

Best practices for the implementation of urban school nutrition programs in India

An examination of decentralized and centralized Mid Day Meal models in
Delhi and Ahmedabad



Priya Shankar and Natasha S. K.

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ABSTRACT

In this study, the researchers investigate the differences between two major Mid Day Meal implementation models: the decentralized model where food is cooked and served within the schools premises, and the centralized model where an external organization, often through a public-private partnership, cooks and delivers the meal to schools. Both programs induce enthusiastic feelings amongst activists, scholars, and policy makers. As a result, the researchers aim is to understand the similarities and differences between these systems with relation to fostering social equity, building community participation, increasing transparency and accountability, providing adequate quality and quantity of food to children, and serving as a source of employment for women or lower caste individuals, amongst other variables.

The researchers observed nine schools and three centralized kitchens in New Delhi, a city where the centralized model operates, and also conducted case studies of nine schools in Ahmedabad, Gujarat where food is cooked through decentralized kitchens within the schools premises. In Gujarat, the researchers interviewed a total of 183 people involved in the delivery, cooking, distribution, overseeing, and consuming the Mid Day Meal and in Delhi, the researchers interviewed approximately 150 participants. This study finds that most cities are moving towards centralization, a choice that has drawbacks in terms of employment of women, spoilage, community participation, and transparency, etc. In contrast, decentralized programs run the risk of infrequent visits, corruption, and hygiene issues, even though these programs provide greater sources of employment to women, allow for more community participation, and often offer a more fulfilling meal time experience. The benefits and drawbacks of both models necessitate scholars and researchers to continue to study these two models and to reexamine the urban trend towards centralization.

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Natasha S. K. and Priya Shankar

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I. RATIONALE

Consider, if you will, two different cooking processes. In the first model, cooking begins early in the morning before sunrise and food is prepared for thousands of children. The process is highly mechanized and systematized; the exact number of 'pooris' is made through poori-makers and the exact amount of sabzi is made each day using huge steel boilers and vats. Through a rhythmic process of place, boil, pour, and pack, each day's meal is shipped out to different schools using large trucks and mini-vans. In a second model, meals are cooked within a school's premises for a much smaller number of children. A young woman or man sits in the school's kitchen shed cutting, peeling, and washing vegetables and, finally, boiling them in a large steel bowl. It takes him or her about an hour to complete the cooking process, but by the end, she has made a fresh meal for children in her school and is ready to serve them their meal.

The scenarios described are representative of two different implementation methods for the Mid Day Meal Scheme, one of one of the largest welfare programs in India. The first method describes a centralized method in which food is prepared for school children at a kitchen located outside the schools premises. In contrast, the second scenario describes a decentralized cooking process in which food is prepared within the schools premises by a cook, helper, and organizer who then serves the food to the children at lunch time. Both processes are used in Mid Day Meal programs around India, and this study seeks to understand and identify the strengths and weaknesses of both delivery processes.

The Mid Day Meal Scheme is a noon meal program in India that seeks to boost universalization of primary education and to impact the nutritional status of students in primary classes. It is the only welfare scheme in the country aimed at reducing childhood hunger of children in the 6-14 age group. Although the program has been running since 1925, issues of malnutrition, anemia, vitamin A and iodine deficiency are still very common amongst children in the country. Today, ninety-four percent of children in the age group of 6

to 9 are mildly, moderately, or severely underweight. Moreover, 67.5 percent of children under 5 years of age and 69 percent of adolescent girls suffer from anemia due to iron and folic acid deficiency.

Since the stakes are very high in a country like India and many young children suffer from malnutrition, it is very important to evaluate key welfare and hunger schemes to understand which delivery processes work best and reach the intended beneficiary with greatest effectiveness. This report comprises a study of the provision of Mid Day meals in schools through the centralized as well as the decentralized mechanisms. Conducted in the cities of Delhi and Ahmedabad where centralized and decentralized kitchens operate respectively, the study attempts to evaluate both models on the basis of the following parameters: cleanliness and hygiene, financial viability, social and gender equity, transparency and accountability, and quality and satisfaction.

II. ORIGINS OF THE MID DAY MEAL IN INDIA

India is a party to the *Universal Declaration of Human Rights*, the *International Covenant on Civil and Political Rights*, the *International Covenant on Economic, Social and Cultural Rights* and the *Convention on the Rights of the Child*; as such, the country has, at least in theory, “committed itself to honoring the right to adequate food.”¹ Currently, these treaties have not been incorporated into the legal system, yet the Government of India has acknowledged the importance of creating harmony between domestic and international obligations. Article 51 (c) of the Indian constitution states that the Government of India should “foster respect for international law and treaty obligations...”² Moreover, Indian courts interpret domestic laws as much as possible in a manner agreeable to India’s international obligations. Only in the case of conflict between international law and national law, does national law prevail.³

¹ Kent, George. 2005. *Freedom from Want: The Human Right to Adequate Food*. Washington, D.C.: Georgetown University Press. P. 146.

² "Constitution of India -- with all the Amendments." About India Code Updated Acts. 29 July 2008. Government of India. 07 May 2009. <<http://indiacode.nic.in/coiweb/welcome.html>>.

³ Kundu, A and Jain, S. 2004. *Right to Food Case Study: India*. Food and Agricultural Organization. P. 9.

Influenced by the international human rights treaties it has signed and the efforts of national human rights advocates, the Government of India attempted to actualize the right to food in 2001. These efforts took on more legal force after the public interest litigation, P.U.C.L. vs. Union of India, which will be explored below. Using national law as a mechanism to enshrine the right to food, the Government of India issued several orders creating government schemes, subsidizing the price of food for poor citizens, and ordering the provision of free and universal meals to children who attend government schools. Yet, despite the existence of these food distribution plans and visions to implement the human right to food, “this right is nowhere near realisation in India, where under-nutrition levels are among the highest in the world.”⁴

The third National Family Health Survey (2005-2006) illustrates this tremendous poverty and hunger in the country. According to the survey 40 per cent of all Indian children are underweight, almost 55 percent of all adult women are [anemic], and more than 36 per cent have a body mass index (BMI) below the cut-off of 18.5 commonly associated with chronic energy deficiency.⁵ In 2001, the problem persisted with around 213 million undernourished people, meaning that India ‘is hungrier’ than any other country in the world, including all of the countries in Sub-Saharan Africa combined.⁶ In India, citizens struggle with even the slightest disruption in the food system by natural disasters as “they live so close to the edge of disaster under normal conditions.”⁷ In comparison, China’s accomplishments in reducing child-malnutrition, with now “just 7 percent of its children under 5 underweight,” stand in sharp contrast to India’s statistics.⁸

The supply of food in the country, moreover, underlines the fact that the problem in India is one of distribution, of economic and political institutions and will, rather than of

⁴ Dreze, Jean. 2004. *Democracy and the Right to Food*. New Delhi: Economic and Political Weekly. P. 1.

⁵ Dreze, Jean. 2004. *Democracy and the Right to Food*. New Delhi: Economic and Political Weekly. P. 1.

⁶ According to the Food and Agricultural Organization, South Asia has a higher prevalence (47 percent) of underweight pre-school children than Sub-Saharan Africa (31 percent)

⁷ Dreze, Jean. 2004. *Democracy and the Right to Food*. New Delhi: Economic and Political Weekly. P. 1.

⁸ “As Indian Growth Soars, Child Hunger Persists.” NY Times. March 12th, 2009.

<http://www.nytimes.com/2009/03/13/world/asia/13malnutrition.html?_r=1&emc=eta>.

environmental and agricultural constraints or an actual physical lack of food; this is one reason why studying distribution methods and their advantages and disadvantages becomes very important. India achieved food security at the macro level in the late seventies. Additionally, the total production of food grains reached 130 MT in 1980-81, which was “considered to be adequate to meet certain normative requirements of the entire population.”⁹

In short, India has the means of providing for its citizens, yet fails to do so. In 2001, more than “60 million tons of [surplus stock of] rice and wheat were lying idle in public warehouses across the country.”¹⁰ Many Indian human rights activists witnessed such realities upon visiting a village near Jaipur, Rajasthan where “people had no food at all ...[and lack of food had] prematurely aged the young people.”¹¹ In contrast, the warehouses of the nearby Food Corporation of India (FCI) were full of grains that were being eaten by rats.¹²

In 2001, outrage at this contradiction between food surplus and existing hunger led to a public interest litigation against the Government of India. The People’s Union of Civil Liberties Rajasthan, one of India’s oldest and largest human rights organizations, filed a writ petition on the right to food citing the governments’ neglect of basic human dignity and the right to life of citizens of India. Moreover, the group referenced various constitutional commitments and federal and state laws that the Indian government had failed to uphold. This public interest litigation known as “the People’s Union of Civil Liberties (Rajasthan) v. Union of India and Others, Writ Petition (Civil) 196 of 2001”, was one of the first major advocacy efforts pushing the government to end its neglect of hunger. To address these demands, the Supreme Court of India issued various rulings creating or operationalizing food distribution schemes such as the Mid Day Meal Scheme, the Public Distribution System, the Integrated Child Development Scheme, etc. Moreover, the case has helped to spark the creation of a National Right to Food Campaign that has worked to protect and defend the right to food.

⁹ Kundu, A and Jain, S. 2004. *Right to Food Case Study: India*. Food and Agricultural Organization. P. 11.

¹⁰ Swaminathan, M.S. and Medrano, Pedro. 2004. *Towards Hunger Free India: From Vision to Action*. Madras: East West Books. P. 146

¹¹ Gonsalves, C.; Ramesh Kumar, P.; Srivastava, A. 2005. *Right to Food*. Delhi: Human Rights Law Network. P. 5.

¹² Ibid. P. 5.

III. THE COURT CASE

One way that activists of the People's Union of Civil Liberties Rajasthan (P.U.C.L.) pushed the Indian government to address the issue of hunger in India was via a "writ petition" to the Supreme Court of India. The petitioners cited that the central and state governments had violated their obligation to the people by failing to respond to droughts and neglecting the breakdown of the Public Distribution System (PDS). Finally, the petitioners requested the Supreme Court to issue orders urging "the government to provide immediate open-ended employment in drought-affected villages, to provide gratuitous relief to persons unable to work, to raise food entitlements under the PDS, to provide subsidized food grains to all families, and to ensure that the central government supplies free [food grains] to these programmes."¹³

In their pursuit of these claims, the PUCL focused on the legal commitments to the right to food that could already be found in the Indian Constitution and in the Indian Directive Principles (non-binding articles that helped frame the Indian Constitution). Specifically, the petitioners highlighted Articles 21 and 32 of the Indian Constitution, and Articles 39 (a) and 48 of the Directive Principles.

Article 21 of the India Constitution states, "No person shall be deprived of his life or personal liberty except according to procedure established by law."¹⁴ Based on this article, the petitioners argued that food is necessary for one's survival (or life) and that the right to food can be inferred from the allusion to both the right to life and personal liberty.¹⁵ Emphasizing such notions, the National Human Rights Commission (NHRC) explained in the proceedings of a hearing on January 17th, 2003 that,

"the expression 'Life' has been judicially interpreted to mean a life with human dignity and not mere survival or animal existence. In light of this, the State is obligated to provide...those

¹³ Secretariat of the Right to Food Campaign. 2005. *Supreme Court Orders on the Right to Food: A Tool for Action*. Delhi: Right to Food Campaign. p. 11.

¹⁴ "Constitution of India -- with all the Amendments." About India Code Updated Acts. 29 July 2008. Government of India. 07 May 2009 <<http://indiacode.nic.in/coiweb/welcome.html>>.

¹⁵ Secretariat of the Right to Food Campaign. 2005. *Supreme Court Orders on the Right to Food: A Tool for Action*. Delhi: Right to Food Campaign. P 10.

minimum requirements which must be satisfied in order to enable a person to live with human dignity...In the view of the Commission, the Right to Food is inherent to a life with dignity”¹⁶

As such, the petitioners urged the Supreme Court to interpret Article 21 of the constitution in light of the links between the right to life, to live with dignity, and to have means of basic sustenance. The group also tied Article 21 with Articles 39 (a) and 48 of the Directive Principles, claiming that they were necessary “to understand the nature of the obligation of the State ...to ensure the effective realization of [the right to food].”¹⁷

Under Article 39 (a), “the State shall...direct its policy towards securing that the citizen, men and women equally, have the right to an adequate means of livelihood,” and under Article 47, “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 its primary duties. While these two articles of the Directive Principles are unenforceable, they provide insight and lend guidance to the ways in which the Supreme Court should interpret laws. As such, the petitioners argued that the state is obligated to

“[raise] the level of nutrition in the country, ensure that citizens have a means of livelihood, and ensure that all citizens have a right to a dignified life...making the Right to Food a guaranteed Fundamental Right which is enforceable by virtue of the constitutional remedy.”¹⁸

Since 2001, the scope of the public interest litigation has grown to cover issues such as the implementation of food related schemes (including the Mid Day Meal Scheme), urban destitution, the right to work, starvation deaths, general transparency, and accountability.¹⁹ All of these various addendums to the litigation have related back to the right to life (mentioned in Article 21 of the Constitution), have ushered the government to recognize the multi-faceted and interdependent nature of this right, and have signaled the importance of the right to food.

¹⁶ Ibid. P. 8.

¹⁷ Ibid. P. 9.

¹⁸ The right to food became an enforceable claim as a result Article 32 of the Constitution which provides the right to move the Supreme Court by appropriate proceedings for the enforcement of the rights conferred.

¹⁹ Secretariat of the Right to Food Campaign. 2005. *Supreme Court Orders on the Right to Food: A Tool for Action*. Delhi: Right to Food Campaign. P. 9.

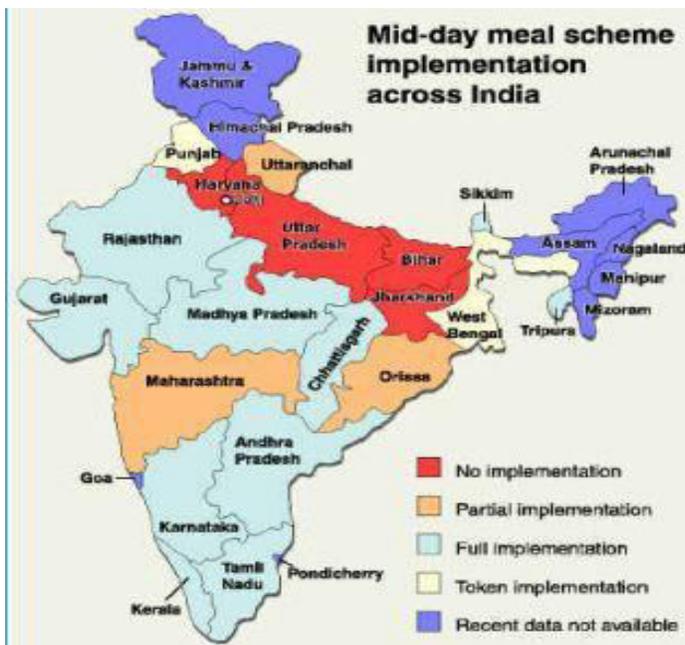
As such, to-date 382 affidavits have been submitted, 55 “interim applications” filed, and 44 “interim orders” created.²⁰

The first major interim order of the Supreme Court, issued on November 28th, 2001, focused on eight food-related schemes: The Public Distribution System, Antyodaya Anna Yojana, the National Programme of Nutritional Support to Primary Education, also known as the MDM, the Integrated Child Development services (ICDS), Annapurna, the National Old Age Pension Scheme, the National Maternity Benefit Scheme, and the National Family Benefit Scheme. This interim order is especially significant as it converted the benefits of these eight schemes into legal entitlements. In other words, recipients of these schemes can now seek redress if not given their prescribed allotment of grains.²¹

In the case of the MDM, this interim order not only gave children legal protection to existing entitlements, but also directed the government to replace monthly dry rations of grain with daily, cooked meals in government and government-aided schools. Underlying this order was the belief that the national and state governments should be held accountable for protecting the right to food via the implementation of these food-related schemes.²² The next section the implementation of the MDM since the court case.

²¹ Secretariat of the Right to Food Campaign. 2005. *Supreme Court Orders on the Right to Food: A Tool for Action*. Delhi: Right to Food Campaign. P. 19.

²² Ibid. P. 19.



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IV. THE MID DAY MEAL SCHEME

The Mid Day Meal Scheme is the popular name for school noon meal programs in India. Currently, one hundred and twenty million children are recipients of the scheme, making it the largest school meal program in the world.²⁴ Since its inception, the scheme has worked to and has often been successful in protecting children from hunger in the classroom, increasing school attendance and enrollment (and as a result, contributing to both the right to food and the right to education), working to undermine caste prejudices by teaching children to sit together and share a common meals, reducing the gender gap by increasing school enrollment and providing an important source of employment for women, “[liberating] working women from the burden of feeding their children during lunch,” and providing a source of economic support and employment for scheduled castes and scheduled tribes. Moreover, when the meal has been nutritious, it has also helped reduce hunger, and foster the healthy development of the child.²⁵

The central government first sponsored the Mid Day Meal Scheme in 1995 via the National Programme of Nutritional Support to Primary Education; this program was aimed at

²³ Dreze, J. and Goyal, A. 2003. *The Future of Mid Day Meals in India*. New Delhi: Economic and Political Weekly. P. 4676.

²⁴ Dreze, Jean. 2004. *Democracy and the Right to Food*. Economic and Political Weekly. P. 6.

²⁵ Supreme Court Orders on the Right to Food: A Tool for Action. October 2005. P. 27-30

introducing cooked meals in all government and government-aided schools by 1997. Under the Nutrition Program, state governments could distribute “monthly grain rations (known as ‘drying rations’) to school children instead of cooked meals.”²⁶ Realizing that most state governments had failed to implement this task, the 2001 public interest litigation culminated in the urgent Supreme Court orders (mentioned previously) directing the state governments to introduce cooked meals in schools within six months. However, as Indian development economist Jean Dreze explains, “once again, most states missed the deadline, and even today, some states (notably Bihar, Jharkand, and Uttar Pradesh) are yet to comply.”²⁷ In some states such issues as corruption, poor quality of food, lack of staff or utensils for serving the food, unhygienic conditions, and lack of the adequate quantity of grains significantly undermine the program’s impact (see above chart for disparities in implementation between states in India). In contrast, Dreze describes states such as Tamil Nadu, where the meal is decentralized or cooked in schools, as prime examples of “what mid-day meals have achieved and how they can be improved.” Other states such as Gujarat and New Delhi where the ethnographic research of this study was conducted also have been found to have well-running Mid Day Meal programs. Both Gujarat and New Delhi use different implementation models (decentralized and centralized mechanisms for the distribution of the meal) and the strengths and weaknesses of each of these will be assessed in the proceeding sections.

V. THE CENTRALIZATION/DECENTRALIZATION DEBATE

The centralization versus decentralization of the mid-day meal debate has captured the imagination of policy makers and activist alike, with both sides usually to be found on opposing sides of the debate. While opinions with regard to the desirability of adopting either model vary, current trends in the scheme indicate a definite shift towards a centralized model of production in urban areas, which in some cities like Ahmedabad, will have definite implications in terms of loss of employment of the women currently employed as cooks unnder the scheme in various schools. This section will attempt to interrogate the centralized

²⁶ Dreze, J. and Goyal, A. 2003. *The Future of Mid Day Meals in India*. New Delhi: Economic and Political Weekly. P. 1

²⁷ Ibid, P. 6.

versus decentralized production debate, examining the meaning of both terms, the premises on which the models hinge, and the various arguments made for and against these models. Since the focus of this study is the MDMS in urban areas, this discussion will confine itself to issues pertaining to the implementation of the scheme in urban areas.

A centralized model refers to a sort of oligopolistic system wherein a few service providers produce and distribute meals to the schools in a town/city, with coverage ranging up to over a lakh students (eg: Naandi Foundation in Ganjam district of Orissa). While smaller scale NPOs/GOs have been known to operate, NGOs such as the Naandi Foundation (with a coverage of 7,40,790 children) and ISKCON's Akshay Patra (with a coverage of over one million children²⁸ all over the country) have received tremendous attention in recent times. The centralized model is however usually found only in urban areas as distribution of centrally cooked food in rural areas is considered to be unfeasible, given the poor connectivity of many villages and their distance from each other.

Decentralized models refer to models where the production of the meals is deconcentrated, with the food being prepared in the school or near the school. Agencies charged with the production of food usually include SHGs, Village Education Committees, Mother/Parent Teacher Associations, etc.

Different sets of actors advocate both models for different reasons. The centralized model is lauded for its efficiency, deriving from its minimizing of labour costs, increased use of mechanization and consequent minimal human contact with the food implying lower chances of the contamination of food, minimum utilization of space, as well as economies of scale. In addition, as the scheme is then 'outsourced' to private service providers, the government bears less of a financial burden in terms of providing capital costs, etc. Furthermore, as our study revealed, teachers and principals in schools were happy to be free of the responsibility that cooking food in the schools would entail.

²⁸ This includes coverage of children under the MDM and ICDS schemes. In addition, 50,000 children or so included in this figure receive food cooked in Akshay Patra's decentralized kitchens run in rural areas.

On the other hand, advocates of the decentralized model note that while the decentralized model may prove to be challenging to implement in the short run, the long term benefits in terms of social, political and economic gains must be recognised. The proponents of the decentralized model note that this model allows for significant level of employment generation for women, especially benefiting women from marginalized communities. The Supreme Court in its order on April 20, 2004 stated “In appointment of cooks and helpers, preference shall be given to Dalits, Scheduled Castes and Scheduled Tribes”. However, the centralization of the production of mid-day meals has allowed for this order to be bypassed (or in one sense, flouted) as state governments do not impose any requirements on service providers to give preference to Dalits, SCs or STs stating that as the scheme has been outsourced the departments have no say in the staff composition of the kitchens of service providers.

