages/member-learning/africa-(culture_-history_-livelihoods)/greenrevreading1.pdf).
- International Food Policy Research Institute (2006). "Global Hunger Index; A Basis for cross-country comparisons", October 13.
- International Food Policy Research Institute (2009). Global Hunger Index. (www.ifpri.org).
- International Institute of Population Sciences (2005 – 2006). "National Family Health Survey – 3". Mumbai.
- Jeyarathinam, M (2002). "Farmers' Market (Uzhavar Sandhais) in Tamil Nadu. A SWOT Analysis", The Indian Journal of Marketing, Vol. XXXII, No. 8, August, P-3.
- Johri, N. (2004). "Effects of integrated program design on child health inputs and outcomes: Estimates from a nutrition and health program in India". PhD Dissertation, University of North Carolina- Chapel Hill.
- Kalaivani (2007). "Report on the assessment of nutritional status of preschool children from district level household survey – 2." National Institute of Health and Family Welfare, New Delhi.
- Kanani, S. (1998). "Towards quality of care in child health programme: A challenge for the partnership in health and social science", Social Science and Medicine, Vol. 47, No. 9, November, pp 1223 – 1230.
- Krishnaraj, M (2005). "Evaluating ICDS". Vol. 40, No .22, May 28-June 4.
- Lal, S. (2003). "Towards universalization of Integrated Child Development Services (ICDS)". Indian Journal of Community Medicin, Vol. XXVIII, No. 4, October, pp 147-152.
- Laxmaiah, A, Sharma, R, Rao, H D, Reddy, G, Ravindranath, N, Rao, V.V, Vijayaraghavan, N.K (1999), "Impact of MMDP on the educational and nutritional status of school children in Karnataka". Indian Pediatrics, Vol. 36, pp 1221 – 1228.

- Letters of the Commissioners of the Supreme Court in the case of PUCL vs. VOI and ors. Writ Petition (civil), No. 196 of 2001 to the Chief Secretary, Government of West Bengal, July 8.
- Menon, A, Deolalikar, A, Bhaskar, A (2008). "The India State Hunger Index: Comparisons of hunger across states", October 14, Advance copy for discussion. IFPRI.
- Menon, P, Raabe, K and Bhaskar, A (2009). "Biological, Programmatic and Sociopolitical Dimensions od Child Undernutrition in three states in India", IDS Bulletin. Vol. 40, No.4, July, pp 60 – 67.
- MSSRF – UNWFP (2008). "Report on the state of food insecurity in rural India". Research Report No. 18. M. S.Swaminathan Research Foundation, Chennai.
- Murthy, R. and Ramanayya, T.V (2007). "Procurement policy for Food Corporation of India: Modification and Implication", Working Paper No. 250, Indian Institute of Management, Bangalore.
- National Advisory Council (2005), "Follow up recommendations on ICDS". Right to food campaign. (www.righttofoodindia.org/data/).
- National Commission on farmers (2006). "Serving farmers and saving farming". Jai Kisan: Revised draft National policy for farmers, Ministry of Agriculture. New Delhi.
- National Council of Applied Economic Research (2001). Concurrent evaluation of ICDS Programme (Vol. II). New Delhi.
- National Institute of Public Co-operation and Child development (2006). "Three decades of ICDS: An appraisal". New Delhi.
- National Institute of Public Cooperation and Child Development (2007). Annual Report, 2006 - 2007, New Delhi.
- National Nutrition Monitoring Bureau (2000). "Diet and nutritional status of rural population", National Institute of Nutrition, Hyderabad.
- National Sample Survey (2001). Ministry of Statistics and programme implementation, GoI.

- National Sample Survey Organisation (2004 – 2005). National Sample Survey (NSS) 61, Kolkata/ New Delhi.
- NIPCCD (1992). National Evaluation of Integrated Child Development Services, New Delhi. (http://nipccd.nic.in/research2.htm)
- NIPCCD (2004). Research study on "Three decades of ICDS – An appraisal of nutrition programmes and children". (http://nipccd.nic.in/research_frame.htm).
- Nutrition Foundation of India (2003). A report of the workshop on "Mid Day Meals Programmes in schools in India – the way forward". July 31st - August 1st. New Delhi. (http://www.nutritionfoundationofindia.res.in/pdfs/Mid-day-meal-workshop-report.pdf).
- Patnaik, B., Gupta, A and Sinha, D (2007). "Strategies for children under six: A framework for the 11th plan", June. Prepared on the request of the planning commission, GoI. New Delhi.
- Prasad, V. (2008). "Food for children in defense of high quality supplementary food programmes". Health for the Millions, Vol. 34, No. 4. October – November. pp 10 – 12.
- Press Information Bureau (2008). Ministry of Consumer Affairs, Food and Public Distribution. GoI.
- Prinja, M. D., Verma, R and Lal, S (2008). "Role of ICDS in the delivery of nutritional services and functional integration between anganwadi and health workers in north India". The Internet Journal of Nutrition and Wellbeing, Vol. 5, No. 2. (http://www.ispub.com/journal/the_internet_journal_of_nutrition_and_wellness/volume_5_number_2_20/article role_of_icds_program_in_delivery_of_nutritional_services_and_functional_ integration_between_anganwadi_and_health_worker_in_north_india.html)
- Radhakrishna, R, and Ravi, C (2004). **"**Malnutrition in India: Trends and determinants", Economic and Political Weekly, Vol. XXXIV, No. 7, February. pp 671 - 676.
- Rajagopal, R (1998). "Marketing in Peasant Economy (History and Trends)", Manas Publications, Delhi.