The decentralized model has also been advocated for the contribution it makes to the community involved in the process. It is stated that women involved in the process are exposed to healthy nutrition practices. By demonstration effect it is envisioned that the production of healthy, nutritious food in the school premises will impact the cooking practices of mothers. In addition, it is believed that the on-site production of food would allow for some degree of flexibility in terms of the items of food specified, and would allow local tastes to be catered to, thus minimizing wastage and increasing consumption of the meals.

VI. THE BEST PRACTICE UNDER STUDY

Current debates around the topic have reduced the issue to a question of a tradeoff between efficiency and good quality food (in the centralized model) and employment of traditionally marginalized groups (with this definition including women) and local²⁹ production of food. Inherent in this simplification of the issue is an assumption that efficiency as well as the provisioning of good quality food and the decentralized production of food are mutually

²⁹ Locally produced food in this context refers to food produced on site or in the vicinity of the school.

exclusive. Similarly, it is also believed that a centralized model of production of food does not allow for social and gender equity. This study will attempt to explore and challenge these claims in depth. By studying the centralized production of the MDM in Delhi and the decentralized production of the MDM in Ahmedabad, this study will attempt to interrogate and compare both models based on a number of pre-specified criteria, namely

Quality and satisfaction

Cleanliness and hygiene

Monitoring, transparency and accountability

Quantity provided (eligible beneficiary coverage)

Financial viability

Social and gender equity

This analysis, it is hoped, will provide some clarity to the questions raised so far. There currently exists a high level of public support for centralized kitchens, especially given the highly publicized 'success' of the Akshay Patra kitchens around the country. Centralized production of food has come to be termed a 'best practice' in the provisioning of the MDM. This study will interrogate this claim, basing the final analysis on a comparison with a decentralized method of production.

Furthermore, while the term 'best practice' may be misleading, given that the most suitable practice in a given context will depend on the social, economic, political and institutional factors present at the local, regional and national level, this study will, based on the findings, attempt to provide a framework within which a model for the production of the meal in *urban* areas can be constructed, with due consideration to the objectives with which the scheme was introduced, as well as with consideration to the parameters outlined above and the observed performance of both models in these respects.

VII. METHODOLOGY

This study was conducted in the cities of Delhi and Ahmedabad, where the centralized and decentralized models operate respectively, during the months of February and March 2010. In Delhi, Ms. Priya Shankar and Ms. Natasha S. K. conducted field visits, while in Ahmedabad, Ms. Priya Shankar conducted visits and completed questionnaires. The researchers collected both primary and secondary data, and conducted qualitative interviews with children, MDM kitchen staff, school staff, parents, and government officials in both states.

In Delhi, the study focused on Department of Education (DOE) schools. The researchers obtained a list of service providers, and selected three kitchens that were spread out around the city. Under each kitchen, the researchers visited three randomly selected schools, once again keeping in mind the need to cover schools from different areas. If the researchers were denied entry into a school or kitchen, they went on to different ones in the same geographical area.

In each school, the researchers used semi-structured questionnaires to interview teachers, principals, students, parents and members of Mid Day Meal committees. Schools were visited in the morning in order to observe the MDM distribution process. The schools visited include Kerala Society Senior Secondary School, DTEA School as well as various GSSS Pkt IV Mayur Vihar, GSSS Chilla Gaon, SKV Gargi Green Park Extension, SKV Kalkaji and SBV Trilokpuri, Guru Nanak Khalsa School and SKV Rani Jhansi school, Tughlakabad. Moreover, kitchens of service providers were visited during the production of the first meal of the day. Apart from observing and analyzing the kitchen infrastructure, quality of the cooking process and kitchen sheds, the researchers also spoke to many members of the kitchen staff. In addition, discussions were held with the Director Education and members of the Mid-day Meal Cell. A total of around 90 respondents were interviewed.

In Ahmedabad, the researchers followed a similar process; they visited nine randomly selected schools in the east, west, and northern portions of Ahmedabad. These schools include Vastrapur Railway School, Ramdev Nagar School, and Ravinagar School in the west; Rammol Pratmik School Part 1, Rammol Pratmik School Part 2, and Jantanagar School in the east; and

Kali Gaon School Part 1, Kali Gaon School Part 2, and D.K. Bin School in the north. Schools were visited in the morning or afternoon, depending on whether the schools were morning or afternoon shift schools. The researchers conducted semi-structured interviews with teachers, principals, staff, parents, students as well as cooks, and observed the MDM cooking, distribution, and serving processes. Additionally, they spoke with government officials, such as the Mid Day Meal Commissioner and Joint Commissioner, the Rural Deputy Collector, and the Urban Deputy Collector.

Limitations of the Study

As a result of time and resource constraints, the sample size of this study is limited. The researchers were able to observe and discuss the meal with a small sample of school staff, MDM staff, beneficiaries, government officials, etc. In Delhi, the study was limited to the functioning of the MDM program in Department of Education schools, and in Ahmedabad, nine randomly selected schools in the north, east, and western provinces were observed. As a result, the findings cannot represent MDM functioning across Delhi, in all schools in Ahmedabad or Delhi, or in those parts of Ahmedabad that fall under the jurisdiction of the Ahmedabad Municipal Corporation.

While Gujarat and Delhi are not perfect comparative models (due to differences in geographical size, history, amongst other variables), the researchers chose to compare centralization in New Delhi with decentralization in Ahmedabad's, because they felt that they could assess and understand whether decentralized models could function in a growing urban area. Tamil Nadu is touted as the success story in decentralized MDM implementation, yet the researchers wanted to observe whether other states like Gujarat also could run functional and good quality decentralized models.

Finally, another major limitation of this study is that there were only two researchers involved in garnering data. With fewer personnel involved in observing schools, the researchers may not have picked up on every important detail relevant to the questions posed.

Moreover, the researchers visited almost all of the schools only once, meaning that school or MDM staff could have changed their behaviors for the particular visit.

VIII. MDM IN DELHI

The National Capital Territory of Delhi is divided into 3 administrative units, administered by three local administrative agencies namely the Municipal Corporation of Delhi, (MCD), New Delhi Municipal Council (NDMC) and the Delhi Cantonment Board. Schools in Delhi fall under the control of the Directorate of Education, MCD, NDMC and Delhi Cantonment Board. In September 2005, the DOE was declared the Nodal Department by the Ministry of Human Resource Department.

The Mid-day Meal Scheme was introduced in Delhi in the year 2003 in compliance with the Supreme Court order directing states to provide meals in schools. In the first phase, expressions of interest were invited from NGOs/caterers/women's empowerment groups/Parent Teacher's Associations (PTAs)/canteens/individuals etc. in January 2003. Cooked meals were then provided in 408 schools run or aided by the MCD, 85 DOE schools and 52 NDMC schools on a pilot basis from July 2003. After receiving a positive response from the beneficiaries, the scheme was expanded. Expressions of interest were invited again in August 2003 from the same categories of organizations mentioned above. Attempts were made to partially decentralize provisioning of the meal by inviting expressions of interests zone wise³⁰. In the second phase of the scheme which began in September 2003, the number of schools covered under the scheme increased. In April 2004 coverage of the scheme expanded to include all the schools in Delhi.

By July 2005 all schools in Delhi were being catered to by semi-automated kitchens. The introduction of semi-automated kitchens in Delhi has been to allow for the 'optimum

³⁰ Note Regarding Implementation of MDM Schemes in Delhi. Government of NCT of Delhi. Directorate of Education.

Table 2

Menu

<i>DOE</i>	<i>MCD</i>	<i>NDMC</i>	<i>DCB</i>
Atta & besan poori with aloo Curry/or mixed vegetables	Poori with potato	Atta and besan poori with aloo curry/mixed vegetables	Atta & besan poori with aloo curry/or mixed vegetables
Sooji halwa with Chole	Poori with kabuli chole	Atta poori with chole (mashed vegetables added to the curry)	Sooji halwa with chole
Rice and chole with mashed vegetables added to gravy	Sooji halwa with blackgram	Sooji halwa with chole	Rice and chole with mashed vegetables added to gravy
Rice with sambhar/dal (with vegetables added to the gravy)	Rice with kabuli chana	Rice chole with mashed vegetable added to the gravy	Rice with sambhar/dal (with vegetables added to the gravy)

Rice with kadhi	Rice with rajma	Rice with sambar/dal with vegetables added to the gravy	Rice with kadhi
Atta Poori with chole (mashed vegetables added to the gravy)	Rice with sambhar/dal (mixed with vegetables)	Rice with kadhi	Atta poori with chole (mashed vegetables added to the gravy)

To evaluate the significance of the MDMS in Delhi, an understanding of its scope and reach would be useful. The total number of schools in Delhi as of December 31st, 2008 was 2333, all of which recorded the distribution of the MDM.

Table 3 depicts the number of children enrolled in schools as of December 31st 2008 as against the number availing of the MDM.

Table

3

Number of children enrolled in schools versus number of children availing of MDM

S.No.	Name of District	No. of children as per Annual Plan & Budget 2008-09			Average number of children availing MDM*			In % term		
		(Govt+LB+GA) Schools	EGS/AIE Centres	Total (col 3+4)	(Govt+LB+GA) Schools	EGS/AIE Centres	Total (col.6+7)	(Govt+LB+GA) Schools (Col.6/Col.3)x 100	EGS/AIE Centres (Col.7/Col.4)x 100	Total (Col.8/Col.5)x 100
1	2	3	4	5	6	7	8	9	10	11
1	GNCT	144095	Data not available	144095	147689	*156	147845	100	Data not available	100
2	MCD	967594	Data not available	967594	1012208	0	1012208	100	Data not available	100
3	NDMC	16558	Data not available	16558	19143	0	19143	100	Data not available	100
4	DCB	0	Data not available	0	**2015	0	2015	100	Data not available	100
Total		1128247	Data not available	1128247	1181055	156	1181211	100	Data not available	100

* At the time of submission of the Plan for the year 2008-09 the enrolment of AIE Centres enrolment was not available so it was shown nil but, afterwards the requisition was received from UEE & the mid day meal has been provided to three centres and 156 children.

** At the time of submission of the Plan for the year 2008-09 the enrolment of DCB primary enrolment was not available so it was shown nil , but after perusal and intervention of Director Education DCB has started to provide cooked food as mid day meal w.e.f Jan., 2009

The cost per child per day (excluding the cost of food grains) incurred by the Delhi government in the MDMS was Rs. 2 for the period 2006-07 onwards, and rose to Rs. 2.5 in October 2008 for the primary sections. Expenditure per child in the upper primary section rose to Rs. 3 from October 2008 onwards. However an examination of the budget and expenditure figures for Delhi from the period 2006 to 2009 in table 4 indicates that actual expenditure on the MDMS has often fallen short of allocations.

Table 4

Budget allocation versus Expenditure

	<i>Allocation</i>	<i>RBE</i>	<i>Expenditure</i>
2006-07 (lakhs)			
D.O.E. NCT of Delhi Sarvodaya Vidyalayas Govt. Aided	900 ---	412 138	283.37 137
MCD	2700	2700	2689
NDMC	100	100	100
2007-08 (in lakhs)			
D.O.E. NCT of Delhi Sarvodaya Vidyalayas Govt. Aided	600	600	416.59
MCD	3000	3000	2981
NDMC	100	70	48.95
DCB	10	10	0
2008-09 (in lakhs)			
D.O.E. NCT of Delhi Sarvodaya Vidyalayas Govt. Aided	600	1700	295
MCD	3000	4000	1912.64
NDMC	100	70	36
DCB	10	10	0

In 2006-07, actual expenditure on MDMS by the DoE was less than half of the allocated budget and the real budget expenditure. Similar trends are revealed in an analysis of expenditure in the periods 2007-08 and 2008-09. Similarly, the NDMC has also demonstrated an underutilization of funds in 2007-08 and 2008-09 with actual expenditure in 2007-08 standing

at 48.95 lakhs, half of the initial allocation of 100 lakhs. In 2008-09 as well, expenditure touched only 36 lakhs, out of the initial allocation of 70 lakhs. An examination of the expenditure of the DCB reveals 0 expenditure in the years 2007-08 and 2008-09. Since the MDMS is outsourced, no expenditure was incurred on the construction of kitchen sheds and procurement of kitchen devices.

If you consider the offtake of food grain in comparison to allocation for primary sections in the period 2008-09 (upto 31/12/2008), the picture is far from satisfactory. While DOE records 68.47% off take, and MCD 71.455 offtake, NDMC figures indicate a very poor offtake of 49.33%, indicating that a substantial proportion of beneficiaries were not covered by the scheme during this period.

Table 5 Lifting of food grains (primary)

<i>Name of agency</i>	<i>Allocation in MT (I, II and III quarter)</i>	<i>Lifting in MT (I, II and III quarter)</i>	<i>Percentage</i>
DOE	1947	1333	68.47
MCD	13162	9404	71.45
NDMC	227	112	49.33

A study of the off take versus allocation for upper primary schools under the jurisdiction of MCD indicate an extremely poor offtake of only 3.93%.

Table 6 Lifting of food grains (upper primary)

<i>Name of agency</i>	<i>Allocation in MT (I, II and III quarter)</i>	<i>Lifting in MT (I, II and III quarter)</i>	<i>Percentage</i>
DOE	11827	0	0*
MCD	230	13	3.93%

* Distribution of MDM began in 2009.

Table 7 shows the relationship between the food grains supplied and the number of meals served for the primary sections for the period 1.4.08 to 31.12.08.

Table 7 Relationship between food grain supplied and meals distributed (primary)

<i>l. No.</i>	<i>Districts</i>	<i>No. of Meals served during 01.4.08 to 31.12.08</i>	<i>Expected consumption of food grains in MTs</i>	<i>Actual consumption of food grains MTs</i>	<i>Diff. [4] - [5]</i>	<i>Diff. in %</i>
1	2	3	4	5	6	7
1	GNCT	17147200	1714.72	1333.302	381.418	22.24
2	MCD	120351450	12035.145	9404.7577	2630.3873	21.85
3	NDMC	1964963	196.4963	111.6	84.8963	43.2
4	DCB	0	0	0	0	0
TOTAL		139463613	13946.3613	10849.6597	3096.7016	22.2

The difference between the expected and actual consumption of food grains is attributed to the non-receipt of meal cards from schools, due to which the food grain to be provided for consumption in the month of December 2008 was to have been lifted in the next quarter. However, given the magnitude in the difference the explanation does hold up to closer scrutiny.

Table 8 Relationship between food grain supplied and meals distributed (upper primary)

Sl. No.	Districts	No. of Meals served during 01.4.08 to 31.12.08 (Note-1)	Expected consumption of food grains in MTs (Note-2)	Actual consumption of food grains MTs (Note-3)	Diff. [4] - [5]	Diff. in % (Note-4)
1	2	3	4	5	6	7
1	NDMC	154200	23.13	12.704	10.426	45.07

Similarly, in the case of upper primary schools, consumption of MDM in the NDMC run schools which started providing meals to upper primary students in November 2008 indicates a gap between expected and actual consumption of food grains which is attributed to the same causes.

An examination of the number of days that the MDMS was supplied in the period between 2006 and 2009 in table 9 reveals a fairly satisfactory picture in the case of MCD and NDMC, though the DOE statistics indicate a shortfall of 13-15 days in the years 2006-07 and 2007-08. DCB schools on the other hand did not receive the MDM for 136 days in the academic year.

Number of days MDM was supplied 2006 - 2009

<i>Year</i>	<i>DOE*</i>	<i>MCD</i>	<i>NDMC</i>	<i>DCB**</i>
2006-07	175	203	200	0
2007-08	177	199	201	0
2008-09	190	204	190	64

*DOE schools function for only 190 days in a year as children do not attend school on the last day of the month.

**Number of working days in school run by DCB is 64 as cooked mid day meal programme has been implemented by DCB w.e.f 1.1.09

A performance score card for the MDMS in Delhi provided in table 10 depicts its overall performance³⁴. As the table indicates, Delhi is lagging behind on all indicators.

Table 10 Performance of MDMS in Delhi

<i>Component</i>	<i>Achievement</i>	<i>Benchmark</i>
Food grain availability	55%	80%
Food grain utilization	55%	71%
Cooking cost utilization	48%	71%
MME	1%	100%

Government Norms for DOE Schools

Given that this study was conducted only in DOE schools, this section will outline the norms put in place for the MDMS in DOE schools in Delhi, with reference to distribution, nutritional norms, sanitation and hygiene norms, monitoring and accountability.

Distribution

The instructions laid out by the Directorate of Education stipulate that the cooked meal is to be made by the service providers on all working days. The morning meal may not be repeated for

³⁴ MHRD, GoI available online at <http://education.nic.in/mdm/MDMPAB.htm> last accessed April 20th, 2010.

the afternoon shift (so as to ensure that only freshly cooked food is distributed). The distribution of the food is to be conducted during the recess period which is expected to last for not more than 20 to 30 minutes without any break.

Nutritional Norms and Content

The norms adhered to are the revised norms prescribed by the Ministry of Human Resource Development's (MHRD) MDM Division on 24.11.09. Each child in the primary classes is entitled to food consisting of 450 calories and 12 grams of protein on a daily basis. Children in the upper primary classes are entitled to 700 calories and 20 grams of protein in every meal. The quantity of wheat/rice to be included per meal per child is 100 grams and 150 grams for primary and upper primary classes respectively. The per child cost allocation at the time of the study was Rs. 2.50 for primary and Rs. 3.75 for upper primary. This was revised on 1st April to Rs. 2.69 for primary and Rs. 4.03 for upper primary classes respectively.

The DoE has specified a menu that service providers are expected to adhere to while cooking the meals. The menu is as follows:

1. atta and besan puri with aloo curry/mixed vegetables
2. atta puri with chole (mashed vegetables added to the gravy)
3. suji halwa with chole
4. rice with chole (mashed vegetables added to the gravy)
5. rice with kadhi (with vegetables added to the gravy)

The guidelines issued by the MHRD make specific reference to the exact grain, pulse, vegetable and oil and fat content to be included in each meal.

Table 11 Norms of the various components of the meal as per MHRD

S. No.	Items	Quantity per day (in grams)	
		Primary	Upper primary
1	Food grain	100	150
2	Pulse	20	30
3	Vegetables (leafy also)	50	75
4	Oil and fat	5	7.5
5	Salt and condiments	As needed	As needed

In keeping with these specifications, general guidelines have been set out with respect to the nutritional content of meals as depicted in table 12 for the primary section and table 13 for the upper primary section below. There existed some confusion with respect to whether recipes are provided to service providers. While officials at the department claimed that fixed recipes are not provided, service providers claimed they had been provided recipes.

Table 12 Guidelines regarding the components of the MDM as laid out by DOE (primary)

<i>Sl. No.</i>	<i>Food item</i>	<i>Quantity (in grams)</i>	<i>Cost of Qty Recommended (in Rs.)</i>	<i>Calories</i>	<i>Protein content (in grams)</i>
(1)	(2)	(2)	(3)	(4)	(5)
1	Food grains (Wheat/Rice)	100	Supplied free	300	6
2	Pulses	30	0.75	70	3.5
3	Vegetables (leafy)	58	30	40	2
4	Oil & fat	12	.40	35	
5	Salt & Condiments	2t	.15	15	.5
6	Fuel		.30	0	
7	Labour & other administrative charge		.35	0	
8	Any other items		.25		
	Total	200	2.5	450	12

Table 13 Guidelines regarding the components of the MDM as laid out by DOE (upper primary)

<i>Sl. No.</i>	<i>Food item</i>	<i>Quantity (in grams)</i>	<i>Cost of Qty Recommended (in Rs.)</i>	<i>Calories</i>	<i>Protein content (in grams)</i>
(1)	(2)	(2)	(3)	(4)	(5)
1	Foodgrains (Wheat/Rice)	150	Supplied free	450	9.5
2	Pulses	40	90	110	7
3	Vegetables (leafy)	65	. 40	75	3
4	Oil & fat	18	50	53	
5	Salt & Condiments	27	. 20	12	0.5
6	Fuel		0.4		
7	Labour & other administrative charge		0.35		
8	Any other items		. 25		
	Total	300	3	700	20

In addition, the DOE has taken steps to enhance the nutritional value of the food provided by providing weekly IFA supplementation to all students, and encouraging the use of leafy vegetables and double fortified salt.

Sanitation and hygiene

Food distributors are expected to don aprons, headgear and gloves while at work.

Accountability

Failure of service providers to supply cooked food or replace unsuitable food on the same day attracts a penalty of Rs. 4 per child for children enrolled in the primary section present on that particular day and Rs. 5 per child for children enrolled in the upper primary section present on that particular day which is deducted from the bill supplied by the HOS/Principal of the concerned school.

Monitoring Structure

The monitoring structure for the MDM includes the institution of School Mid-day Meal Committees (SMDMC) at the school level. At the department level, a Zonal Level Steering Cum Monitoring Committee, District DDEs and RDEs are held responsible for monitoring.

School Mid-day Meal Committees (SMDMC)

The DOE has directed schools to institute School Mid-day Meal Committees (SMDMC) comprising the Head of School, Teacher in charge of the MDM, Home Science teacher, atleast 3 mothers of children from different classes, the DDO of the school and one Vidyalaya Kalyan Samiti (VKS) member. The SMDMC is held responsible for receiving and monitoring the distribution of the MDM on a daily bases. In addition, the committee's tasks include

- I. Ensuring compliance of all the general instructions.
- II. Ensuring the desealing food containers in its presence. The Committee is expected to ensure that only fresh, clean, hygienic and ready to eat food is served to the children.
- III. Testing and ensuring that the food in all the containers is fit for human consumption as per the standards laid out in the MoU. Atleast 2 members of the Committee are expected to taste the food before distribution.
- IV. The Committee is expected to ensure that service providers do not deviate from the prespecified menu. No item is allowed to be repeated within the span of one week.
- V. Food that is found to be defective or stale is returned to the service provider. A written memo is to be then issued to the service provider by the HoS, with copies being sent to the EO, DDE and MDM branch at the headquarter.

- VI. The Principal of the school is vested with the right to take action as per the agreement under intimation to the Zonal EO/DDE and is held responsible for doing so when the need arises.

Meetings of the SMDMC are to be held twice a month and presided over by the HoS.

Zonal Level Steering Cum Monitoring Committee

The Zonal Level Steering Cum Monitoring Committee comprises the Education Officer of the zone, two principals, two parents and one VKS member. Meetings of the Committee are to be held atleast once a month and presided over by the EO. The Committee is expected to draw up a month-wise programme of monitoring the distribution of the MDM and inform the DDEs about the same. EOs are expected to be present as far as possible in schools falling within their respective zones at the time of distribution of the MDM. Furthermore, they are required to visit all the schools in their zone atleast once a month while the meal is being distributed. Apart from monitoring of the scheme, EOs are also expected to take corrective action when required. Service Providers are also monitored by EOs atleast once a week in order to ensure that cleanliness and hygiene norms are being maintained. Weekly reports are to be sent to the MDM branch at the HQ with respect to the supply and distribution of food by the service providers.

Deputy Directors Education

The District DDEs are responsible for monitoring the working of the Committees of Zonal and School-level MDM Committees in their respective districts. Monthly reports of the monitoring activities conducted are to be submitted to the RED and Joint Director Education (MDM) at the headquarters. The DDEs are also expected to visit the kitchens and supervise the preparation and transportation of the MDM on a regular basis. Complaints from parents, schools or service providers are examined and resolved by the DDEs.

In addition, DDEs are expected to ensure that service providers comply with pre-specified norms regarding their functioning and maintenance of their kitchens with respect to pest

control, usage of LPG through fixed piping systems, etc. The DDEs are also responsible for ensuring that payments are released in a timely fashion to service providers.

External agencies

The MDM guidelines indicate that independent agencies must be appointed to monitor and evaluate the scheme. However, in the case of DOE no evaluation report was accessible, though the Delhi School of Economics and Krishna Foundation have recently been appointed to conduct studies on the MDM. It is not clear however whether these studies 'The impact of school meals on attendance, learning and health outcomes in Delhi' (Delhi School of Economics) and 'Nutrient and micronutrient contents in the mid-day meals provided to the children and fortification with vitamins A, B, C and D' (Krishna Foundation) serve to monitor and evaluate the structure and functioning of the MDM in Delhi, or whether they are restricted in scope. MCD however appointed the NFI, Lady Irwin College and Institute of Home Economics at various points of time to monitor and evaluate the scheme.

In addition, Sri Ram Institute of Industrial Research has been appointed to periodically test food samples and ensure that basic nutritional and food safety norms and standards are being adhered to. Payments to service providers are conditional on satisfactory results of test. While currently samples are to be lifted once a month, the frequency with which samples are to be lifted is set to be increased. Kitchens are expected to bear the testing fees.

b. Description and Analysis of the Kitchens of the Service Providers

Process of selection of service providers

To select service providers expressions of interest were solicited from NGOs and other service providers. Certain criteria were laid down to determine the eligibility of service providers, such as registration under the Societies Registration Act or the Public Trust Act 2 years experience, a minimum level of turnover, registration as an NGO, a minimum capacity, etc. In addition it must be noted that the MoU signed between the department and the service providers lays down certain requirements such as use of pre-specified automated machinery

during the cooking process involving an initial capital requirement worth lakhs of rupees, thus effectively ensuring that only very large NGOs and other categories of service providers can participate in the scheme. Bids were then submitted to the department. A committee comprising retired IAS officers then visited the kitchens and evaluated and graded them before selecting a service provider.

Descriptions of the selection procedure by the kitchens coincided with official procedure. While allegations have been made that the selection procedure is not often as black and white as is posed officially, the researchers were unable to probe into the matter and cannot comment on the veracity of these allegations.

Nature of service providers

During the course of the study the researchers visited 3 kitchens in Delhi. The first kitchen Stri Shakti (SS) is a large non-profit organisation that currently provides MDM in various other states. In the Nangloi-based Stri Shakti kitchen that the researchers visited, Stri Shakti prepares food for both the Mid-day Meal Scheme and the Integrated Child Development Services Scheme (though in separate kitchen spaces). The second kitchen the researchers visited was the kitchen run by the Bharat Rattan Bhim Rao Ambedkar Utthan Evam Shiksha Samiti (BRBRAUESS). BRBRAUESS is also a registered NGO working in different states in the country on Dalit issues. The third kitchen visited is run by the Jay Gee Humanitarian Society (JGHS), a trust formed by a group of businessmen involved in providing education to underprivileged children. Interestingly, the kitchen operations at the JGHS kitchen are overseen by a member who previously worked with the hotel management and catering industry.

Cooking and Delivery process and Mechanism

The employment of a semi-automated kitchen means that rice is steam cooked in steam boilers. The cooking process for the first shift therefore begins very early, ranging from 2 am in one kitchen to 5 am in another. The cooking process ends around 8 am. The process starts up again at around 10 or 11 am and continues to around 2 pm with minor variations in all 3 kitchens. While the entire cooking process takes a considerable period of time, one service

provider noted that the actual cooking time does not usually exceed one and a half hours. The reason for the extended time period was attributed to the time taken by the steam boilers to start up, the pre-preparatory phase, etc.

Once the food is cooked, it is packed into steel containers that are sealed with the organizations seal and loaded into vehicles which then drop off the food at the schools. Once the food is dropped off, it is either taken straight to the distribution point or stored till the break. At this point the distributors in the schools take over.

Payment mechanism

Payment to service providers are based on bills provided by the service providers to the HoS. 2 service providers stated that they usually received payments on time, though JGHS stated that while they received payments from some schools on time, some payments were often delayed by months. In these situations members of the group put in their own money to tide over the period.

Nature of kitchen shed

The SS and JGHS kitchens operated in closed rooms, with low chances of contamination from external sources. The BRBRAUESS kitchen was partially covered.

Quality of raw materials used

Under the MDM guidelines, food grain is provided by the Government of India through the FCI towards preparation of the MDM. BRBRAUESS however noted selling the FCI grain on grounds that it was of poor quality, and buying rice from the open market at Rs. 16.50/kilogram. The other two kitchens noted the need for the FCI rice to be specially cleaned. Both these kitchens employed their own staff to clean the grain. The rest of the raw materials are procured locally. To a large extent kitchens procure branded raw materials which were observed to be of a reasonably good quality (eg: Agmark certified products).

Cleanliness and hygiene

Wearing gloves and hairnets/headscarves

In none of the kitchens visited was a consistent use of gloves observed. In two kitchens *some* of the staff were observed to be wearing gloves.

In 2 kitchens some of the staff were observed to be wearing hairnets/headscarves. Again, not all staff were observed to be wearing hairnets/headscarves. Furthermore, in BRBRAUESS it was observed that the headscarves being used were brand new. Given that the researchers had informed this particular kitchen of their visit the previous day, it may not be incorrect to infer that the headscarves were if not procured, atleast brought out pecially for the visit.

Use of separate footwear

In the SS kitchen it was observed that a system had been setup wherein special footwear was donned before entering the kitchen area. In the other two kitchens however staff walked around the kitchen in regular footwear.

Delineation of areas and maintenance

Only the SS kitchen had clearly demarcated areas for different functions. The other 2 kitchens had various levels of delineation of the area utilized. Some rooms were being used for more than one purpose, with the demarcation between rooms not always clear. In addition, the level of cleanliness in these areas was not always up to the mark. For instance, in 2 kitchens, BRBRAUESS and JGHS, it was seen that raw materials were not stored properly. In BRBRAUESS though there was a storage area, some of the ingredients were stored out in the open, possibly due to lack of space. In the SS and the BRBRAUESS kitchens it was observed that not all the food materials were stored on platforms. In JGHS it was observed that while most of the raw ingredients were stored in a separate room on raised platforms, the food grain received from FCI was stored in a separate room at the back. The food grain was observed to be strewn all over the floor of the storage room, and rats were also observed in the storage area.

Cleanliness of cooking area

In only one of the kitchens (SS) could the cleanliness of the cooking area be described as 'good'? In the other two kitchens the cleanliness may be ranked as 'fair'. In BRBRAUESS it was

observed that due to the absence of a proper drainage system the water used to wash the floor spread over the floor of the cooking area while draining.

Washing area

In 2 of the kitchens, BRBRAUESS and JGHS the washing areas were found to be less than satisfactory in terms of cleanliness. JGHS however noted that it would be procuring a 'dishwasher' to wash the smaller vessels/containers. The agreement signed between service providers and the department specifies the possession of a dishwasher as a prerequisite for supplying food under the MDMS. None of the kitchens surveyed employed any such machinery, though the SS kitchen has set up an organized system of washing containers and vessels.

Waste control

In SS the waste area was located in a separate area at a reasonable from the cooking area. The garbage from this kitchen was cleared 3 or 4 times a day. In BRBRAUESS however, garbage bins were employed, and were located very close to the cooking area. The bins were covered with sacks, and were cleared twice a day. At the JGHS kitchen garbage is stored in sacks and kept outside, along the wall of the building where the food is cooked. It is picked up two-three times a day.

Availability and use of hot water to wash hands

All 3 kitchens had made provision for hot water supply for employees to wash their hands.

Water source

The SS and BRBRAUESS kitchens noted that the water used for cooking operations was sourced from Delhi Jal Board, and JGHS noted that it sourced the water from Sonia Vihar . Given that continuous water supply is not usually available, water is stored for use later. In addition, the JGHS kitchen noted that it also used bore well water to wash vessels and vegetables. Only SS and JGHS reported using water purification systems.

Pest control

While SS reported conducting pest control interventions at 3 month intervals, BRBAUESS reported not undertaking any such measures. JGHS noted that while previously it had an external agency come in to do the pest control, this was deemed to be too expensive a procedure to continue, and therefore the kitchen staff now use smoke bombs and conduct the pest control operation themselves³⁵. Incidentally, this is the kitchen where the rats were observed. Pest control measures are especially important given that materials are procured and stored in bulk and may lie unused for considerable periods of time.

Disposal of leftover food

All 3 kitchens noted that leftover food was not disposed off at the kitchen but was instead distributed amongst students or within poor communities.

Conduction of training programmes on hygiene and cleanliness

JGHS noted that when the Society supplied food for the MCD schools training was conducted for staff members by Lady Irwin College on aspects of maintaining cleanliness and hygiene.

There is scope for improvement in the levels of cleanliness and sanitation to be found in the kitchens, though admittedly none of the kitchens studied were found to be exceptionally backward in maintaining levels of cleanliness. There is a need for periodic training of staff on these issues, and monitoring by the department to ensure that basic cleanliness and food safety norms are being adhered to.

Transparency and Accountability:

Ease with which researchers gained access to kitchens

While 2 kitchens were open to the idea of us visiting and inspecting their kitchens, JGHS initially refused us entry claiming that they required communication from the DoE authorizing us to enter their kitchen. On receiving the necessary communication however the kitchen accommodated our requests. Given that the service providers are running the MDM operations on behalf of the government and with government funds, in the interests of

³⁵ Incidentally, this is the kitchen where the rats were observed.

transparency and accountability it is necessary that no artificial barriers be erected against external third party evaluation.

Openness to schools visiting as reported by schools

While most of the schools visited hadn't visited the kitchens of their respective service providers³⁶, none of the schools noted any opposition from the service providers to their visiting the kitchens.

As later sections of this report will show, monitoring, accountability and transparency systems instituted to check the functioning of the kitchens and operations of the service providers is weak.

Financial viability

This section will compare the costs incurred by the 3 kitchens under study under a number of heads. While the researchers had hoped to conduct a detailed cost analysis of the operations for all 3 of the kitchens studied, since the researchers were unable to collect precise costs of the food inputs included since none of the kitchens followed any fixed recipes, the researchers were unable to conduct a break even analysis. In addition, the SS kitchen does not have a fixed system of payment for the persons working in the halwai, helpers and ladies. This section will therefore only serve to describe the costs involved in the functioning of a centralized kitchen.

Initial capital cost

Table 14 Initial capital cost reported by the service providers (per month)

SS	BRBRAUESS	JGHS
The initial capital requirement was Rs. 15-20 lakhs. In addition, a cost of Rs. 25-30 lakhs was incurred subsequently to procure machinery, etc. The money	Rs. 18 lakhs. The kitchen noted that it relied on donations to meet some of its expenditure needs, but was unwilling to reveal from where its funds were sourced.	The organization noted that it raised these funds from within the core group. The initial capital investment incurred was Rs. 15 lakhs. This was when the Society

³⁶ See below the section on monitoring, transparency and accountability.

was raised within the group, and included profits raised from other operations of the organization.		catered to MCD schools. When the kitchen began supplying food to DOE schools, it incurred a capital expenditure of about Rs. 30 lakhs to renovate and upgrade the kitchen.
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Loans

Table 14 Details of loans reported by the service providers (per month)

SS	BRBRAUESS	JGHS
Never taken a loan.	Never taken a loan.	Loans are not taken in the name of the kitchen. Instead if required personal loans are taken in the names of the members of the society which then feed into the operations of the kitchen.

Transportation costs per month

It must be noted that this section only refers to transportation costs incurred on transporting food to schools, and does not include transportation costs incurred to procure raw materials, transport grain from FCI warehouses to the kitchen, other miscellaneous trips as kitchens were unable to provide details of such costs.

Table 15 Transportation cost reported by the service providers (per month)

SS	BRBRAUESS	JGHS
18 vehicles are employed by the kitchen at a rate of Rs. 9000 - 10,000 per day.	The service provider employs 8 vehicles for the operations, rented from another member	The service providers have their own vehicle donated by a member of the core group.

However, cost incurred to transport food to all the schools amounts to Rs. 4,52,000.	of the group at a rate of Rs. 1500 per day per vehicle.	While the group has a fleet of around 20 vehicles, 8 are used for the MDM operations. The vehicles are hired out to JGHS at a rate of Rs. 1500 per day (which includes the cost of the vehicle, diesel and the driver). This incurs a total cost of Rs. 12,000 per month.
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Fuel costs incurred for cooking per month

Table 16 Fuel cost reported by the service providers (per month)

SS	BRBRAUESS	JGHS
Rs. 1,50,000	Diesel cost stands at Rs. 1.5 lakh a month, used to run the steam boilers. Gas costs (at Rs. 1050 per cylinder for 10 cylinders) are Rs. 10,500.	Rs. 1.6 lakhs.

Electricity cost per month

Table 17 Electricity cost reported by the service providers (per month)

SS	BRBRAUESS	JGHS
30,000-38,000	Varies between 5000 and 7000 a month.	Rs. 40,000 – Rs. 50,000.

Rent per month

Table 18

Rent cost reported by the service providers (per month)

SS	BRBRAUESS	JGHS
Rs. 42,200	Rent charges incurred per month are Rs. 1 lakh per month.	Rs. 2.25 lakhs per month. This includes rent incurred on a storage area and staff quarters. The service providers have now decided to hire a storage area on a daily basis as the storage area is not used throughout the month.

Labour costs per month

Details of staff hired and salaries are outlined below. It may be noted that information provided on the topic differed on subsequent attempts to collect further information. A number of discrepancies were noted during information provided by staff members and initial attempts to collect data and the final round of collection. Why this is so is not clear. For example while the head cook at BRBRAUESS told us that he received a monthly remuneration of Rs. 10,000 a month, management claimed that his salary was Rs. 7000 a month.

Table 19

Staff composition and salaries*

Position	SS				BRBRAUESS				JGHS			
	Male		Female		Male		Female		Male		Female	
	Number	Salary	Number	Salary	Number	Salary	Number	Salary**	Number	Salary	Number	Salary
<i>Manager Operations</i>	0	N.A.	0	N.A.	0	N.A.	0	N.A.	1	50,000	0	N.A.
<i>Field In-charge/Coordinator/Assistant Managers</i>	4	16,000	0	N.A.	10	5000	0	N.A.	4	6500	0	N.A.
<i>Store Manager</i>	2	6000	0	N.A.	1	5000	0	N.A.	1	5000	0	N.A.
<i>Store Assistant</i>	0	N.A.	0	N.A.					1	4000	0	N.A.
<i>Kitchen Manager/Coordinator</i>	2	Volunteer	0	N.A.	1	10,000	0	N.A.	1	9000	0	N.A.
<i>Accountant</i>	1	Volunteer	0	N.A.	1	15,000	0	N.A.	2	6500	0	N.A.
<i>Office Staff</i>	2	Volunteer	0	N.A.	1	4000	0	N.A.	1	6000	1	6000
<i>Head Cook</i>	2	Varies	0	N.A.	1	7000	0	N.A.	1	15,000	0	N.A.
<i>Assistant Head Cook</i>	0	N.A.	0	N.A.					2	7500	0	N.A.
<i>Halwai Special Staff 1</i>	5	-	0	N.A.	20	5000	0	N.A.	0	N.A.	0	N.A.
<i>Halwai Special Staff 2</i>	5	-	0	N.A.	6	7000	0	N.A.	0	N.A.	0	N.A.
<i>Helpers</i>	37	-	0	N.A.	13	3000	0	N.A.	32	3500	3	3500
<i>Special Helpers</i>	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	3	3500
<i>Housekeeping Manager</i>	0	N.A.	0	N.A.					1	6000	0	N.A.
<i>Housekeeping Staff</i>	0	N.A.	0	N.A.					12	4000	0	N.A.

<i>Cooks</i>	0	N.A.	0	N.A.	70	5000		N.A.	8	5500	0	N
<i>Cleaners</i>	0	N.A.	31		2	3000	2	3000	0	N.A.	0	N
<i>Distributors</i>	0	N.A.	300	500 9acco ring to child ren	0	N.A.	300	Rs. 50 per day * 24 days = 1200	20	600	210	6
<i>Vehicle Supervisor 1</i>	2	N.A.	0	N.A.	0	N.A.	0	N.A.	7	4500	0	N
<i>Vehicle Supervisor 1</i>	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N
<i>Guards</i>	2	10,500	0	N.A.	1	5000	0	N.A.	3	4000	0	N
<i>Driver 1</i>	16	As per route	0	N.A.	5	3000	0	N.A.	3	6500	0	N
<i>Accompanying Driver</i>	16	As per route	0	N.A.	18	3000	0	N.A.	0	N.A.	0	N
Total	96	-	331	-	150	7,02,000	302	3,66,000	97		217	1
Total Payment Due	-					10,68,000**			5,78,000			

*Unless specified otherwise, salaries noted are per month.

**Calculated assuming 24 working days in a month

Stri

Shakti

follows

a

different system of payment. The women are divided into groups of 10 that function as independent SHGs. When work is allotted, a particular function, for example, cleaning of grain, is assigned to a specific group. The management contributes Rs. 50 towards each group member. In addition, a lump sum is contributed to the group depending on the function, as payment for undertaking the 'contract' to perform a task. The money is divided within the group based on the groups assessment of who should be paid how much. The women then contribute Rs. 50 from their allowance into a common savings account. Therefore, ascertaining how much each group member/woman is paid as salary on a fixed basis is not possible in this case. However, during the training period, groups are paid about 15,000 to 20,000 per month, which is then divided amongst the group. Later on, payments for groups usually amount to Rs. 25,000 per month. The women therefore usually earn between 2300 to 2500 per month. It may be noted that attempts to collect financial information was met in two kitchens (SS and JGHS) with supposed ignorance. The researchers were instead in the case of SS asked to contact the organizations head office in Mumbai to get details about the salaries of the staff. In JGHS one of the members of the organization who oversees the operations of the kitchen on a daily basis claimed ignorance about costs incurred on kitchen operations.

It may be noted that the 31 women working as 'cleaners' may not refer to only women cleaning utensils etc but may also refer to women sorting grain, helping in the kitchen, etc.

As the data indicates, the initial capital cost incurred to set up a centralized kitchen is very high. The norms laid down by the department with respect to the kind of infrastructure that kitchens are required to possess (see Annexure B) ensure that only those organizations with substantial access to funds can even hope to bid for such a contract. This subsequently raises questions about what kinds of organizations are actually participating in this initiative. While it is not within the scope of this study to comment on the nature of the organizations participating in the MDMS, it is certainly a question that merits future study. While the costs incurred on operating a centralized kitchen are high, a detailed, break-even analysis needs to be conducted to conclusively comment on the viability of the operations.

Social and Gender Equity

Criteria for selection of service provider staff and distributors

Criteria for hiring kitchen staff varied across service providers. All the service providers professed to hire staff based on the need of the candidates. JGHS noted giving preference to Burmese refugees who were contacted through an NGO that works with Burmese refugees in the country. JGHS also noted the pressure exerted by the local MLA to hire staff supplied by him.

Evidence of sub-contracting was evident in two of the kitchens visited. Service providers hired staff from outside to perform the more specialized tasks in the kitchen. In one kitchen the service provider noted that a halwai contractor supplied staff to the kitchen. In another kitchen, the organization noted that the functioning of the kitchen was sub-contracted to a large extent to a contractor who runs catering institutions in the city.