- Rajandran, A (2000). "Benefit sharing by producers and consumers: An experience of Uzhavar Sandias in Tamil Nadu", Indian Journal of Agricultural Marketing, Vol. 14, No. 3, September-December, p 95.
- Rajendran, S (2000). "Curtains for Farmers' market? Economic and Political weekly, Vol. 36, No. 29, July, pp 2737 – 2739.
- Rajivan, A. K. (2004). "Towards a malnutrition free Tamil Nadu: A case study" in M.S. Swaminathan and P. Medrano (eds), Towards a Hunger Free India.
- Rajivan, Khati, A (2001). "Nutrition security in Tamil Nadu". In Social and economic security in India, Ed. by S.Mahendra Dev, P.Antony, V.Gayathri and R. P. Mamgain, Institute for Human Development. New Delhi.
- Rajivan, Khati, A (2006). **"**ICDS with a Difference". Economic and Political Weekly. Vol. XLV, No. 34, August, pp 3684 – 3688.
- Ramachandran, P (2004). "The nutrition scheme in India: Time trends". Nutrition Foundation of India Bulletin, Vol.25, No.2. January. pp 1 - 5.
- Ramachandran, P (2008). "Combating child under nutrition". Health for the Million, Vol.34, No. 4, October – November.
- Ramachandran, V, Jandhyala, K and Saihjee, A (2003). "Through the life cycle of children", Economic and Political Weekly, Vol. 38, No.47, November, pp 4994 - 5002.
- Rana, K. (2005). "The possibilities of Mid Day Meal Programme in West Bengal", Pratichi Trust, Right to Food Campaign.
- Right to Food Campaign (2005). "Mid Day Meals: A primer". Secretariat of the Right to Food Campaign, New Delhi. (www.righttofoodindia.org/data/).
- Right to Food Campaign (2006). Convention on Children's Right to Food, April 7 – 9, Hyderabad. (www.righttofoodindia.org/data/Strategies_for_Children_Under_Six.pdf)
- Right to Food Campaign Secretariat (2005). "Supreme Court orders on the right to food: A Tool for action", Secretariat of the Right to Food Campaign, New Delhi.

- Right to Food Campaign Secretariat (2006). "Report of the Hyderabad convention on children's right to food", Secretariat of the Right to Food Campaign, New Delhi
- Saiyed, F and Seshadri, S (2000). "Impact of the integrated package of Nutrition and Health Services". Indian journal of Pediatrics, Vol. 67, No. 5, pp 322 - 328.
- Saravanan, S (2009). "Scenario of Indian agriculture". www.articlesbase.com
- Sawant, D. (1997). "Food grains output growth in India. Emerging constraints and perspectives for technology development policies" in Agricultural Development Paradigm for the Ninth Period Under New Economic Environment by B.M. Desai (1997), Oxford and IBH Publishing Co., New Delhi.
- Saxena, N.C and Mander, H (2005). "Sixth Report of the Commissioner's, New Delhi: Officers of the Commissioners of the Supreme Court.
- Saxena, N.C and Srivastava, N (2009). "ICDS in India: Policy, Design and Delivery Issues", IDS Bulletin, Vol. 40, No.4. July, pp 45 – 52.
- Saxena, N.C (2009). "Call to action. Hunger, under-nutrition and food security in India", Policy Brief Series No. 7, February, CLRA Policy briefs for parliamentarians, Centre for legislative research and advocacy. New Delhi.
- Sen, A, Dreze, J and Hussain, A (1995). "The Political Economy of Hunger: Selected Essays, Clarendon, Oxford University Press, New Delhi.
- Seshadri, D (2003). "Constraints scaling –up Health Programme: A Comparitive Study of two Indian States". Journal of International Development. Vol. 15, No.1. pp – 101 – 114.
- Seshadri, S and Saiyed, F (2000). "Impact of integrated package nutrition and health services", Indian Journal of Pediatrics, Vol.67, No. 5. January, pp 322 – 328.
- Shanmugam, T R and Kempuchetty, K (2000). "Benefits of Farmers : Markets in rural economy of Tamil Nadu", Indian Economic Panaroma, Vol. 10, No. 2, pp 29 – 30.
- SIDA (Swedish International Development Cooperation Agency) (2000). "Reaching out to children in poverty", The Integrated Child Development Services in Tamil Nadu, India-Sweden: Department of Democracy and Social Development.