It was evident after visiting the kitchens of the 3 service providers studied that giving preference to women was not a consideration during the selection process. While one kitchen being a women's SHG made an effort to hire underprivileged women, in the kitchens of the other two service providers it was observed that staff almost exclusively comprised men. When women were also hired, it was only for the lower level jobs such as washing the vessels or cleaning. It may be noted however that women are also hired as distributors which may amount to a fairly significant number. Reasons for not hiring women were describe thus 'Women are mischievous. They answer back'. Other reasons included the inability of women to lift the heavy equipment and vessels employed in the semi-automated kitchens. Given that the first shift of the day begins at around 2 am in most kitchens, it is likely that this in itself could deter women from participating in the scheme.

In addition, no special attempt was made by any of the service providers to hire SC/ST staff. BRBAUESS stated that it did not give any preference to Dalit persons when hiring, instead hiring only those it considered to be in need. JGHS claimed that while it had no issues with hiring staff from SC/ST communities, the members had been told by teachers from the various schools they supplied to that children's parents would raise objections if they were aware that

the food supplied was cooked by SC/ST persons, and they therefore preferred not to hire persons from SC/ST communities.

When hired by service providers, distributors in schools were often selected on the basis of their being located close to the school. No specific criteria for selection appeared to exist. No special attempt was made to include persons belonging to SC/ST communities, though discussions with some of the distributors revealed that SC/ST persons had in fact been hired. Interestingly, most of the distributors observed were women.

These findings are corroborated with a study conducted by CORD in 2005 on the mid day meal in Delhi³⁷. The report thus states 'One organisation looked to employ women and one was also running women's self-help groups but there was little evidence of Dalit women getting any increased mileage from this'. In the study conducted by CORD, it was found that employers demonstrated a preference for male staff, stating reasons such as female staff being more troublesome – by always fighting with each other and seeking ways to find easy work to do.

The Nutrition Foundation of India which conducted an evaluation study of the MDMS in MCD schools of Delhi in its paper points towards Tamil Nadu, the first state to implement a MDM scheme, whose success has been largely attributed to political will and the incorporation of the women's issue into its ambit – 'One of the reasons for the success of this programme in this state can be attributed to the fact that the empowerment of women issue was also integrated into this scheme by providing greater opportunities for both women in rural and urban areas, preference being given to widows and destitute women'³⁸. Given the employment opportunities that the MDMS could potentially create for women, it is disappointing that the MDMS in Delhi makes no effort to specially include women within the scope of its functioning. Instead evidence seems to point towards a conscious discrimination against hiring women. In addition, the Supreme Court order on

³⁷ CORD

³⁸ Sharma, S. et. al. 2006. Evaluation of Mid-day Meal Programme in MCD Schools. Scientific Report 18. Nutrition Foundation of India.

Displacement of labour

According to the MDM guidelines, a separate provision has been made for payment of honorarium to a cook-cum-helper at the rate of Rs. 1000 per month. One cook cum helper may be engaged in a school having upto 25 students, two cooks-cum-helpers for schools having 26 to 100 students, and one additional cook cum helper for every addition of upto 1000 students.

One of the alleged fall-outs of the centralized system is the displacement of labour that it causes in the shift from a decentralized to a centralized system. In this section, the researchers will attempt to compare the number of staff employed by the kitchens versus the number of cooks-cum-helpers that could have been employed were a decentralized system to be instituted. For this analysis, to simplify calculations, the number of children catered to by one kitchen is divided by 100 to ascertain the number of cooks-cum-helpers that might have been employed. Table No. shows the number of cooks-cum-helpers who might have been employed were a decentralized system to have been implemented.

Table 20 Number of staff employed by service providers versus number of potential cooks-cum-helpers that could be employed under a decentralized system

<i>Kitchen (1)</i>	<i>Number employed by kitchen (2)</i>	<i>Total number of students catered to (3)</i>	<i>Potential number of cooks-cum-helpers that could be employed under a decentralized system (4)</i>	<i>Number of potential cooks-cum-helpers displaced by the centralized system (4) - (2)</i>
SS	427	64,000	640	213
BRBRAUESS	452	52,000	520	68
JGHS	314	65,967	660	346
Total	1190	181967	1820	627

As table 20 indicates, the opportunity cost of employing a centralized model of production is very high. A very large number of cooks/helpers are displaced by adopting this model. It may be noted that state governments are allowed some degree of flexibility in implementing these norms. For example, Gujarat has bifurcated the allowance for cook-cum-helpers and has divided the amount for each cook-cum-helper into separate amounts for cooks and helpers hired separately, thus increasing the number of persons employed (though at lower pay scales).

Schools

Description of the school delivery process

In the schools the MDM process began with the arrival of the MDM at the school. During the course of the study, it was observed that distributors supplied the food at the schools between 9 and 10 am usually in keeping with instructions from the education department, with 4 out of 9 schools receiving the food before 9.30 am, though in one school the food was delivered at 11 am. The food was distributed on most occasions 15-20 minutes after the food was delivered. In some instances however as much as a one hour gap between delivery and distribution was observed.

The meal was packed in steel containers, sealed by the kitchen and transported in vehicles such as tempos, rickshaws etc. employed by the kitchen. With the exception of one school where it was observed that one container of rice was transported from the kitchen to the school without a lid, in all other instances it was seen that the food was transported in closed containers.

The food was distributed by helpers appointed by the service providers in most instances, though in one school it was observed that since the service provider had not made arrangements for distributors the school had made arrangements for peons from the school to distribute the food. The number of distributors varied from 2 to 6 per school. While largely women had been appointed as distributors, and female distributors were present in all the schools visited, in some schools it was seen that male distributors were also present in a few schools. It was also observed that in many instances children were also co-opted into the

distribution process, and in many instances the researchers saw children having to forego their break and serve the food. The distribution of the MDM in some of the schools studied was observed to be a chaotic affair, though some schools attempted to instill some sort of discipline into the distribution process.

c. Description and Analysis of the MDMS in Schools

Quality and Quantity

Hot and fresh food

In 5 out of the 9 schools studied, it was observed that the food was hot when it was supplied to the school. The food also appeared to be freshly cooked in all instances, though in one school some of the teachers alleged that the service provider sometimes mixed freshly cooked food with old stale food that was packed at the bottom of the containers.

The opinion of school staff with respect to the quality of food provided was mixed, though many were of the opinion that the food was of a reasonably good quality. One school did however note that the service provider who supplied the MDM to the school prior to the existing service provider often supplied food of a sub-standard quality, with the rice being cooked without cleaning it properly, and the dal of a very watered down variety. Though the school complained about the quality of the food to the supplier no efforts were made by the supplier to improve the quality of the food. Only after lodging a formal complaint with the department was action taken a month later, and the supplier was dismissed and a new supplier instituted. The MDM in-charge of the school remarked:

“We are not sure if the MDM is of good quality. At times we cannot trust that a cooked meal is hygienic and has been made in sanitary conditions. There can be no guarantee whether there is or isn't bacteria in the food. Moreover, although we may try the food everyday, we may be immune to some of the illnesses that children are susceptible to. We also worry whether they are using good water to make the food, especially since they might add any type of water to increase the quantity of gravy after cooking. Everyday we just pray that nothing will happen to our children. We read in the paper about incidents and just hope it does not happen here...there needs to be an external

monitoring agency to ensure that the meal is delivered properly and in a clean condition”

Another teacher in another school complained, ‘The food is not up to the mark. Something or the other is wrong’.

Timely distribution of food

As described above, the time at which food was distributed did not always coincide with the break. This was either because the food was delivered late, or the distribution process was staggered, or because the number of eligible children in the school was too great to complete distribution during the break, resulting in the disruption of classes. It was observed that it was not always possible for schools to complete the distribution process within the break. This was especially true in large schools where more than 1000 students were enrolled in the school. While in some of the schools it was observed that the distribution process spilled over the time slot allotted for the break, some schools attempted to address the problem by staggering the distribution of food by distributing the food to the students class-wise. In one school each class was lined up one at a time and the food distributed in the distribution area, with the process beginning in the period preceding the break and continuing into the break period. In another school, 2 sets of distributors hauled the food containers to each classroom and distributed the food under the supervision of the MDM in-charge and a student appointed to record participation in the meal.

Additionally, when the food arrived late, the distribution process was delayed. The teacher of one school noted that when the food was sent late, the school was forced to send it back if classes had begun, and as there was insufficient time for teachers to taste the food prior to distribution. On the flip side, JGHS complained that schools often distributed the food late even when it was delivered on time, and that this resulted in spoilage blamed then on the service provider.

Issues of children falling ill

Discussion with parents, teachers and children revealed that most beneficiaries had very few complaints regarding illness caused by consumption of the meal. Some instances of illness

were however reported, including vomiting, stomach aches, hospitalization, typhoid and a liver problem attributed by a doctor to the meal. While the veracity of some of the claims could not be verified, it still remains that issues have arisen with respect to the quality of the meal. In addition, one stark exception to the rule (as observed in this study) was the Trilokpuri incident, wherein in one of the schools included in this study it was noted that over a 100 hundred children fell seriously ill after consuming the mid-day meal and had to be hospitalized.

Adequacy of food supplied and distributed

In only one school visited were the researchers able to observe the using of a weighing machine to keep tabs of the quantity of food supplied. The researchers were unable to systematically observe whether weighing machines were used in the other schools studied. The general system appeared however to be to ensure that a certain number of containers of food was supplied, and it was assumed that each container would contain food for a specific number of children, and thus if the number of containers supplied were seen as generally sufficient to meet the needs of the children, the quantity of food supplied was reported as adequate, though the bill provided was for the number of children present in the school on that day³⁹. However, a performance audit conducted on the implementation of the Mid-day Meal scheme in Delhi which was based on audits conducted for the period 2001-02 to 2005-06 indicated that weighing machines were not available in 86 out of the 150 schools audited. Furthermore, weighing of the meals supplied at the 103 surveyed schools revealed that the meals supplied were inadequate, with the shortfall ranging from 0.240 kilograms to 42.980 kilograms. This certainly calls for a more in-depth evaluation and monitoring of the scheme at the school level.

During the field study the researchers conducted, only one school reported the quantity of food distributed as being inadequate to meet the needs of the school population. This school however noted that the quantity of food supplied was inadequate on a regular basis. The rest

³⁹ Schools are expected to call the service providers in the morning with their requirement for the day. However, one service provider complained that schools often do not intimate their need for the day. Service providers then resort to sending

of the schools surveyed had no complaints regarding the quantity of food supplied, though one school noted keeping stocks of biscuits for emergencies when the food for the day was not supplied. It was observed however that on days when puri sabzi was distributed, children often went back for seconds or requested extra puris, at times resulting in a shortage if all the children had not been served the minimum quota. On the days when food that the children did not like was served however, since many children opted not to take the food, no shortage was experienced. It is not clear whether the food supplied was deemed adequate because the actual quantity supplied was in keeping with the minimum norms or whether it was adequate because all the children were not availing of the meals for various reasons. In the absence of weighing, it is not possible to conclusively ascertain whether the food supplied is adequate.

These researchers noticed helpers and teachers packing food for themselves in a number of schools. While this in itself is not objectionable and may be encouraged *post* distribution of the meal, it was noticed in many instances that the food was packed prior to the distribution of the meal to children. While schools did not generally complain about shortage of food, standard rules must be put in place to ensure that food is not packed away by staff and helpers prior to distribution so as to ensure that children are not deprived of their entitlements.

Adherence to norms

It is not clear whether norms are being met with respect to the nutrition to be provided. For one, kitchens follow their own recipes when preparing the food though general guidelines have been laid down. Furthermore, there is no fixed measure in place to be used for the distribution of food, and thus there is no way of ensuring that norms are being adhered to. The quantity distributed usually depended on the size of the container in which the student was served the food⁴⁰, preferences of the child, or size of the ladle. In 4 schools children were observed going back for second helpings. However, in schools with very large numbers of children, it is unlikely that children will be allowed to go back for seconds given that the first priority would be to ensure that all the children receive atleast one helping. In some instances it was observed that not children were able to partake in the meal because of a delay in the distribution process or shortage of food.

⁴⁰ Children were observed to be bringing their own tiffin boxes to avail of the meal. The size of the tiffin boxes varied.

Supplement

The schools surveyed were divided with respect to whether the MDM constituted a meal for the students or whether it supplemented their regular meals. 6 schools noted that the MDM acted as a supplement, though even within these schools there were significant numbers of children who relied entirely on the MDM for a meal. 3 schools described the MDM as being the main meal for the majority of the children enrolled. This is testimony to the importance of the school for the lakhs of the children it caters to in the city.

Opinions on centralized versus decentralized service provision

8 out of 9 schools visited were not in favour of the introduction of a decentralized kitchen within the school premises. The only school that was amenable to the idea was a school run within the compound of a gurudwara. Since the gurudwara prepared food for the langar, some school officials were of the opinion that given adequate resources and support, the trust running the school could run a decentralized kitchen. The rest of the schools were strongly opposed to the idea of decentralized kitchens, citing infrastructure and space constraints, cleanliness, non-availability of staff, the additional burden of responsibility that would fall on existing faculty from such a move. Some teachers interviewed did however concede that decentralization would allow for better control over the quality of the food supplied.

Teachers' perceptions of the meal

Most of the teachers interviewed were of the opinion that the food provided was of reasonably good quality. They were also of the opinion that the food was hygienic. It is not clear however how the hygiene of the food was assessed given that members of only of the school reported having visited the kitchen where the food is cooked⁴¹. The performance audit conducted on the MDM in Delhi demonstrated that 287 of the 400 schools checked during the audit had not visited the kitchens of the service providers during the period 2004-05 to 2005-06 to ensure adherence to hygiene and cleanliness norms.

⁴¹ This is partly due to the fact that in some schools new service providers had been introduced only a week before the study.

With respect to the nutritious content of the meal however, one teacher noted,

“It is nutritious food as they balance carbohydrates and proteins, but the fibre content is not there and also there are no vegetables in the meal. It is always wheat and rice-- at least before, they used to serve daliya, and children actually liked kheer which was served before”.

Some teachers noted a preference for biscuits or other kinds of dry rations/packed food/soymilk/fruits to be served⁴². One teacher was of the opinion that children should be given in cash the money allotted for them under the MDM. The rationale for this derived from hygiene concerns, the ease with which dry rations can be distributed, and the ability of children to take uneaten food home with them. A related concern was the dirtying of school premises deriving from the distribution of the MDM. To address the distribution concern, another teacher suggested that the hot cooked food be distributed pre-packaged.

Disruption of classroom activities was a major complaint with regard to the scheme, especially in schools with large student populations where the distribution of the MDM took up considerably more time than the break period allowed for. While many teachers acknowledged the value of the meal especially for children hailing from the poorer strata⁴³ who attend school on empty stomachs, the inconvenience caused by the distribution of the meal during class time was often an overarching concern. Concerns were also raised with regard to teachers being unable to prevent older children currently not eligible from participating in the MDM.

Parents perceptions of the meal

3 out of 8 schools reported that parents of children enrolled in their schools had not raised any opposition to the MDM. Some of the parents from other schools however raised concerns

⁴² This view was shared by the principal of the school which faced public outcry after a number of students fell ill due to food poisoning by the MDM in November 2009.

⁴³ While the need of the scheme was acknowledged for children from the lower classes, not all teachers were of the opinion that the MDM was of value to the relatively better off children who had access to home cooked food.

about the quality and hygiene of food when it was found to be not up to the mark. The Trilokpuri incident resulted in parents becoming more anxious about the quality of the food, with many parents forbidding children from consuming the MDM. In one school where glass was once found in the food some parents forbade their children from eating the MDM. In addition, one school reported advising the children to bring food from their homes, given their concern about the quality of food supplied. While the opposition to the MDM deriving from the Trilokpuri incident has reduced, it remains that the number of children availing of the MDM in the surveyed schools is now less than the number prior to the incident. As one parent commented “Sometimes something happens. You never know when something will happen”. Teachers also reported that opposition to the MDM was usually from the relatively better off families, with some parents of the opinion that allowing their children to partake of the MDM was ‘below their dignity’.

Children’s perceptions of the meal

Discussions held with children between the 1st and 8th classes revealed that most children liked the meal provided, though a few said that they found the food to be average, and not comparable to the food they ate in their respective homes. Some children did however note complaints about the food. One child reported that the kadhi served on one particular occasion was so unpleasant that he felt nauseous. Some children in one of the schools surveyed described finding various foreign objects such as hair, thread and paper in the food. Further probing revealed that while the children found the food to be satisfactory overall, they differed with respect to their preferences for the various items on the menu. While preferences varied tremendously, the kadhi chawal and halwa appeared to be the least favourite items on the menu, and some children noted that they participated in the MDM only on the days when the food served was of their liking. Thus on days when puri sabzi is served the number of children participating in the scheme is substantially higher than on the days when kadhi chawal is served.

A number of the children stated that they threw the excess food or food that they did not like (though some chose not to be served at all if they did not like the contents of the meal). Others stated that they took the food home and distributed it to parents, siblings, and in one instance, a cow!

No conclusive comment can be made on the quality of food distributed. Opinions with respect to the quality of the food varied. While teachers did not often have major complaints with the quality of the food provided, children were observed to have mixed opinions about the food distributed. The researchers cannot establish whether their preferences/likes and dislikes derived from quality concerns or personal preferences. Delays in supply and/or distribution of food would be responsible for spoilage, which would negatively affect the quality of food supplied. Excessive delay in the supply of food may also mean non-distribution of food.

It would also be useful to keep track of the number of illnesses recorded by children after consuming the meal. While only a few instances of illness were reported by the respondents, they must still be paid attention to, given the more serious complaints that have arisen in the past such as the Trilokpuri incident. The apprehension of teachers and parents with respect to serving the MDM to students and their lack of confidence in the quality of the meal distributed also calls for introspection into the model. In addition, measures need to be taken to ensure that all children receive at least the minimum entitlement, and there needs to be stricter monitoring of the quantity of food supplied.

Cleanliness and Hygiene

Availability of water to wash hands

The researchers were unable to observe for ourselves whether children were washing their hands before eating the food, though in many cases it was seen that children did not wash their hands before the meal. In all the schools visited however, water was available to wash hands.

Cleanliness of the distribution area

In 5 out of the 8 schools surveyed the food was served in the open, usually in the playground or the verandah (the food in the other 2 schools being served in the classrooms). While the area where the food was served was usually clean, since the food was served often in the open, it was susceptible to contamination from dust particles and surrounding dirt. Children were observed to be consuming their food either in the playgrounds or in classrooms. Stale food thrown away by children was also noticed in some instances in corners of the school premises. Many teachers complained about the mess created by the MDM with children throwing food in classrooms, in the open and in the drains.

Usage of hairnets and gloves by distributors

In 4 out of 8 schools distributors were observed to be wearing gloves and/or hairnets. However, it was seen that there was no uniformity with regard to the same even within the same group of distributors in a particular school. In only one school were all the distributors observed to be wearing gloves, aprons and hairnets/scarves. On further probing it was revealed that while the distributors previously used gloves and aprons, the headscarves were introduced on the day of our visit. Wearing gloves and hairnets appeared to be an afterthought rather than the norm.

While the researchers were unable to observe whether all the children were washing their hands before the meal, in many instances it was observed that children were not. Strict monitoring of facilities to wash hands in all the schools needs to be undertaken by the relevant departments.

Care also needs to be taken to ensure that food is not distributed in open dusty areas, and is instead distributed in clean contained areas. Distributors need to compulsorily be also provided with gloves and hairnets and be made aware of the need to use these on all occasions.

Monitoring, transparency and accountability

Displaying of menus

According to the norms laid out by the DOE, each school is expected to display the following information at a prominent place:

Number of children served mid day meal in primary classes and upper primary classes.
Name, address and telephone number of the service provider.
Daily menu.
Roster of community members involved in the programme.

However, no evidence of any of the above was found in the schools visited. Only in one school was the menu available. In one school the menu had been displayed in the staffroom. In such a case the point of displaying the menu for the purpose of allowing greater transparency is defeated given that students and parents do not normally have access to staff rooms. This may be partly because the menu varies from week to week, with the line up of food items being moved around. None of the respondents, teachers and students included, were clear on what they could expect on various days of the week, and were only able to state that rice based meals were alternated with wheat based meals.

Tasting of food prior to distribution

All the schools claimed that the food is tasted prior to distribution. However, as the food arrived at different points of time in the different schools, the researchers were not always able to witness the food being tasted. Teachers in most schools expressed concern about the possibility of children falling ill after consuming contaminated food and were very clear that tasting the food was a priority for them. However, even in instances when the food was tasted in our presence, teachers usually did not taste the food from all the containers, and usually only sampled food from a single container. A valid suggestion here would be to make mandatory the tasting of food from all the containers. If situations as alleged by the teachers cited above do take place where some containers contain fresh food mixed with stale food, tasting all the food from all the containers would ensure that no unsuitable food is distributed.

Participation of parents and children in the monitoring process

Participation of parents in the monitoring process is limited to participation in the MDM Committees. 7 out of 8 schools however noted the non-participation of parents in the monitoring process. Only one school noted the participation of mothers in the MDM Committee. None of the parents or children interviewed was aware of where the meal was

sourced from. Parents were also not sure of whether the MDM was discussed at the PTA meetings, though this was also because most of the parents interviewed did not attend the PTA meetings. Two parents who did attend meetings however affirmed that parents' opinions on the meal were solicited at PTA meetings.

Participation of children in the monitoring process is not solicited. Neither are there any formal mechanisms whereby children can provide feedback regarding their preferences or opinions about the meal. School staff did however point towards instances where children had provided feedback to staff or voiced opinions. When questioned almost all the children stated that they had never been asked their opinions of the meal, though a few children reported that teachers had asked them what they thought of the MDM. However, given the relative powerlessness of the school in determining MDM policy or even MDM menus, it is unlikely the feedback provided by children receives any consideration.

Participation of school staff in the monitoring process

Participation of schools and MDM committees in the monitoring process appears to be non-existent (with the exception of tasting the food when it is supplied) even though schools have been directed by the department to visit kitchens on a regular basis. None of the schools reported having visited the kitchens of the service providers. One MDM in-charge candidly stated "We write that we have visited the kitchen, but in reality we haven't". Service providers interviewed however claimed that schools make regular visits to the kitchens.

Monitoring structure and chances of corruption

Out of 8 schools, 6 reported not having sent samples to Sri Ram Laboratories, the Laboratory appointed to test food samples to ensure that norms are being adhered to. One school had no knowledge of whether a sample had ever been sent to the Laboratory. However as the Lab is expected to collect samples either from the school or the kitchen, this in itself may not be considered conclusive evidence of non-testing, and it is possible that samples are lifted from the kitchens. In one kitchen however the management staff remarked 'Ram Laboratories take samples from the schools. We never know when a sample has been lifted'.

Out of the 8 schools, only one school reported inspection of the MDM by the EO in the last academic year. The rest of the schools stated that the quality of the MDM had not been inspected by officials from the government or external agencies within the last academic year. When asked for records relating to the monitoring of schools by department officials over the last year DOE informed us that no records to that effect were available.

Looking at MME allocation and expenditure in the year 2008 also reveals some very disappointing findings. While 136.86 lakhs was allocated towards MME, total expenditure was only 1.40 lakhs (1%), with school level expenditure at 0, and the expenditure being accounted for solely by management expenditure. External monitoring and evaluation expenditure stood at 0⁴⁴. These figures seem to indicate a lack of official will to ensure proper monitoring of the scheme, thus effectively giving the service providers a free reign.

Redressal mechanism

Whenever schools found the meal supplied to be unsatisfactory, schools reported lodging complaints with the supplier and in some cases with the department. Furthermore, the food was returned to the kitchen and payment for that day forfeited by the supplier. One school reported that when complaints were made the supplier for that school would replace the food on the very same day. However, given the wide geographical area covered by a single supplier and the time taken to cook, it is unlikely this is a practice that all suppliers will be able to undertake. Some schools reported distributing biscuits on the days when food was sent back to the supplier in lieu of the meal.

In situations when schools were unhappy with the supplier in general, complaints were lodged with the department. The researchers came across only 2 instances of this, one being the Trilokpuri incident when the MDM supply was discontinued immediately and a new supplier instituted subsequently. In the second case the department took a month to resolve the situation and change the supplier.

⁴⁴ Ministry of HRD, GoI

While a monitoring structure has been set up, it appears to be lagging behind in implementation. While our study is limited in terms of its sample and cannot claim to comment on the general situation in Delhi, it appears that there has been a failure to institutionalize the monitoring process. Involvement of parents and children in the monitoring process is virtually non-existent. Expenditure on MME is virtually non-existent. Teachers don't appear to be visiting kitchens periodically. Furthermore till recently DOE schools did not have a third party evaluator in violation of MDM guidelines. It is not clear what the scope of the current evaluations being conducted by the DSE and Krishna Foundation is. The only other manner in which the food may be monitored is through the lifting of samples from kitchens by Ram Laboratories (since most schools reported that they had not been visited by the Labs). The researchers were unable to ascertain the frequency with which samples are lifted from the kitchens and therefore cannot comment on this aspect of the monitoring process. It is a matter of concern however that monitoring mechanisms are weak in a setup where the beneficiaries and teachers have no control over the quality of food supplied.

IX. THE MID DAY MEAL SCHEME IN GUJARAT

The Mid Day Meal scheme in Gujarat was founded with the primary objective of feeding students studying in primary classes (standards I to VII) and curbing acute malnutrition amongst disadvantaged social groups. But the MDM also had many other social aims including, to improve the nutritional and health standards of growing children, to reduce the drop out rate in schools, to increase attendance of poor children, to create supplementary employment opportunities at the village level, to promote social and national integration, and to supplement the states efforts towards reducing poverty.⁴⁵ While Tamil Nadu pioneered the introduction of the MDM, Gujarat followed suit soon after and began providing meals in schools in 1983. By 1984, the scheme covered 5083 schools in 68 talukas out of 225 talukas and 25 districts of Gujarat.⁴⁶ And ever since the programs inception, the state has seen a steady increase in the number of schools taking part in the scheme. In the four years between 2005-

⁴⁵ Ministry of Human Resource Development, Gujarat. 2008-2009 Write-up

⁴⁶ Deodhar, Satish, et. Al. Indian Institute of Management Ahmedabad. *Mid Day Meal Scheme: Understanding Critical Issues with Reference to Ahmedabad City*. March 2007.

2009, the number of primary schools covered by the MDM scheme increased from 31, 077 to 32,577 indicating that 1500 more schools benefited from the scheme during this time.

After the introduction of the MDM scheme, the state of Gujarat has also seen a rise in school enrollment and in the number of beneficiaries consuming the meal. The Indian Institute of Management in Ahmedabad's 2005 study cites that between the years of 1985-86 and 2004-2005, there was a rise in total school enrollment from 60.34 lakhs to 68 lakhs children in classes I-VII. As described in table 21, during this four year period there was an 8 lakh increase in school enrollment.⁴⁷ Additionally, there has been an increase in the number of beneficiaries taking part in the MDM. In the 2005-2006 year, there were 33,80,585 beneficiaries, and by the 2008-2009 year, there were 42,00,000 participants. In other words, just as there was an 8 lakh increase in enrollment, there was also an 8 lakh increase in the number of beneficiaries of the MDM.

During the years 2001-2009, the MDM may have also contributed to a reduced dropout rate in schools. This possibility is highlighted in table 22. The Ministry of Human Resources Development cites that the total dropout rates in schools in the 2001-2002 year (for Std. I-V) was 21%, while in 2008-2009 there was a substantial reduction to 3.24%. There was a similar reduction in Std. I-IV. From 2001 to 2009, the dropout rate changed from 31% to 10%, a 21% decrease. This decrease in the dropout rate was strongest for boys, although there was also a significant reduction in the dropout rates of girls. For boys in Std. I-V there was a 18.21% decrease (from 21.05 to 2.84 percent) and for boys in Std. I-VII there was a 31.4% decrease (from 40.53 to 9.13%).

It is difficult to ascertain whether the rise in enrollment and beneficiaries, and decrease in dropout percentages in Gujarat was solely due to the introduction of the MDM, as there may be other contributors, programs, or social factors that could have played a role. Even so, the researchers do not wish to reduce the importance of the MDM, as it is still a contributing factor that has repeatedly been discussed and cited as a positive force in increasing enrollment, attendance, and in reducing childhood hunger.

Table 21 No. of Average Beneficiaries of the MDM program

⁴⁷ Deodhar, Satish, et. Al. Indian Institute of Management Ahmedabad. *Mid Day Meal Scheme: Understanding Critical Issues with Reference to Ahmedabad City*. March 2007.

<i>Standard</i>	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Std. I-V	2775041	2771220	2939218	2996132	3108015	3094651	3330000
Std. V-VII	605544	677590	719638	761731	808571	855522	870000
Total I to VII	3380585	3448810	3658856	3757863	3826586	3950173	4200000

Source: Ministry of Human Resource Development and the Indian Institute of Management, Ahmedabad

Table 22 Dropout rate as a percentage (%)

<i>Year</i>	<i>Std. I to V</i>			<i>Std. I to VII</i>		
	Boys	Girls	Total	Boys	Girls	Total
2000-01	21.05	20.81	20.93	40.53	36.90	38.92
2001-02	20.46	20.53	20.50	39.16	35.28	37.22
2002-03	19.08	19.14	19.12	37.80	33.17	35.46
2003-04	17.79	17.84	17.83	36.59	31.49	33.73
2004-05	8.72	11.77	10.16	15.33	22.80	18.79
2005-06	4.53	5.79	5.13	9.97	14.02	11.82
2006-07	2.84	3.58	3.24	9.13	11.64	10.29

Source: Human Resources Department, Government of Gujarat

Table 23 Mid day meal scheme, 2005-2009

<i>Item</i>	2005-06	2006-07	2007-08	2008-09
No. of primary schools covered	31077	31682	32577	32577
No. of MDM centres	29709	29991	30731	30731
No. of Average beneficiaries	3757863	3826586	3950173	4200000
Of which Std I-V	2996132	3108015	3094651	3330000
Std. VI- VII	761731	808571	855522	870000
No. of average days meal provided	207	207	214	215
Total outlay Rs. (in	20240	26700	26938	31865

lakhs)				
Expenditure Rs. (in lakhs)	19030	26386	26938(P)	31865
No. of honorary employees	86314	86421	86643	86663

Source: Human Resources Department, Government of Gujarat

Both the central and state governments provide assistance to various aspects of the MDM program. Central assistance to the MDM scheme consists of 100 grams of food grains (wheat/rice) per child per day, amounting to 3 kilograms of food grains per student per month.⁴⁸ Food grains (wheat or rice) are obtained from the Food Corporation of India (FCI) and the cost is reimbursed by the central government using the Below Poverty Line rate.⁴⁹ In addition, the government provides a transport subsidy of a maximum of Rs. 50 per quintal for transporting food grains from the nearest FCI depot to schools/MDM centers.

At the state level, the Commissionerate of the MDM is responsible for implementing the scheme, monitoring schools or kitchens on a monthly basis, and overseeing administrative tasks “such as providing funds to the District Collectorate, and coordinating the supply of food grains/edible oils etc.”⁵⁰ The procurement and supply of pulses, edibles, oil, food grains (for Std. VI and VII) and other components of the meal is carried out by Gujarat State Civil Supplies Corporation which distributes them at MDM centers through the Public Distribution System (PDS) system. The figure below describes the distribution of food grains for the MDM scheme from the Food Corporation of India to the Gujarat Civil Supplies Corporation, and finally to the district wise distribution (where you will find the mid day meal cooked within the schools premises) or the Municipal corporation (where the MDM can be cooked using centralized or decentralized methods). In addition, the organizational structure at the state level is presented below. In urban areas, the Municipal Commissioner (Urban) and the Deputy Municipal Commissioner (Urban) are in charge of implementing the MDM scheme, while in rural areas, a whole host of government officers from the Rural Collector, to the

⁴⁸ ibid

⁴⁹ ibid

⁵⁰ ibid

Deputy Mamlatar, and to the Primary School Inspector all play roles in the MDM program.

Figure 1 Distributions of Food Grains for MDM Scheme

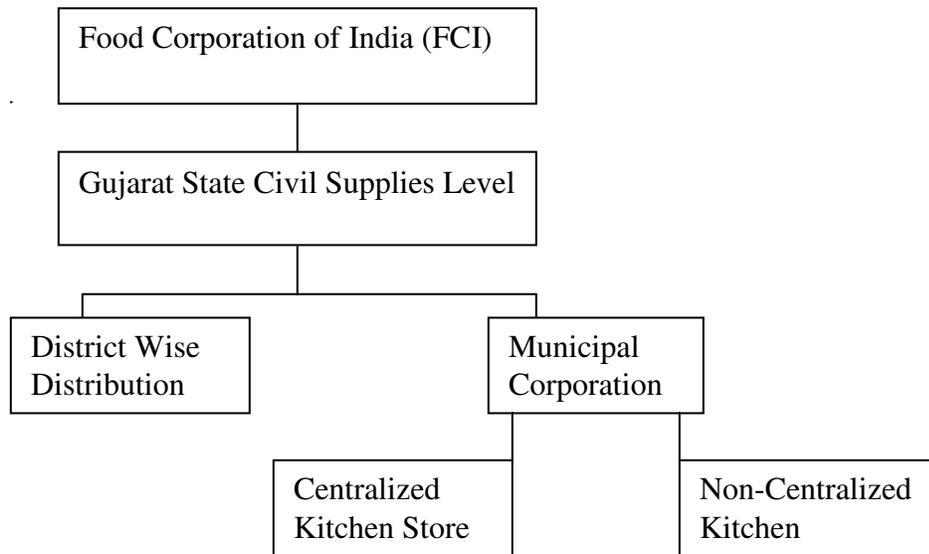
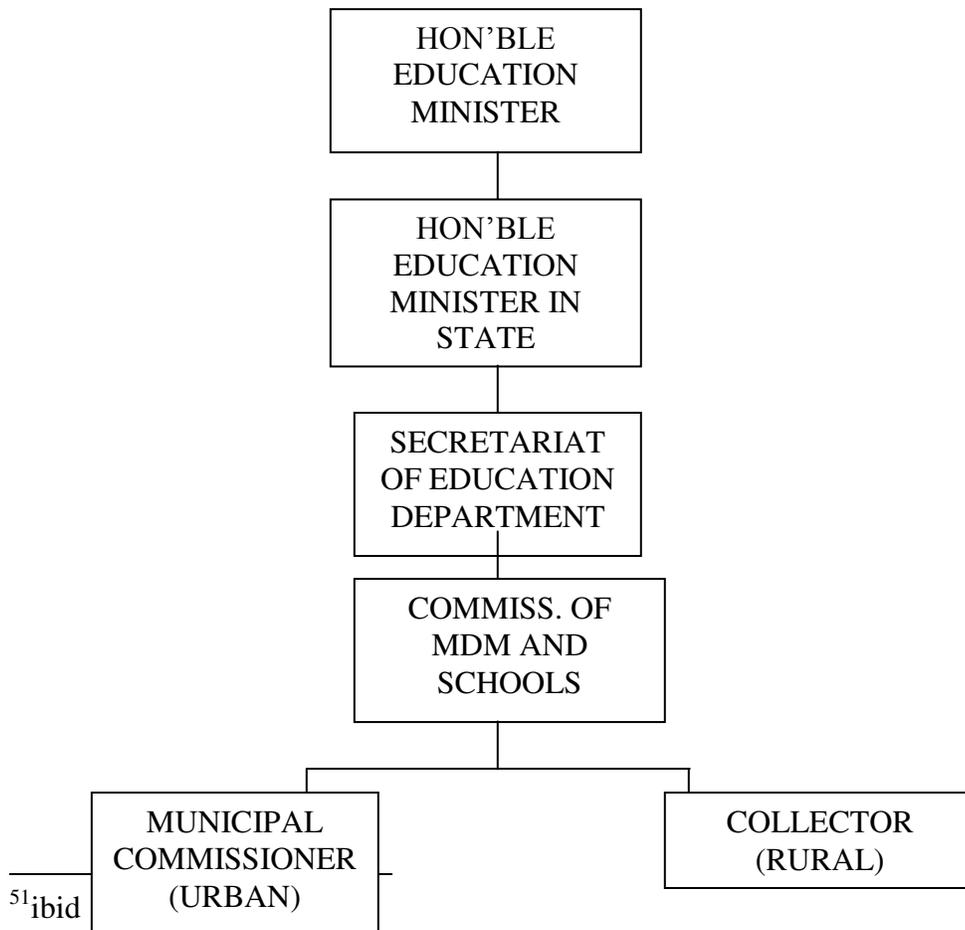
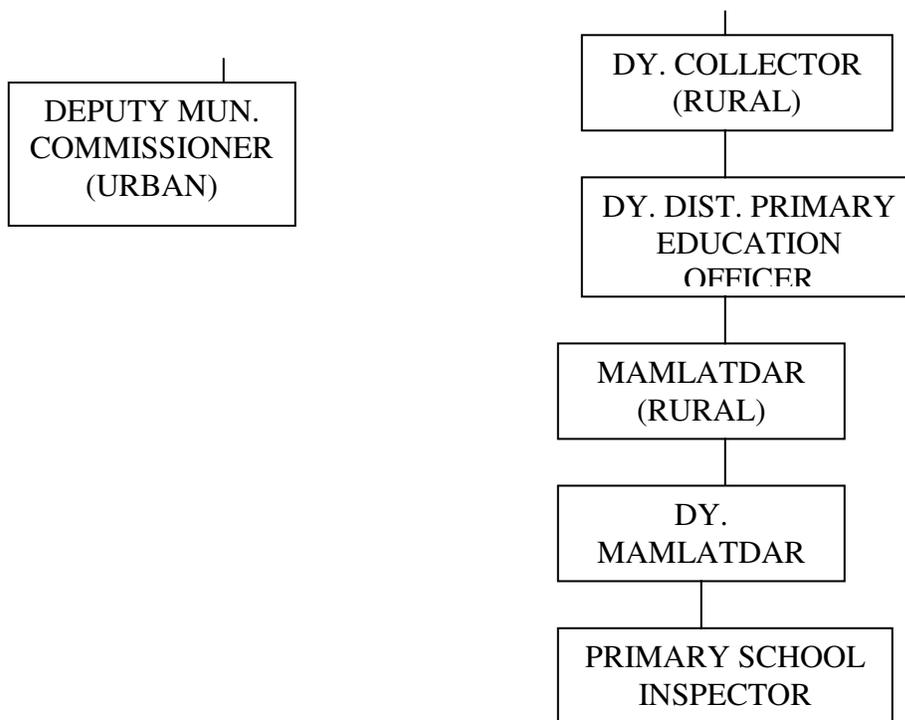


Figure 2 Organization Structure for MDM at State Level⁵¹





As a beneficiary of the MDM, each child should receive a hot cooked meal for a minimum of 200 days (as per the S.C. judgment 196/2001). During the four years between 2005 and 2009, the MDM has been distributed on an average of 211 days out of a year in Gujarat (see table 23). Two Menu Committees headed by the state-level MDM Commissioner prescribe the menu and the ingredients for the MDM. The Indian Institute of Management of Ahmedabad notes that “[this] implementing authority may change the MDM menu as per the availability of food grains.”

Hot cooked meals are served to around 42 lakh children in primary school, and each child receives approximately 180 grams of food grains/pulses/vegetable/oil per day; this converts to roughly 450 calories and 12-15 grams of protein per day. As table 24 indicates, the Mid Day Meals components can be broken down into wheat (50 grams), rice (50 grams), pulses (20 grams), vegetables and condiments (50 grams), edibles (10 grams), and oil (10 grams), totaling 180 grams and equivalent to approximately 450 calories per child per day. Moreover, as table 25 illustrates, State government norms dictate that children should actually be receiving more than the stipulated 450 calories and 12-15 grams of protein per day. To be exact, they should receive 509 calories, 130 grams of food grains, wheat/rice, pulses and oil,

and 16.42 or 11.82 grams of protein per day depending on the menu.

Table 24 MDM Components

Wheat	50 grams
Rice	50 grams
Pulses	20 grams
Vegetables and Condiments	50 grams
Edibles	10 grams
Oil	----
Total	180 grams equivalent to 450 calories

Source: Human Resource Department, Government of Gujarat 2008-2009

Table 25 Daily calorific-protein value of the MDM

Sr. No.	Item	Norms decided by State Govt.		
		Quantity (Gms.)	Content in calories	Protein
1	Foodgrains			
2	Wheat / Rice	100	340	11.41 / 6.8
3	Pulses	20	79	4.46
4	Oil	10	90	0.56

The per child per day expenditure on the MDM is Rs. 4.71 for I-V standard children and Rs. 5.21 for children from VI-VII standards; this includes both the central and the state governments' contribution to the scheme. The state governments' contribution to the scheme is Rs 2.40 for Std. I-V and Rs. 3.40 for Std. VI-VII. Table 26 describes the components of the per child per day MDM expenditures, which include food grains, fuel, vegetables and condiments, honorarium to staff, and administrative costs. Out of the total expenditure incurred in the year 2005-2006, the State Government spent around 61.2% on diet, 13% on honorarium paid to the staff and 7% on administrative expenditure.⁵²

Table 27 describes the statement of year-wise plan, outlay and expenditure. During the years 1999-2009, there was a tremendous increase in financial outlay towards the scheme from Rs. 9000 lakhs to Rs. 31685 lakhs; this is a 23 lakh increase over the course of ten years. The

⁵² *ibid*

significant increase in capital allocated to the scheme over the years can be ascribed to the rise in enrollment rates, the increase in the number of beneficiaries, the cost of employee honorarium, etc.

Just as there was an increase in the financial outlay towards the MDM, there has also been a corresponding increase in expenditure from Rs. 8697 lakhs to Rs. 31685 lakhs. During the years 2005-2007, however, expenditure did not match up with financial outlay for the year. In the 2005-2006 year, for instance, Rs. 20240 lakhs was allocated for the MDM scheme, while only Rs. 19,030 lakhs were utilized (a Rs. 1210 lakh underutilization). Similarly, in the 2006-2007 year, Rs. 26700 lakhs were allotted to the MDM while only Rs. 26386 lakhs were utilized (a Rs. 314 lakhs). In contrast, the 2007-2008 and 2008-2009 fiscal years reflect an adequate usage of MDM allotted funds; 100 percent of funds set aside for the MDM program were used in both years. The discrepancy in outlay and expenditure could be a result of a variety of factors including beneficiary underutilization or over-allocation for the year amongst other potential variables that must be explored.

Table 26 Per Child Per day expenditure of the MDM scheme by state government 2005-2006 year

No	Components	I-V Std. (Rs)	6-7 (Rs.)
1	Food grains	1.15	2.70
2	Fuel, vegetables and condiments	0.70	0.70
3	Honorarium to staff	0.34	0.34
4	Admin	0.25	0.25
5	Total	2.40	3.40

Source: Indian Institute of Management, Ahmedabad

Table 27 Statement of year-wise plan, outlay and expenditure

Year	Outlay (Rs. in lakhs)	Expenditure (Rs. in lakhs)
1999-00	9000	8697
2000-01	9120	9120
2001-02	8250	6913
2002-03	8352	8775.82
2003-04	10352	15282.43
2004-05	18400	14865.67
2005-06	20240	19030
2006-07	26700	26386

2007-08	26938	26938
2008-09	31865	31865

Source: Human Resources Department, Government of Gujarat

The Mid Day Meal staff in schools includes organizers, cooks, and helpers who are selected on the basis of school attendance. At the district level, the selection process occurs as the MDM Deputy collector invites applications from local persons. Staff are then selected by a committee headed by the Deputy Collector (as per circular No. MDM/AML/4568-4636 Dt. 17.05.2006). Upon selection, MDM staff are usually given capacity building training “under programmes of SSA, DIETs, etc,” and according to the Ministry of Human Resources Department, in the 2008-2009 year, over 60,000 organizers and cooks working under the MDM had benefited from comprehensive training programs. The Food and Nutrition Department M.S. University, Vadodara conducted the training program for the year 2008-2009.