- Singh R.B, Woodhead, T and Kumar P (2003). "Smallholder farmers in India: Food security and agricultural policy", Food and Agriculture Organization of the United Nations, RAP Publications. New Delhi.
- Singh, Bhusan S. (2004). "Future of the Mid Day Meals". Economic and Political Weekly, Vol. 39, No. 9, February, pp 998 – 1000.
- Sinha, D (2006). "Rethinking ICDS: A rights based perspective". Economic and Political Weekly, Vol. 41, No. 34. August, pp 3689 - 3694.
- Sinha, S (2006). "Infant survival: A political challenge". Economic and Political Weekly, August 26, Vol. 41, No.34, pp 3657 - 3660.
- Sridhar, D (2008). "Hungry for change: The World Bank in India". South Asia Researc,. Vol. 28, No. 2, pp 147 – 168.
- Sundararaman, T. (2006). **"**Universalisation of ICDS and community health worker programmes: Lessons from Chhattisgarh". Economic and Political Weekly, Vol. 41, No. 34, August, pp 3674 – 3679.
- Swaminathan, M. (1996). "Innovative child care programmes in India". International Journal of Early Years Education, Vol. 4, No. 2, Summer. pp 41 – 56.
- Swaminathan, M. (2008). "Programmes to protect the hungry. Lessons from India". DESA Working Paper No. 70, Economic and Social Affairs, Kolkata.
- Swaminathan, P, Jeyaranjan, J, Sreenavassan, R and Jayashree, K (2004). "Tamil Nadu's noon – cum – nutritious meals scheme: Where assumed benefits score over hard data", Economic and Political Weekly .Vol. 39, No.44, October, pp 4812 – 4821.
- Ved, R.R (2009). Scaling –up ICDS: Can universalisation address persistent malnutrition?". IDS Bulletin, Vol. 40, No.4, July, pp 53 – 59.
- Verma, J.S and Biswas, J (2008). "Tackling child undernutrition in India: Governance challenges need more attention". IDS Bulletin, Vol. 40, No.4, July, pp 111 – 121.
- Viswanathan, B (2006). "Access to nutritious meal programmes: Evidence from 1999 - 2000 NSS Data", Economic and Political Weekly, Vol. 41, No. 06, February, pp 497 - 505.

- World Bank (2004). "World Development Report 2004: Making services work for poor people". Oxford University Press. New Delhi.
- World Food Programme (2006). Global School Feeding Report. www.wfp.org.

Websites

- www.agmarknet.nic.in
- www.aid.oxac.uk
- www.ciks.org
- www.crs.org/about_us/newsroom/publications/foodsecsfeedingHicks.PDF
- www.cuts-international.org
- www.education.nic.in/mdm/mdmguidelines2006.pdf
- www.en.wikipedia.org
- www.findarticles.com
- www.fns.usda.gov/cnd/Lunch/AboutLunch/ProgramHistory_1.htm
- www.ifpri.org
- www.indianchristians.in/news
- www.indianpediatrics.net
- www.indiatogether.org/2007/mar/edu-upmdm.htm
- www.ineesite.org/page.asp?pid=1326
- www.info.worldbank.org/etools/docs/library/164047/sector/education4.htm
- www.infochangeindia.org
- www.irinnews.org
- www.jis.gov.jm/education
- www.middaymeal.com
- www.motherchildnutrition.org.
- www.nafed.india.com
- www.nepadindia.org

- www.nigeriafirst.org/article_5025.html
- www.nsdl.niscair.res.in
- www.righttofoodindia.com
- www.righttofoodindia.org
- www.righttofoodindia.org/data/
- www.righttofoodindia.org/data/jain2005icdsstudy-hindi.doc
- www.righttofoodindia.org/data/Strategies_for_Children_Under_Six.pdf
- www.righttofoodindia.org/data/thorat_dalitsrtf.doc
- www.righttofoodindia.org/mdm/mdm_surveys.html
- www.righttofoodindia.org/pds/pds_articles.html
- www.sciencedirect.com
- www.thehindu.com
- www.tn.gov.in/policynotes/default.htm
- www.unicef.org
- www.upmdm.org
- www.wfp.org