MDM workers are engaged in cooking activities on a temporary or part-time basis and are given breaks without pay during the summer and winter holidays when school is not in session. Organizers are usually paid Rs. 0.70 ps. per child per day in advance to meet cooking expenditures i.e. spices, grinding, fuel, vegetables. Women employees are not given any type of maternity benefits outside of their allotted stipend, as this study finds.

At an urban (corporation) MDM center, an organizer is paid Rs. 1500 whereas at a district area it is Rs. 500. There is a difference in honorariums paid to organizers in urban and in rural areas, partly because in rural areas, schools are scattered and there are fewer children attending the school. In contrast, in urban areas, cooking is usually done for more than one school and usually caters to the needs of a large number of children.⁵³ The tables below give details of the criteria used for the honorarium paid to staff. The years 2002-2009 saw an increase in the numbers of MDM staff with a shift from 78926 to 86663 workers during this seven-year period.

Table 28 Criteria for recruiting cooks and helpers

No. of children at center	No. of cook(s)	No. of helper(s)
1 to 250	1	1
251 to 500	1	2

⁵³ Deodhar, Satish, et. Al. Indian Institute of Management Ahmedabad. *Mid Day Meal Scheme: Understanding Critical Issues with Reference to Ahmedabad City*. March 2007.

501 to 750	2	2
More than 751	2	3

Table 29 Monthly honorarium in the corporation and district areas

Staff	Corporation	District Area
Organizer	1500	500
Cook	800	250
Helper	500	175

Table 30 No of Staffs involved in MDM program

Staff	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Organizers	26078	26140	27438				
Cooks	25581	25681	28132				
Helpers	27267	27319	28374				
Total	78926	79140	83944	86314	86421	86643	86663

In the 2008-2009 year, an amount of Rs. 3790.56 lakhs was released by the GOI for the construction of kitchen sheds. Kitchen shed construction funds are handed over to the Sarva Shiksha Abhiyan program (the Department of Education program for universalization of education) which uses the funds to build kitchen infrastructure at Rs. 60,000 per shed. With regards to kitchen devices, during the year 2008-2009, Rs. 1119.95 lakhs were allotted by the GOI for procurement of utensils of kitchens in MDM centres. The amount was then disbursed to Village Education Committees, which purchased and will continue to purchase kitchen devices in all districts.

Special services

The state of Gujarat is known to offer a host of services alongside the MDM. For instance, the state has carried out school Health Check-up programs since 2000 that covered primary school children from Std. I-VII. During the years 2008-2009, the state government distributed 7,39,755 Vitamin-A tablets, 3,22,675 iron/folic acid tablets, 3,22,269 de-worming tablets. Moreover, 84,17,655 children were examined and measured based on height and weight. According to the Human Resources Department, every year drugs of more than Rs. 100 lakhs are provided under the special school health checkup program.

The government has also started a program called Tithi Bhojan to involve public participation in the MDM scheme. Through the Tithi Bhojan program, villagers sponsor food or sweets for children on various occasions or provide utensils for MDM centers. During the years from 2004-2008, the average amount in Rs. donated to children through the Tithi Bhojan program amounted to approximately Rs. 300 lakhs. The amount donated to children through the Tithi Bhojan reached a high in 2006-2007 at Rs. 341.12.

Table 31 Tithi Bhojan program in Gujarat

<i>Year</i>	<i>No of beneficiaries</i>	<i>Amount of meal (rs. in lakhs)</i>	<i>Gifted items (Rs. in lakhs)</i>	<i>Approximate total amt. (3+4)</i>
1	2	3	4	5
2003-04	2239758	51.40	59.69	111.09
2004-05	8018134	172.24	156.67	328.91
2005-06	6804959	151.30	78.37	229.67
2006-07	6194553	276.42	64.70	341.12
2007-08	3109726	255.44	38.83	294.27

Another initiative taken by the Gujarat government involves the inclusion and involvement of mothers and teachers in the monitoring of the MDM program. The state government has encouraged the formation of Mothers-Teachers Associations, in which mothers of beneficiaries hold regular meetings with the headmasters and teachers at schools and in which mothers (on a rotational basis) visit MDM centers to supervise the process of cooking and serving the MDM in a disciplinary and hygienic manner. The researchers did not observe the consistent and regular formation of these Mother-Teacher Associations in the schools visited.

Finally, one of the newest initiatives started by the state of Gujarat is the introduction and distribution of “Nutri-candy” at schools with both centralized and decentralized kitchens. Under the nutri-candy program, each child should receive three pieces of nutritional candy each month, every ten days. However, similar to the Mother-Teacher program, the researchers

once again found that many schools either received this supplement to the MDM irregularly or only distributed it on an irregular basis.

MDM SCHEME IN AHMEDABAD

Ahmedabad is one of six Municipal Corporations in Gujarat. The Ahmedabad Municipal Corporation (AMC) has been running the Mid Day Meal Scheme since 1984. The State Government initiated participation of non-governmental organizations in the MDM as a pilot project in the eastern part of Ahmedabad Municipal Corporation and three talukas of Valsad District, entrusting the work to Stri Shakti in June 2006. In June 2007, Akshaya Patra foundation began serving the western portions of the Ahmedabad Municipal Corporation and Gandhinagar taluka. Currently, there are 472 schools in the Ahmedabad Municipal Corporation, 61 of which are served by Akshaya Patra and 401 of which are served by Stri Shakti (the other 10 schools are English medium schools). The District Primary Education department governs schools in rural areas or those in the periphery of the urban Ahmedabad territory. In the district area, there are 896 MDM centres and 11 talukas. 32 of these centres are currently run by Akshaya Patra, while the rest are decentralized, with organizers, cooks, and helpers working within the schools premises. Nine of the schools visited by the researchers utilized decentralized models of meal preparation and were governed by the District Primary Education department.

The weekly menu offered through Mid Day Meal scheme in the district areas in which decentralized kitchens operate consists of rice dal, lapsi sabzi, dal dhokli, kitchdi sabzi, upma, and vegetable pulao. Centralized kitchens like Stri Shakti have a slightly different menu including kitchdi sabzi, roti with channa dal, channa chawal, roti and aloo sabzi, vegetable pulao, and dal dhokli.

In the corporation area, the Commissioner of the MDM scheme, who is assisted by the Municipal Commissioner, Deputy Commissioner, and Deputy Collector is responsible for the implementation of the MDM. In contrast, in the rural or district areas, the Commissioner of the MDM scheme is assisted by the Rural Collector, Deputy Collector, Deputy District Primary Education Officer, and Rural Mamlatdar. For effective implementation, coordination and linkage with communities, most localities have a local implementation committee that meets

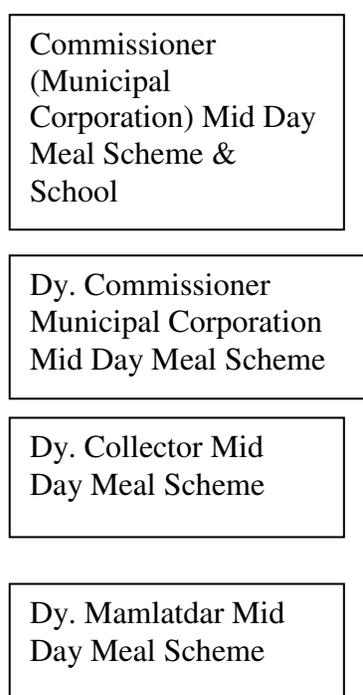
once a month. This committee includes the school principal, associate school principal, the MDM organizer, and guardians of school children.

Table 32 Weekly Menu of the MDM in decentralized kitchens

<i>Days</i>	<i>Menu</i>
Monday	Rice Dal
Tuesday	Lapsi-Sabj
Wednesday	Dal Dhokli
Thursday	Kitchdi Sabji
Friday	Upma
Saturday	Vegetable Pulav

Source: AMC Annual report of the MDM, Govt of Gujarat

Figure 3 Organization Structure for the MDM in AMC



Each MDM centre has a supervisor or organizer, a cook, and, based on the number of children, a certain number of helpers and staff. As mentioned earlier in this paper, each of these worker's honorarium is decided by the government and differs based on whether services are offered in urban or rural areas. For example, within the municipal corporation urban schools, the honorarium paid to the organizer/supervisor of the centralized kitchen is Rs. 1500, while in rural Ahmedabad governed schools with decentralized kitchens, the honorarium is Rs 500.

Ahmedabad Municipal Corporation (AMC) is responsible for the implementation and monitoring of the MDM scheme in Ahmedabad and receives funds from the government of Gujarat to do so. In particular, the center devolves funds to the state for Std. 1 to 5, while Std. 6 and 7 are funded by the state. There is no fixed yearly budget for the scheme and each district sends the monthly expenditure to the state headquarters, which then sends the information to the central government. Based on the monthly expenditure, finances are released to the state and further distributed by the state to respective districts.

ETHNOGRAPHIC RESEARCH AT SCHOOLS

The researchers visited 9 schools operating with a decentralized model in the AMC territory during the months of February and March 2010. In order to get a diverse sample group, we visited 3 schools in the west of the AMC territory, 3 schools in the north of AMC, and 3 in the east of the AMC territory. The nine schools include: Vastrapur Railway School, Ramdev Nagar School, and Ravinagar School in the west; Rammol Pratmik School Part 1, Rammol Pratmik School Part 2, and Jantanagar School in the east; and Kali Gaon School Part 1, Kali Gaon School Part 2, and D.K. Bin School in the north.

Akshaya Patra's and Stri Shakti's centralized kitchens provide meals to all schools governed by Ahmedabad's urban collector and within the AMC territory. Interestingly enough, the locality of the nine schools visited was within the AMC territory, yet the schools themselves still operated under a decentralized model. In other words, these nine schools had MDM food made within the schools premises (decentralized) even though all AMC territory schools should receive a meal from centralized kitchens like Stri Shakti and Akshaya Patra. The reason for this incongruence was because these schools themselves were still under Jilla Panchayat and Rural governance, even though the areas in which they were located had in the recent months been handed over to the Ahmedabad Municipal Corporation.

The nine schools in Ahmedabad that were observed provide an interesting reflection on the changing tide towards centralization. These schools on the outskirts of the AMC territory are slowly urbanizing, and therefore, have begun to integrate into Ahmedabad's urban center. According to the Rural District Collector of Ahmedabad, however, these "transitional" schools will transfer from rural governance to AMC jurisdiction by June or July 2010. A centralized

model will replace a decentralized one in and these schools will start receiving mid day meals from either Stri Shakti and Akshaya Patra. Recognizing the shift that is occurring, the researchers felt it was crucial to understand the functioning of the decentralized model and assess what the Gujarat state might be “losing” by handing over the MDM provisioning to centralized kitchens. The nine schools visited are currently under rural governance, but may very shortly be transferred to AMC jurisdiction.

The schools were visited during meal time hours, meaning from 9 am to 12 pm for morning shift schools and 12 pm to 3 pm for afternoon shift schools. All of the schools were selected at random and none of the school staff, cooks, helpers, or organizers was informed about our visit. There were many days during which the researchers stayed beyond the MDM cooking and serving periods to speak with beneficiaries, parents of children, community members, and staff of the MDM program.

To contrast these nine schools functioning with a decentralized kitchen with one receiving food from a centralized kitchen, the researchers also visited an AMC governed school in the western region of Gujarat. This school, named Rachna Sara School, received the MDM from the Akshaya Patra Foundation. In addition, the researchers visited the operating grounds of the other centralized kitchen, Stri Shakti, which has served children in the AMC territory since 2007.

In schools with a decentralized kitchen, the researchers spoke with cooks, helpers, organizers, school principals. We also spoke with two teacher, two mothers, and a total of 10 randomly selected children from the 1st through 7th standards in each school. As a result, the researchers were able to speak with a total of 180 actors involved in the MDM program in the nine schools with decentralized kitchens and in the one school receiving food from a centralized kitchen. Moreover, the researchers spoke with 5 cooks and 2 staff members at the Stri Shakti kitchen, located in Shahvadia district of Ahmedabad. The researchers also discussed the MDM program and policy with the MDM Commissioner in Gandhi Nagar, and the urban and rural District collectors for the Ahmedabad region. In total, 183 participants were involved in the Gujarat segment of this study.

a. School Visits

This section will describe the nine schools with decentralized kitchens visited by the researchers with regards to cleanliness and hygiene, financial viability, social and gender equity, transparency and accountability, and quality and satisfaction. The researchers' experiences with the MDM program in schools with a decentralized model indicate the importance of the MDM in promoting attendance of children, reducing hunger, and providing employment to many women and men of lower castes. According to one of the cooks from Ravinagar school in the western portion of Gujarat, "[The MDM] is the reason why children come to school here... Most of the children at this school are Muslims or from SC/ST group and they come to school hungry and need this food." As a result, the researchers support this program regardless of the type of distribution process used, and simply aim to uncover the advantages or disadvantages of both models.

Each school visited by the researchers served approximately 300-325 children, meaning that there was usually one cook, one helper, and one organizer working at each MDM center. In all of the schools, children, parents, teachers, and MDM staff felt they lived in an urban area (since they had joined the AMC territory), yet still unanimously wanted to continue rural governance and a decentralized model; they understood that the area in which their school was located was part of the AMC, yet did not want their school to switch governance.

Mid Day Meal cooking started at different times in the nine schools depending on whether the schools had afternoon or morning timings. In a morning shift school, meal preparation usually began at 8:30 a.m. and serving would end at approximately 12:30 p.m. From 12 p.m. to 12:30 p.m., the children's recess time, kitchen staff and helpers would serve the children their meal before many of them left to go home. In an afternoon shift school, meal preparation would begin at 12:30 p.m. and end at approximately 2:15 p.m. During the children's lunch period of 2:30 p.m. to 3 p.m., MDM staff would distribute the meal to the children.

In all the schools visited, children were allotted approximately 100 grams of rice and wheat per day. These proportions of rice and wheat differed based on the daily menu. According to an organizer at Ravinagar school, on Monday, each child was provided 120 grams atta/wheat; on Tuesday, 80 grams chawal and 35 grams dal; on Wednesday, 100 grams atta and 30 grams dal; on Thursday, 80 grams chawal and 30 grams dal; on Friday, 80 grams

atta, 20 grams chawal and 25 grams dal; and on Saturday 120 grams chawal. The government provides 45 kg of oil per month, 90 rupees of oil per day, 2500 rupees of mirch masala per month, 1200 rupees for wood per month, 350 kg of fortified atta per month, and 350 kg of rice/month. Moreover, the Government of Gujarat provides utensils to the MDM program. One MDM organizer related that these were given to schools in 1986, meaning that cooking utensils were more than twenty years old.

Although children at all schools with decentralized kitchens were prescribed the same menu of Kansat Shak on Monday, Kitchdi Shak on Tuesday, Dal Dhokli on Wednesday, Dal Chawal on Thursday, Handwa on Friday, and Pulao on Saturday, schools differed with regards to the exact recipes used by cooks. Cooks at each school used slightly different substances to cook their dishes or added different proportions of cooking materials. This variation in cooking style, taste, and recipe was a result of different past experiences of cooks or varied needs of the children studying at that particular school.

b.School Meal Culture

In all of the schools visited, the cooks and helpers seated children before the meal distribution process began. Children sat together on the floor of a classroom, a verandah, or an open expanse and were arranged based on their gender or the standard in which they were studying. The researchers observed that since the cooks, helpers, organizers, and teachers often knew about the schools religious, caste, racial, or other specific composition, they sometimes changed the seating arrangements to meet the needs of the children. At Ravinagar school, the cooks allowed around four to five children to share a plate of food and to sit together in circles. The school consisted of primarily Muslim children who customarily would eat together in this manner at home and, consequently, cooks and organizers at the schools allowed seating arrangements to align with the contextual needs of the school.

Before the meal began, the researchers sometimes witnessed cooks or helpers organizing a prayer for children before they ate the meal. In five out of nine schools, children took part in prayers before the meal began. In one of these five schools, Ravinagar School, children also recited alphabets or numbers while eating the meal. An older child stood in front of the other

seated children for a few minutes stating a number, a letter or lines of a poem, while the other children repeated his words.

The cooks, organizers, helpers, and occasionally teachers distributed the meal to children after meal preparation, the children had been seated, and the daily prayer had been completed. In almost all of the schools, children were also involved in serving the meal, yet the nature and reasons for this distribution differed between schools. In one school, Jantanagar School, the children themselves proudly proclaimed that the older children would sometimes serve the younger children their meal. Yet in another school, Rammol Pratmik School 2, children claimed that the cook sometimes made the children serve the meal and clean up afterwards and that all children ended up taking part in the MDM process.

The researchers observed very little rush in the distribution process, eating of the meal and in cleaning up afterwards. There also seemed to be a significant connection between MDM staff and children. In 7 out of 9 of the schools, the children were able to ask for second helpings and seemed to eat the meal at a leisurely pace. With regards to a connection between school staff and children, when asking children at each school whether they knew who their cook, organizer, or helper were, 69 out of 90 children interviewed knew the kitchen staff by name. The high level of identity recognition indicated to the researchers a relationship between the children and the MDM staff. Moreover, in comparison with many schools observed in New Delhi in which children threw away food made by a cook or helper if they did not like the taste, 76 out of the 90 students interviewed claimed that they did not throw away the food made by the cook or helper at their school. The majority of those instances in which the researchers found students throwing away the MDM took place at Rammol Pratmik School Number One and Two, two schools in which community members and children all voiced their complaints about the poor quality of the meal, corruption, and stealing of foodgrains at the school. This school will be examined in greater detail in the Monitoring, Transparency, and Evaluation section below.

c. Kitchens

Kitchen construction or the quality of the decentralized kitchens varied between schools and depended on the financial outlay or initial financial capital allotted towards construction.

The researchers observed a wide variety of kitchen sheds, some that were perfectly polished and well-kept closed confines. On the other hand, we also observed schools in which the meal was prepared under a small, thatched roof, without walls or in which walls, doors, or roofs were broken.

Kitchen construction or the quality of the decentralized kitchens varied between schools and depended on the financial outlay or initial financial capital allotted towards construction. The researchers observed a wide variety of kitchen sheds, some that were perfectly polished and well-kept closed confines. On the other hand, we also observed schools in which the meal was prepared under a small, thatched roof, without walls or in which walls, doors, or roofs were broken. Only four out of the nine schools visited had pakka sheds, either inside a classroom or inside a shed constructed solely for the purpose of cooking the meal.⁵⁴ In one school with a kaccha shed, the door separating the shed from the community had been broken into and had not been replaced. In another school, food was cooked out in the open in a large steel vessel with only a rickety slant roof covering the food; there was no real kitchen structure.

At Ravinagar School, a school with a relatively better kitchen shed, the MDM organizer explained that a local store-owner had donated money towards building the infrastructure of the shed. As a result, the school staff was able to construct a one-room structure that even had a blackboard attached to it to list children's birthday or the day's menu.

The researchers found that cooking was not always done within these sheds. On two occasions, food was stored within a pakka kitchen shed, while cooking was conducted nearby in large steel pots.

d. Quantity and Quality

In 7 out of the 9 schools visited, the MDM tasted fresh, hot, and healthy. Upon observation one could see cooked red and green vegetables in the daily stew. One of the benefits of the decentralized model was that the food was cooked at most one hour before the children actually ate the meal. The cooking process was conducted right in front of everyone's eyes, so it was readily apparent to all observers what types of vegetables and substances went

⁵⁴ A pakka kitchen shed is a neat confine that has been made solely for cooking purposes. A kaccha shed is poorly constructed and often may allow for foreign object to enter the meal.

into the meal. This was one major difference that the researchers found between the centralized and decentralized models.

Most cooks used a daily mixture of fortified atta, thurad dal, mirchi/haldi, oil, hara dania, onion, palak, methi, tomato, amongst other vegetables. Organizers usually spent 70 paise per child per day comprising of 30 paise for sabzi, 25 for hari mirch and other condiments, and 15 for cooking purposes.

Tasting of food prior to distribution

Like most schools observed in Delhi, the researchers witnessed cooks, helpers, organizers, and sometimes even teachers tasting the meal before it was served to the children. In 8 out of 9 schools visited, MDM staff tasted the meal immediately before serving it to the children. While in Delhi, this government mandated provision (tasting) aims to ensure that food quality is hygienic and unspoiled, in schools with decentralized kitchens in Gujarat, tasting was used mainly to ensure that food was tasty and that the children would enjoy the meal. Moreover, unlike schools in Delhi, there was usually no time gap between tasting and serving the meal to beneficiaries. Sometimes cooks or helpers would even eat the meal alongside children (perhaps for tasting purposes or simply because after cooking the meal, they would eat it as well).

Timeliness of MDM delivery

In most schools (7 out of 9 schools visited), the meal was cooked on time, and the children received their meal during their recess period. There were two cases in which the researchers observed that either the MDM provisioning did not begin on time, or it did not begin at all. These two schools were Rammol Pratmik School 1 and Rammol Pratmik School 2.

The researchers visited Rammol Pratmik School 1 at approximately 9 a.m. and were turned away from visiting the kitchen shed or meeting MDM staff; we were told that the MDM cooking and serving had already been completed for the day. Schools with a morning shift MDM process usually begin cooking at 8:30-9 a.m. and end the cooking process at around noon, so it was quite surprising to hear that the cooking process had already finished. On a second, even earlier visit to Rammol Pratmik School 1, the researchers were told that the MDM

process had ended and were once again were turned away from visiting and observing the MDM process. In this case, the researchers assumed that the meal was not being provided regularly to children. Interviews with community members and children attending the school confirmed this assumption. According to one child at Rammol Pratmik School, “We receive the same thing every day if we get anything. lapzi shak. lapzi shak. And more lapzi shak.”

At Rammol Pratmik School 2, an afternoon shift school, the researchers observed a similar trend. The researchers arrived at the schools premises at noon and waited for the cook, helper, or organizer to come to cook the MDM. At 1:15 p.m., the principal and teachers started to become frantic, as the neither the cook, helper, nor the organizer had arrived. The school staff started calling the MDM staff, and after repeated beckoning an organizer and cook arrived at 1:45 p.m. that day; the helper did not turn up. The meal was cooked in a hurried and rushed fashion, yet the children still received their meal during the lunch period- from 2:30 to 3 p.m. The researchers once again were unable to judge the regularity of the MDM in this case. However, interviews with children and community members also corroborated suspicions that the meal was not cooked regularly or in a proper fashion.

Besides these two schools, in the other seven schools visited, the meal was cooked on time and there seemed to be no irregularity in the cooking processes.

Issues of children falling ill

The researchers asked children from the 5th through 8th standards and school principals whether there had been any cases of children falling ill in the last academic year. In 7 out of the 9 schools visited, both children and the principals aligned in their responses regarding whether there had been cases of children falling ill. However at the Rammol Pratmik School 1 and 2, principals in the morning and afternoon shift related that there had been no instances of children falling ill, while many children in the 5th through 8th standards reported otherwise. According to two 6th grade children studying at Rammol Pratmik School Number 1,

“All the children here have gotten sick after eating the food. We used to eat the food here but now we have stopped because the food is not good.”

Children at Rammol Pratmik School 2 displayed very similar sentiments, stating,

“We don’t like the madhyan bhojan. They don’t make it good, and they give us less... We have fallen sick many times after the meal with vomiting, fever, and dizziness. My mother and father have refused to let me eat the meal any longer.”

In other words, the randomly selected children at both schools indicated that the food quality was poor, although the principals at both schools gave different responses.

In terms of finding foreign objects in the meal, the researchers asked children in the 5th through 8th standards if they had ever noticed stone, insects, glass, or other objects in the meal. In 6 out of the 9 schools, children reported that they had not noticed any objects of this kind in their meal. However in the two Rammol Pratmik schools and in Ramdev Nagar School, students replied that they had seen hair, stones, or insects at least once during the academic year 2009-2010.

Adequacy of food supplied and distributed

In 6 out of the 9 schools visited, children indicated that they could ask multiple times for extra food and that they received enough food to satisfy their hunger. Most children mentioned happily, that the cook or helper would serve them their meal as many times as they want, sometimes even three or four times. Moreover, in Vastrapur Railway school, the organizer expressed that the amount of food was always correct each day because she already knew which children would eat more or less. “We know what the children want and we make as much as they need,” she related.

There were schools, however, at which organizers or students mentioned that the food cooked was inadequate in quantity. In the Rammol Pratmik School No. 1 and 2, children mentioned that they did not receive enough food and could not ask for second helpings. In this school, the researchers found that children consistently did not receive a proper, healthy, and adequate meal. Moreover, at Ramdev Nagar school, the MDM organizer explained that there was never enough food, because community members and parents often ate the food after the children had eaten. He explained,

“One of the problems we have here is that people here are so poor so sometimes laborers, other poor children, or parents of children come to eat, and how can we refuse. These parents [and

others] roam about hungrily also, and they need the food. This is sometimes why we feel the food is less.”

All in all, however, most students appeared happy with the quantity of food grains allotted and the resulting meal produced.

While most children enjoyed an adequate and filling meal each day, the MDM staff expressed concern regarding inadequate stock and provisions of oil to make the meal. Cooks and organizers in 6 out of 9 schools pointed out that the amount of oil provided under the scheme, 5 grams per child per day, was far too less for cooking ‘andwa’ and other dishes using fortified atta. One organizer at Jantanagar School related, “The government reduced the amount of oil from 10-5. It’s not enough to make a meal with and the food doesn’t taste good.” Moreover, a principal at D.K. Bin School expressed, “The government needs to stop giving us fortified atta because it keeps getting spoiled and there is not enough oil to cook it properly.” As a result of inadequate oil, most schools were unable to cook this dish properly and it ended up tasting dry and grainy. Moreover, organizers expressed that children ended up enjoying this dish less than the others that were provided during the week.

Teachers and principal’s perceptions of the meal

In the majority of schools visited, both teachers and principals had positive perceptions of the meal. They felt that the meal had increased enrollment, attendance, retention, girl child enrollment, and had even, in some instances had a positive impact on the interest level of pupils after its introduction. A principal from Ramdev Nagar school related, “The MDM had helped. All of the children attending this school are from the lower castes, so this meal is very important for them.” Moreover, at Vastrapur Railway school, the principal related that,

“the MDM has resulted in a lot of help for children and has increased the enrollment at the school. For two years, the government had stopped the MDM program and was passing out food packets. The fathers of many children would just sell it and buy alcohol with this money. Sometimes they would make the children go to work too to earn money. We had a strike and then the MDM came back to our schools and it is good because now the children definitely get their food.”

Many teachers and principals also described how much they appreciated the MDM cooks, organizers, and helpers and how they had built a strong relationship with them. They

described how the MDM staff worked hard to provide the meal to the children, and made the meal with great affection and love. The principal at Ravinagar School explained, “the women who makes the food for the children make it with so much love and heart. She knows what the children like and does this job for them.”

Unlike many schools visited in Delhi, most teachers and principals did not mention any disruption to classroom activity as a result of the MDM. The majority of principals and teachers emphasized the positive aspects of the MDM in schools and also described how there was hardly any disruption as the meal was provided during the children’s recess time. The emphasized that the program had been running for many years, so it had become a regular and smooth process in most of the schools.

As mentioned earlier, the only issue most teachers and principals had with the MDM was related to the distribution of fortified atta. Although the government has provisioned and distributed fortified atta in schools to curb hidden micronutrient deficiencies amongst children, most teachers and principals expressed that fortified atta ended up getting spoiled quickly. According to the principal at Ramdev Nagar School, “They give fortified atta for a whole month and it gets bad very easily. Small insects start getting into the food grains, and it is also a target for mice and rats.”

All in all, perceptions of the MDM were positive amongst school staff. The few negative comments were related to provisioning or infrastructure issues.

Parents’ perception of the meal

The researchers asked parents to rate their thoughts on the MDM based on whether they were extremely satisfied, satisfied, dissatisfied, or very satisfied. 14 parents out of 18 parents from the nine schools expressed that they were either satisfied or extremely satisfied with the meal. In one of the schools where parents expressed satisfaction, they described how they would sometimes ask the MDM organizer and cook for recipes after hearing how much their child liked the meal or after tasting food that the children had brought back from school. In another school, Kali Gaon School No. 1, a mother said that she thought the quality of the meal was great and even added, humorously, that her children actually got more food than he/she needed. She also mentioned that her children really looked forward to the meal.

Once again, Rammol Pratmik School 1 and Rammol Pratmik School 2 were the only two

schools where parents expressed dissatisfaction with the meal. One parent of a student at Rammol Pratmik school 1 stated,

“They make kaccha food at this school. The government says that this food is supposed to fill their stomachs, but it doesn’t. The cooks just leave the food outside and they make food for such few children.”

In both of these schools, parents mentioned that their child did not receive enough food, that it was unhygienic, or that cooks and helpers stole the food grains from the children.

The researchers also asked parents whether the MDM had played any positive role in their lives. With regards to this question, the majority of parents at all nine schools described that the MDM had made it easier to send children to schools and that they did not have to spend time preparing the meal in the mornings. One parent even noted that knowing that the MDM would be prepared in her child’s school relieved her of a slight bit of stress; she could rest assured that her children would receive a meal, and this made things easier for her. In this scenario as well, the two Rammol Pratmik Schools were the only schools where parents had different opinions on the matter. Parents with children attending these schools expressed that the MDM did not have any impact on their routines, because they refused to allow their child to eat it, and ended up cooking food for them at home anyways. These two schools serve as extreme points of comparison to the other well-functioning MDM programs that we observed where the majority of parents were happy with the quality and quantity of grains provided.

Children’s perception of the MDM

The researchers also explored children’s opinions of the MDM by asking children in the nine schools to rate the meal on a scale of very good, good, okay, or unsatisfactory. When the children were asked their opinion of the MDM, 72 out of 90 responded that the meal was very good, 9 out of 90 described it as good, and 9 described it as okay or unsatisfactory. The nine who described the meal as unsatisfactory were attended the two Rammol Schools, demonstrating that the food quality and subsequent perceptions of the MDM can differ tremendously between different decentralized kitchens.

In the rest of the schools that had functional and regular MDM programs, the children often mentioned that they liked or loved the food, that they wouldn’t want to change anything

in the meal, and that they received as much food as they wanted to fill their stomachs.

For the most part, children expressed that they enjoyed all dishes, yet when asked what their favorite and least favorite dishes were, the majority of children in Std. I-VIII children expressed that they enjoyed kitchdi, pulao, and dal, and didn't enjoy lapsi or andwa as much. A dislike of andwa matched the teachers and principals' opinion that andwa was very difficult to make and also less appealing and tasty to the children.

e. Cleanliness and Hygiene

In many of the schools visited, the researchers found cleanliness and hygiene to be mediocre with regards to washing hands, putting on gloves or hairnets, washing vessels before and after the meal, washing vegetables, and keeping the cooking area neat, tidy and well lit. While the researchers observed cooks and helpers cleaning their hands with water, and occasionally with soap, we did not find any of the MDM staff wearing gloves, hairnets, facemasks, or other safety attire.

In almost all of the schools, the researchers observed problems with the cleanliness and hygiene of kitchen sheds. As mentioned earlier, only five out of the nine schools had pukka kitchen sheds, while the remaining schools' kitchen sheds had such problems as broken roofs, holes in the walls, floor, or in the door closing the sheds. In one school, the meal was simply cooked under a small inclined roof without any walls or enclosure.

One of the issues that the researchers found within all of the schools, was that there was only a very small amount of lighting in each kitchen shed. In only two of the nine kitchens, did the researchers observe adequate lighting in the cooking area and the storage areas, and in one of these schools, food was cooked outdoors! In essence, most kitchen areas and storage places were very dim, without natural sunlight entering the premises even on a sunny day.

The researchers also observed mice running around 4 out of the 9 schools visited. None of the schools had taken part in any type of pest control program or had set up any mouse traps to get rid of the rodents. Moreover, most cooks and helpers seemed to view mice as friendly guests that would do no harm to the food quality of the MDM. Even so, in 7 out of the 9 schools, the researchers observed that MDM staff attempted to raise all food grains and other MDM products so that they would not touch the floor, and thus would be out of reach of pests and rodents. In most schools, atta or wheat was found raised on unused top of pots and pans

or desks and not on any type of formal structure. Only in one school did the researchers find a proper wooden structure built solely for the purpose of raising the food grains and other components of the meal off of the ground.

Availability of water to wash hands and vessels

In all of the schools visited, the researchers observed that water was available for MDM staff for hand washing before and after the MDM process. In 8 out of 9 schools, the researchers witnessed school staff washing their hands before beginning the cooking process. Moreover, in 8 out of 9 schools, the researchers witnessed the MDM staff washing the utensils and cooking pots and pans before and after the distribution of the meal.

It was difficult for the researchers to assess whether children washed their hands before eating the meal, as the students often dispersed rapidly during the minutes preceding their lunch break. Yet amongst the 90 children interviewed, 73 reported that they washed their hands before eating the MDM.

Cleanliness of the distribution area

In all of the schools visited, the distribution area was neat and tidy before the children were served their meal. Most of the distribution took place on a veranda, inside the kitchen shed where the cooking process took place, or on the floor near classrooms. Unlike most schools visited in Delhi in which the children sat in their classrooms to eat the meal or stood in long lines to receive the meal from a server before going to their classrooms, most MDM areas were well organized and designated solely for the meal.

After the meal process was completed, in 7 out of 9 schools, the children mentioned that they did not have to clean up the distribution area after the completion of the meal. The researchers also did not observe children cleaning the distribution area after the meal in these seven schools.

f. Monitoring, Transparency, and Accountability

With regards to monitoring of the MDM, schools differed with regards to the number of visits they reported receiving from inspecting agencies or officials. While the majority of schools staff mentioned that either a Deputy Collector, City Mamlatar, or Education Inspectors

visited their school once a month, some schools mentioned visits twice a month, while others could not remember the last visit within the year. Moreover, according to the principal of one school, someone would come two times a month, but it was not consistently the same person, sometimes a Deputy Collector would visit and other times an Education inspector would visit. In essence, the MDM visits appeared irregular to the researchers; there did not appear to be a consistent set of officers visiting the schools or a consistent number of times schools were visited.

Display of menus

In 5 out of 9 schools visited, the researchers found menus posted within kitchen sheds or in the principal's office. The researchers usually needed to inquire about a menu in order to find and be directed towards it. In none of the schools, did the researchers see the menu displayed prominently for the children to see.

Even so, 63 out of 90 children knew what the menu would be on a particular day when asked. For instance, when asking a child from Ravinagar school about the menu on Saturday, the child enthusiastically replied, kitchdi!

Participation of parents and children in the monitoring process

When speaking to children about whether they had been asked their opinions of the meal, children from 5 out of 9 schools described being asked by either the school principal, a teacher, the MDM organizer, cook or helper. According to a fourth grade student at Ramdev Nagar School, "The teachers ask us everyday what our opinion of the meal is." On the other hand, some children at other schools expressed that no one had ever asked their opinions and that they had never purposefully voiced their opinions to MDM or school staff. Even in cases, such as in the Rammol Pratmik School when most children interviewed expressed issues and complaints regarding the meal, the researchers found that most had not discussed these complaints with school staff and had mostly spoken about the meal with their parents. In other words, schools differed with regards to how actively principals, teachers, or MDM staff encouraged children to voice their opinions about the meal. Even in two schools with relatively regular and well-functioning MDM programs, the researchers still found that children hadn't been asked their thoughts on the meal.

As per government suggestions, the researchers found that 7 out of 9 schools had set up some type of a committee to monitor the MDM involving guardians of beneficiaries, MDM staff, and school staff or were visited by parents who tasted the meal whenever they dropped their children or picked them up from school. The MDM organizer at Ravi Nagar school explained,

“We’ve started a committee involving five parents who come once a month to taste the meal. They will come to check the food, taste it, and then send a note to the collector... Many mothers also taste the meal when they leave their children at school or ask about how the meal is. We know them and sometimes give food to pregnant women.”

The researchers, however, found that monitoring models were varied in most of the schools. In some of the schools, the organizers described once a month fixed meetings with 20-25 community members discussing the MDM and other aspects of the school, and in another school 10-15 parents met every month to discuss the MDM program. In 3 out of the 9 schools, school principals or organizers mentioned having some sort of formal MDM committee involving parents. In another 4 schools, school staff described parents dropping off their children and tasting the meal before leaving or parents discussing the MDM during PTA meetings. Parents also described tasting the meal in the tiffin boxes children brought back from school and then communicating their suggestions with school staff thereafter.

Although formal monitoring mechanisms or committees were not put into place in all schools, the researchers observed a high level of community participation in observing and tasting the MDM. At Kali Gaon School Number 2, a school without a formal MDM monitoring process, one mother described coming regularly to school, tasting the meal, and being able to provide her feedback to school staff. She described having a very positive relationship to MDM staff, relating,

“I come once a week and give suggestions about the meal with love. I know the cooks and principals very well and have no tension at all because I can taste the meal and also give my opinions.”

The researchers were only able to discern a complete disconnect between the community and the MDM staff in Rammol Pratmik School 1 and Rammol Pratmik School 2. As mentioned previously in this study, the researchers themselves found it difficult to gain entry and access

into these two schools and can assume that it may also have been hard for parents to vocalize their opinions in such private, closed and non-transparent school settings.

Monitoring structure and chances of corruption

As mentioned previously in this study, the researchers visited two schools in which some form of corruption or lack of transparency was observed. This could have been, in part, because of infrequent visits by inspecting officials, amongst a variety of other reasons. In Rammol Pratmik School 1, the principal did not seem aware of any visits from monitoring or inspecting agencies. In Rammol Pratmik School 2, the principal mentioned that a Mamlatar or supervisor would occasionally come to the school to make a visit and that he/she would usually make one visit a month.

In Rammol Pratmik School 1, the researchers were forbidden from entering the schools kitchen, were told that the MDM preparation had already been completed (even though the morning shift recess period had not begun), and were informed by children that the meal was not provided regularly at the school. At Rammol Pratmik School 2, the researchers observed insufficient grains and stock within the kitchen shed, were informed by multiple parents and children about poor quality grains and insufficient provisions of food on a daily basis and observed the cook and organizer arriving late to school (the helper did not arrive that day). When taking notes about the cooking process, inspecting the kitchen, and interviewing children, the researchers were repeatedly harassed by MDM staff who did not want the researchers to document the occurrences at the school. Finally, the researchers were bribed by kitchen staff who asked us whether we would like to take any money from them, and whether they would lose their jobs because they were late. Both schools appeared uncomfortable and lacking confidence in their MDM programs. And in both schools, community members and children confirmed the researchers experiences within the schools themselves.

According to Mr. A.V. Jala, Rural District Collector, one of the most difficult parts of running the MDM scheme using a decentralized model has been monitoring it on a regular basis. Although Mr. Jala explained that every deputy and district officer, as well as Education officer was to visit a total of 20 schools each month, he mentioned how it was very hard to keep a track of all 896 schools in the Rural jurisdiction on a regular basis. Even if an inspecting

officer were able to visit a school once in a year, the school may run efficiently during that one day, but stop working during the rest of the year. This lack of regular inspection may have been one of the reasons why both schools did not have regularly functioning or well-functioning MDM programs.

g. Financial Viability

While it was difficult for the researchers to assess the exact differences in financial viability between the decentralized and centralized model in both states, government officials described that the decentralized model actually ended up being more costly for the government of Gujarat as the government had to pay for shipping food grains to each and every PDS center, and then to schools at a regular basis. In contrast, in a centralized model, the government would only pay for transportation of food grains to the two centralized kitchens, Stri Shakti and Akshaya Patra. After this, these two organizations would distribute the meal to schools using their own transport vehicles and support staff. Moreover, under the decentralized model, paying for employees under the decentralized model became more expensive than under the centralized model since the NGOs themselves paid for their own employees through external funds, donations, or revenue made through the MDM process.

h. Social and Gender Equity

Criteria for selection of kitchen staff and distributors

As described in government orders, MDM staff filled vacancies within a school after these were publicized by the District Collectorate. According to one cook from Ravinagar school, "The school requested particular position and then the collector selected us to fill the position. They gave us an interview and we got training. They also gave us a health check up for the position." According to the organizer at Ravinagar school, "I live nearby and asked if there's any place for me to do work. Then they gave me an interview."

Employment of women

One area that the researchers found particularly different between centralized model in Delhi and the decentralized models in Gujarat was with regards to the number of women

employed in the workforce. At almost all of the schools visited, at least 2 out of the 3 or 3 out of 4 staff were female employees. Moreover, the large majority of these women were from the Scheduled Caste, Scheduled Tribe, or Other Backwards Castes groups. Some women were elderly and other women were selected because they were widowed. According to Mr. A.V. Jala, rural Deputy Collector, the government gives preference to “1) stanis or village widows, 2) divorcees, 3) members of the SC/ST/OBC class or Muslims, 4) General, 5) men.” The researchers found that these guidelines were put into place in all of the schools, and that the majority of workers were from these underserved populations.

Women employed as MDM staff expressed the importance of their work, and described how much they enjoyed serving children. Many had been working at schools for up to 25 years, and had developed a relationship with the community and children. According to one cook at Vastrapur Railway school,

“We get 500 rupees. What will be do if Akshaya Patra comes here. We like this work and we want to make food in this school because we will solve any problems. We can give to the children and also get employment. We have a relationship with them and we know what they want and what they like. The children can complain to us or talk to the parents or principal.”

In essence, this cook related how she was able to develop a friendship and understanding between herself and the children; they could discuss their feelings about the meal, and she had developed a motherly and caring relationship with them. These sentiments were expressed by almost all MDM staff, who related how much they enjoyed and appreciated the work they were doing.

All women, did however, express that they did not receive any type of maternity benefits outside of their usual salary. The issue of maternity benefits is something that the researchers feel should be further explored.

i. Perceptions of centralized v. decentralized models

When speaking to principals, teachers, mothers, and MDM staff, almost 100% of staff preferred having the MDM the way it was and not switching to a centralized model. There were a wide variety of reasons given for this including fear that the food would not be healthy or fresh if made so early in the morning, fear that the food might get spoiled if shipped all the way from an external agency to the school, contentment with the current process and close

relationships with MDM staff, or unhappiness with the thought that cooks might lose their jobs if Akshaya Patra or Stri Shakti were to replace their existing processes.

According to the principal of Ravinagar school, "It takes over two hours for the food to come from outside. We don't know what will happen then with the food if it comes from Akshaya Patra or Stri Shakti. Here teachers can check and it won't get spoiled in the heat from travel. It's been twenty years since we've had this method so we are used to it and we have had the same organizer since 1986."

Another reason mentioned for preferring a decentralized model over a centralized one was that the decentralized could cater to the specific needs of children at the school. According to the principal of Ramdev Nagar school, "In the centralized model, they have their own menu and if the students don't like it, they have to waste the food. Here we make it to the taste of the children." While this was true to some extent, the researchers observed that all schools had to stick to the meal prescribed by the government even though they sometimes changed the recipe to the taste of the students.

Most cooks also vehemently opposed the idea of switching to a centralized model. One cook explained that she enjoyed doing the service she was doing and felt it was "punya ka kaam" (God's work). Another cook explained, "I love this work so much because my house is very nearby. In another job I wouldn't be able to get as much money. I finish my work around 2-3 pm and then do part-time work as a tailor." Most cooks had worked at schools for different amounts of time, ranging from 2 months to 26 years.. The principal at Kali Gaon School 1 related, "We don't know about Akshaya Patra, but we like this a lot. These people also get their daily bread and butter through this and their been doing this for such a long time with a lot of care for the children. We have a great relationship with them also, and can't imagine not having them with us." She went on to relate, "The woman working here is a widow and the other two are very poor and doing good work. It would be very bad for them to lose this source of income."

In essence, all the schools expressed very hostile feelings to the thought of changing from a decentralized to a centralized kitchen. They all seemed content with the set up already in place. Rammol Pratmik School 1 and Rammol Pratmik School 2 also demonstrated similar interest in keeping things the way they were, which should be noted. Even so, the other

schools that did not display any form of corruption ran well-functioning MDM programs and wanted things to continue in the way they were.

In contrast, District Collector, A.V. Jala, mentioned some of the difficulties of instituting a decentralized model. He cited,

“The villages here are scattered, and we cannot go to each and every one daily. So we can’t see what they are preparing and how much they are serving to children. We can, however, visit the central kitchens everyday and see whether the food is good. When they prepare the food in schools, the quality depends on the level of interest of the teachers and school staff. If the headmaster can supervise the meal, then the quality will be better. But we don’t know how much interest they actually are taking.”

In others words, Mr. Jala described how the monitoring process was more difficult if kitchens were decentralized and that the quality of the meal depended on the interest and care taken by school and MDM staff. As the researchers, the level of interest in meal preparation did vary between schools, with some schools demonstrating great relationships and interest in providing a quality meal to children. On the other hand, in the two Rammol Schools, the meal was provided irregularly, and school staff seemed to be taking part in the misuse of food grains. In this sense, Mr. Jala’s words demonstrate that although many schools in Ahmedabad went above and beyond to provide a healthy meal to children through the decentralized model, greater standardization and creative monitoring techniques need to be put into place to ensure that decentralized kitchens are inspected regularly and that a minimum level of quantity and quality is given to children everyday.

j. Context sensitivity

Another way in which schools in Delhi and Gujarat differed were with regards to having flexibility during holidays to give children sweets or other treats. According to the principal at one school,

“Usually on holidays the children get chutti. We have a decision that the whole school get kheer puri for that day. On Srad, the teachers sometimes chip in to give something special to the children- kheer puri. Also for Makar Sankranti, the children might receive a ladoo.”

In none of the schools in Delhi did the researchers find any special food given to children during holidays or special events.

Also, in many of the schools the researchers were able to observe that the cooks and

helpers knew the children by name and mentioned keeping an eye on the children and their needs. According to the organizer at Vastrapur Railway School, “The children always tell me what is wrong and I ask them why they aren’t eating or why they are taking less. I know how much they eat, so I can understand them and talk to them about it.” This intimate relationship between the child and the service provider could not be found through a centralized model, yet was found in many of the schools visited by the researchers.

Moreover, in one of the schools visited, the researchers found that the MDM staff even catered the recipe for the meal to the type of children attending their school. According to a cook at Ravinagar school, “The children in this school are mostly Muslim and they don’t like the sweet dal, so for this reason, we don’t make it so sweet so that they will enjoy it.” This type of context sensitivity and care for the needs of the children is something that is largely missing from a centralized model and is really one of the greatest strengths of decentralization.

X. COMPARISONS BETWEEN DECENTRALIZED AND CENTRALIZED KITCHENS

Quality and satisfaction

At schools in Delhi and Ahmedabad, the researchers found that most children and parents seemed satisfied with the MDM. Both the centralized and the decentralized models seemed to produce food that children enjoyed and had few complaints about. In most schools in Ahmedabad, the food was freshly cooked, hot and tasty. In only two of the schools, did children or parents express dissatisfaction with regards to the quality of the meal. Similarly, in schools in Delhi, children and mothers also seemed satisfied with the meal. In one school where children had fallen ill after eating the meal, children continued to eat the meal, and the principal even expressed the importance of continuing the meals distribution. In schools in Delhi, however, many principals and teachers complained that the meal disrupted classes. They also often expressed that they would prefer packaged meals to cooked meals, claiming that this would cause much less disruption and mess. These sentiments were not found in schools in Ahmedabad, where students, school staff, and parents felt the MDM did not cause any sort of disruption to classe; MDM beneficiaries and staff found the meal to play

a positive role in the school by increasing enrollment, retention, and serving as an opportunity for the children to sit together and share a meal. In sum, both centralized and decentralized models of cooking provided adequate and good quality food to children. Yet, the decentralized model was often more appreciated, with MDM staff, school staff, and children enjoying the entire meal process and hoping for its continuation.

Financial Viability

Two points may be noted with respect to centralized kitchens. Transportation costs incurred are high and constitute a significant component of total costs incurred. Furthermore, it is also evident that the salaries of staff employed under the centralized systems are substantially higher than the salaries provided to cooks and helpers under the decentralized systems (with the exception possibly of distributors in schools).

On the other hand, overhead costs are higher in the case of decentralized kitchens. While expenditure on transportation of food from the kitchen to the school is absent, the cost of transportation of FCI grain and raw materials from the warehouse/shop to the school may raise costs. In addition, unless schools are equipped with sufficient space to allow kitchens to function within the school premises, the costs of renting/building a kitchen are likely to be higher. Overhead costs may also be higher than in a centralized setup given the economies of scale that would accrue to a centralized kitchen. However, we cannot conclusively comment on this aspect of kitchen functioning without undertaking a more detailed analysis of the costs involved.

Cleanliness and hygiene

The researchers found cleanliness and hygiene to be a problem in both the centralized and decentralized models. In the centralized model in Delhi, the researchers sometimes found that kitchen staff did not wear proper safety equipment, or did not wear gloves while cooking the food. In one kitchen, the researchers observed a rat in the storage area. Other issues with the centralized kitchen dealt the issue of spoilage; meals were often prepared late in the night starting sometimes at 2 in the morning, while meals only reached schools from approximately 9 a.m. to 11 a.m. The large time lag between cooking and serving resulted in many children

falling ill from bacterial infections. Even so, the researchers would claim that the centralized kitchens took more precautions to keep their cooks and kitchen clean and tidy. Most kitchens had pest nets, to keep bugs away, and one kitchen even kept a cat around the storage area to shoo away mice.

In schools in Ahmedabad, very few children mentioned getting sick after consuming the meal. They described the meal as healthy and hot. Moreover, the researchers were able to taste the meal in all of the schools, and found that the meal tasted fresh. Despite the quality of the meal, most kitchen sheds were poorly constructed, allowing for foreign objects to enter the meal. In addition, many of the schools had pest problems and the researchers often saw mice running around kitchen sheds. Finally, while cooks, helpers and organizers mostly washed their hands before cooking the meal, none of these MDM staff wore gloves, hairnets, or aprons, perhaps allowing human contact and infections to enter the food. Some would note that decentralized kitchens mirror home kitchens, and therefore do not need to take the same precautions as centralized kitchens (gloves, hairnets, etc.). Even so, the researchers feel that the decentralized model could serve to gain by ensuring that higher standards of cleanliness and hygiene are put into place. Providing gloves or hairnets to MDM staff would demonstrate the states seriousness in ensuring that children receive clean, hygienic, and healthy food. As such, the researchers feel that both programs had their own significant cleanliness and hygiene issues that need to be dealt with separately.

Social and gender equity

The researchers observed that the decentralized model contributed more to social and gender equity in a few ways, including: by providing a source of employment to women and members of lower castes, and by serving as a platform for children of different castes and classes to sit together and eat a meal in a relaxed environment. There was no rush in the serving or eating process in the decentralized model. Moreover, the majority of staff cooking the meals were from lower castes. According to Joint Commissioner of the MDM program, Mr. Chowdury,

“the motto of the scheme is to provide hot cooked meals to children, from the socioeconomic side, to give children of all classes a chance to sit together, and from the

employment side, provide some employment also. Decentralization provides employment to some 87-88,000 people in the state. And supposing we do favor to a centralized model, this purpose is damaged because whenever a machine works, the number of person employed with decrease and there will be fewer laborers.”

In sum, the decentralized model, has been able to contribute to greater social and gender equity, while the centralized model often has not done so. The centralized kitchens visited in Delhi seemed to have complete autonomy in the selection of staff. As such, few women or other underserved populations were selected as employees. In one kitchen, almost ninety percent of the staff were men, while in another kitchen the staff were mainly Burmese refugees. The disregard of Supreme Court orders and the few opportunities for underserved groups are serious issues that the researchers feel must change.

Community participation

As some activists describe, the decentralized model does allow for greater community participation than centralized models in terms of monitoring and evaluation of the meal. In Ahmedabad, many parents described having visited schools to taste the meal, or mentioned tasting the meal that their child had brought home from school. Others described discussing the meal at PTA meetings, or being a part of a school meal committee. Even so, the researchers feel that greater steps need to be taken to ensure that school MDM monitoring committees function regularly, and that more parents can express their sentiments about the meal. In two schools, parents described feeling unable to discuss their feelings about the meal as the school was closed to outsiders, and staff did not allow for open discussion about the meal. The researchers suggest that greater autonomy should be given to the meal committees to make suggestions and greater that importance should be given to these organizations to ensure that community members and parents can forcefully ensure transparency in the meal process.

In centralized models operated in Delhi, the researchers found that there was little community participation in monitoring. Parents expressed that they rarely tasted the meal to ensure that the food was of good quality. Moreover, teachers and principals noted that they had very little time to actually visit the kitchens, and therefore, did not know whether the meal was prepared hygienically. Children also often cited that they were rarely given the opportunity to vocalize their opinions on the meal. In some schools, the researchers found that

school staff had complained about poor quality food, and therefore, had had their service providers changed. Even so, the power structure and hierarchy seemed in favor of the service provider in most schools served by centralized kitchens. If the food was late or children did not receive adequate food, schools had to sometimes find appropriate back up plans at the last minute. Moreover, in one school, even after repeated complaints about poor quality or inadequate amount of food, service providers would not change.

Monitoring and Transparency

Monitoring appears to be a concern in both models though school based monitoring committees and monitoring at the administrative level have been introduced as practices in both cities studied. In the centralized model in Delhi, while mechanisms had been put in place to monitor, we were unable to conclusively ascertain the extent to which they are functional. What can be said however, is that participation of parents and students in the monitoring process is minimal at best. Teachers also do not appear to be monitoring the meal atleast at the kitchen level. The monitoring process here then hinges on the education officers and checks by Ram Laboratories. The low utilization of the allocated MME however points towards a deep seated malaise in the monitoring system.

In Ahmedabad, formal mechanisms to encourage student participation in the monitoring process had not been instituted. However, in Ahmedabad parent's (mother's) participation in the monitoring process was markedly higher than that observed in Delhi. Mothers noted tasting the food provided and making suggestions when required in most of the schools studied in Ahmedabad. The local production of food in this situation and the relationship this allows mothers to develop with the 'service provider' in this instance seems to have a positive effect on the efficacy of the monitoring mechanism and consequently the quality of food provided. However, the 2 schools observed where the scheme was not functional at all/malfunctioning indicates that parent participation can only be one aspect of the monitoring process, and there is a very evident need for involvement of the department and third party monitoring and evaluation agencies in the monitoring process. Concerns have been raised at

the department level however, with respect to the difficulty involved in monitoring the MDM in all the schools, given the large number of schools under their jurisdiction.

Adherence to Norms

In the case of Delhi, it was difficult to ascertain whether schools were receiving the adequate amount of food due to them since most schools did not appear to be weighing the food as it arrived. However, only one school reported inadequate food. With respect to adherence to guidelines laid down regarding the nutritional constitution of the meal, since pre-defined recipes have not been provided to kitchens, and kitchens prepare food based on their own recipes, the researchers cannot comment on whether nutrition norms are being met. In Ahmedabad, 7 schools reported that the food was adequate as children were able to take second helping if required. However, in 2 schools it was observed that the amount of food distributed was grossly inadequate.

Conceptualization of the MDM

Discussions with officials in Delhi indicated that the MDM is seen solely as a scheme to provide food to children. The objectives of the scheme were described thus:

1. To feed children who are poor and hungry
2. To bring them to schools
3. To counter caste and sex based discrimination
4. Improve their health
5. Improve classroom concentration

The expansion of employment opportunities for women through the implementation of the MDM was not included in the conceptualization of the role of scheme by the Delhi government which stood in great contrast to the ideology behind the MDM in Gujarat. In Gujarat, MDM Commissioners mentioned the importance of employing women and other underserved populations in the MDM program. Although Ahmedabad is experiencing a changing tide towards centralization, as the researchers witnessed during their fieldwork, the initial conception of the MDM included employing these populations.

XI. CONCLUSION

This study finds that both the decentralized model and the centralized model have different strengths and weaknesses with regards to allowing for community participation, employment opportunities for underserved population, transparency and accountability, greater financial viability, and social and gender equity. If a centralized model of meal preparation is to be expanded in urban areas, the researchers urge government officials to explore the possibility of integrating decentralized kitchen employees into centralized kitchen workforce. Moreover, they urge the government to stress the importance of employing women and other underserved populations. The researchers also feel that decentralized models can be improved by enhancing monitoring mechanisms and by placing a greater importance on cleanliness and hygiene within kitchen sheds. Decentralized models have the unique ability to involve the community, build relationships between the MDM staff and school children, and serve as a tool for teaching children about good hygiene and cleanliness. They also are, in most cases, more easily monitored by the community, and provide an excellent source of employment to underprivileged populations. While the researchers feel it is too early to make a judgment with regards to which program should be put into place, they feel that these questions demand reexamination; particularly the urban outsourcing of the MDM needs to be reflected upon, and the benefits that decentralization can provide need to be taken seriously.

Annexure A

GENERAL TERMS AND CONDITIONS

The Voluntary Organisation

Should not discriminate in any manner on the basis of religion, caste and creed, and should not use the programme for propagation of any religious practice.

- Should be a body that is registered under the Societies Registration Act or the Public Trust Act, and should have been in existence for a minimum period of two years.
- Should have commitment to undertake supply responsibility on a no-profit basis.
- Should have financial and logistic capacity to supply the mid-day meal on the requisite scale.
- Should have commitment to abide by the parameters of NP-NPSE, 2006 particularly with regard to the prescription of eligible children, nutrition content, etc.
- Should have willingness to work with PRIs/Municipal bodies in accordance with relevant guidelines of the state government.
- Should furnish to the body assigning the work to it an Annual Report along with audited Statement of Accounts in terms of all grants received with the Centre/State government or from any other authority both in cash and kind, duly certified by an approved Chartered Accountant.
- Shall not entrust/sub-contract the programme or divert any part of the assistance (food grains/money) to any other organization/agency.
- Should have commitment to return to the State Government any permanent/semi permanent assets acquired by the Voluntary Organisation from the grants received under the programme, once the Voluntary Organisation ceases to undertake the supply work.

- Shall keep all accounts, stock and registers maintained by it open to inspection by officers appointed by the Department, Centre/State Government or any other authority.

MOU/Agreement shall be valid for three years.

The Directorate of Education will have a right to change the number of children and schools allotted to the Voluntary Organisation on the basis of its performance at any time.

Voluntary Organisation shall undertake the work/responsibility on no profit basis.

All taxes for providing cooked meal shall be borne by the Voluntary Organisation. Further, the Voluntary Organisation will furnish Annual Report along with audited statement of accounts duly certified by an approved chartered accountant to the Directorate of Education.

The Directorate of Education shall have full rights to get the cooked meal tested at any time through Sri Ram Institute for Industrial Research, Delhi or any other authorized laboratory. In case any deviation is found more than 5% compared to the specification, the amount of such supply claimed by the second party shall be deducted proportionately. The testing fee of the sample at Sri Ram Institute of Industrial Research, University Road, Delhi or at any other laboratory so decided by the Directorate of Education shall be borne by the Voluntary Organisation.

There will be a third party evaluation of Mid-day Meal Programme implemented in Directorate of Education Schools by the agency/agencies decided by the Directorate of Education.

The Voluntary Organisation will submit fortnightly statements of accounts of mid-day meals actually supplied to the concerned zonal authorities of the schools who shall process the same and the first party shall arrange for payment promptly. No payment shall be made for defective supply. The first party shall make the payment within 45 working days after submission of statement of accounts.

The delivery of cooked meals will be made to schools according to the schedule supplied by the Education Department. If the Directorate of Education finds that the food is fit for human consumption and as per the standards laid above after having

tasted the same by a teacher in charge of the Mid-day Meal scheme, Home Science teacher, three mothers of children studying in the school, DDO of the school and a member of Vidyalaya Kalyan Samiti, it shall be distributed to the children for consumption. In case the cooked meal received by the concerned school is found defective/sub-standard, it shall be refused and supply shall be lifted by the second party from the school at its own risk and cost. In case the defective/sub-standard supply is not lifted by the second party within 24 hours, the same shall be destroyed by the head of the school at the risk and cost of the second party and no claim for the defective supply shall be entertained in any case. Expenditure incurred for this, if any, shall be borne by the second party.

Voluntary organization shall do the work by itself and in no event it will subcontract or divert the cooking of meal or any allied activity to any other agency/organization.

Voluntary Organisation shall be solely responsible for any mishap/casualty on account of contaminated cooked meal supplied in any school. Action against the second party in such an event shall be initiated as per the provisions of the Prevention of Food Adulteration Act, 1954 and other laws of the land applicable at the time.

The Director of Education shall have the right to change/modify any clause/provision, terms and conditions as and when required.

Voluntary Organization shall comply with the orders/guidelines/instructions issued by Directorate of Education, Govt. of NCT Delhi or Ministry of Human Resource Development, Govt. of India, or any other authority from time to time.

The kitchen so established for preparing food for Directorate of Education schools shall not be allowed in any condition to prepare food for any other agency/state/organization or for any other purpose.

Directorate of Education, Govt. of NCT Delhi can appoint any other agency/institute for monitoring and evaluation of Mid-day Meal Programme at any time for Third Party Evaluation.

Voluntary Organisation shall obtain No Objection Certificate from Health Department of MCD to run their kitchen at the designated site.

Voluntary Organisation shall obtain Fire Safety Certificate for the kitchen from the Fire Department.

The supply of cooked food from each kitchen shall be limited to minimum 50,000 and maximum 75,000 children of Primary and Upper Primary classes taken together. If the Voluntary Organisation does not supply cooked food on a particular day(s) or fails to replace the defective supply of cooked food

Annexure B
Infrastructure Required for Semi-Automated Kitchen

1. Kitchen should have a minimum plotted area of 500 square yards.
2. Adequate area for means of transport to unload raw materials.
3. Storeroom provided with racks and platforms for gunny bags with separate section for oil and others.
4. Separate area for washing prior to cooking of vegetables, rice, dal etc.
5. Rice cooking units with steam cookers and trays to cool rice and cooling facilitated by air blowers.
6. Puri making unit with dough kneader and puri making machine
7. Cooking/frying units with high pressure burners and vapour extraction hood/chimney.
8. Collection unit for fried puris along with oil drainers in packing area.
9. Work tables for vegetable processing, potato peelers and food processors or wet grinders for masala making.
10. Trolleys for loading cooked food.
11. Dish washing unit with sanitizer grease traps and filters to be installed in drains.
12. Storage area for containers, pots and pans.
13. Adequate aisle space of about 3 to 4 feet wide for the movement of personnel and material traffic.
14. Adequate garbage disposal management.
15. Loading station with platform and ramp.
16. Kota or durable stone flooring sloping towards the drains.
17. Wall tiled till 7 feet and the rest whitewashed with washable emulsion.
18. Ventilation with wire mesh.
19. Exhaust and chutes for vapour extraction.

20. Proper drains with removable covers.
21. Water purification system to be installed.
22. In storage area regular fumigation and pest control to be done every three months for protection against rodents.
23. Closed and secure containers, for transporting food and each container should be such that it can serve one section at a time.
24. Use of LPG to be properly secured through a piping system.
25. Boiler plant/solar water heating system for using hot water for cleaning.
26. Use of steam cooking concept.
27. Use of gloves, headgear, aprons.
28. Use of vegetable cutting machines, heavy duty grinders and other such equipments.
29. Fire protection measures to be taken for protection against any untoward incident.
30. Adequate water arrangement for cooking, cleaning and heating.
31. Adequate water disposal arrangement for waste water.
32. Oil trap for cleaning wasted oil so that it does not enter the drainage system.
33. Adequate lighting arrangement.
34. All the service providers shall maintain godown/storehouse along with kitchen or at a nearby place preferably within $\frac{1}{2}$ km from the kitchen.
35. Voluntary organizations should have adequate means for transporting the cooked food from kitchen to the concerned schools such as secured vans, auto tempo (cycle rickshaw shall be permitted where auto tempo cannot reach).
36. Toilet blocks and garbage collection place should be at a distance from the area where the food is to be prepared.