ISBN-978-81-973071-0-2
First Edition

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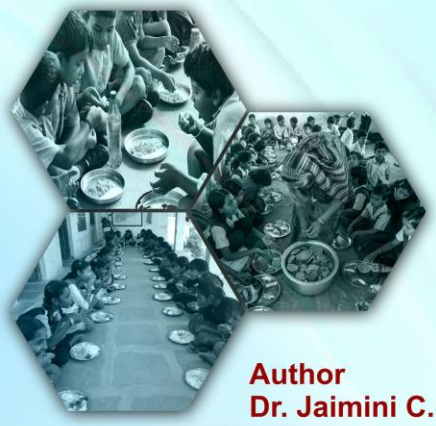
ISBN 978-81-973071-0-2
9 788197 307102

Mid Day Meal Scheme of Gujarat



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Published by:
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Published - 2024

ISBN: 978-81-973071-0-2

Published at: Kadi

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Preface

Dear Reader,

The purpose of this Development Role Manual for Mid-Day Meal (MDM) Scheme is to create an enabling mechanism for improved implementation of the Centrally Sponsored Scheme (CSS) at the cutting edge, leading to enhanced outcomes in nature and extent. Accordingly, it would act as a guide for implementation by the District Collector and key District-level functionaries, enable quick learning, implementation modalities, roles and responsibilities of the various functionaries as well as stakeholders. This Manual is prepared with inputs from a combination of sources, including interaction with the Ministry of Human Resource Development (MHRD), Government of India (GoI), review of extant scheme guidelines (issued in 2006) and circulars issued from time to time (up to 2017) by MHRD and discussions with the key personnel involved in implementation of the Scheme. For greater direction, the guidelines cited must be referred to along with the MHRD website for guidance and clarification on implementation from time to time.

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CHAPTER-1
INTRODUCTION

INTRODUCTION

Hunger, we feel sometimes, is the worst tribulation of being poor. Not knowing where the next meal is coming from day after day is a fear not many of us reading this have experienced. But, unfortunately millions do, every day.

For parents, nothing brings them down to their knees like a hungry child at home, who refuse to drink water again and again for breakfast, for lunch and for dinner. It is no surprise then that the number of malnourished and starving children in India is more than that in Sub-Saharan Africa.

Ever since the independence, India has been relying on the educational system for bringing about societal changes. It would not be an exaggeration to say that the country expected education to do wonders for it. Keeping this in view many commissions and committees have been appointed by Governments from time to time, to give suggestions for improvement in the education system of the country. The most significant common recommendation of all these commissions and committees has been the universalization of elementary education. The targets have been fixed, revised, refined and again re-revised to achieve universalization of elementary education. Despite efforts, a majority of the masses continue to remain deprived of elementary education. And the country is still one of those nine countries of the world where there is a heavy concentration of illiteracy and a higher incidence of poverty. The poor masses of the country are so pre-occupied with their economic pursuit for survival that they cannot even think of sparing their children for education, in their perception, that has little relevance to their everyday life.

Various schemes have been made and implemented for the elementary education sector by the Government to reach the disadvantaged population. However, despite this, crores of children are still deprived of elementary education due to inability of their parents to send them to schools because of their poor economic status. For, these parents, sending their children to school means not only incurring extra financial burden but also depriving them of some money which their children would have earned otherwise by doing labour.

In laborers working on Salal Hydro Project vs. State of J & K case (March 2, 1983), the Supreme Court considered the root cause of the problem, that why most of the parents did not send their children to schools. It was pointed out that augmenting their meager earnings through employment of children is very often the root cause of this problem. This is also the reason for

large drop outs from schools. There are millions of street children and child labourers in India. Instead of being provided with basic education, good health, care etc. they are sent out to streets or a work place to supplement the income of their families. Both the poor economic situation of the masses and their unfavorable attitude to education are adversely affecting the efforts for achieving universalization of elementary education. It has therefore become imperative to analyse this situation.

On the other hand, education at its best seeks to make better human beings, it is very important for the progress of individual and society. Education equips the child to become a useful member of the society and to play a constructive role in the socioeconomic development of the country. It is education which plays a vital and important role in fulfilling the basic needs of a common man viz. food, shelter and clothing. The main aim of education is to prepare and develop the child physically, mentally and spiritually to lead a quality life. Education is a process through which a child is made capable to attain the necessary competencies and skills to face the challenges in life to survive, and to make struggle for existence. Plato remarks, "Education develops in the body and in the soul of the pupil all the beauty and all the perfection of which he is capable of". Aristotle explained education as "the creation of a sound mind in a sound body" In the words of Gandhi ji, "By education I mean an all round drawing out the best in child and man body, mind and spirit'. It is clear from these views of educationists that, sound mind cannot be created, beauty and perfection in soul cannot be developed and even best in the child cannot be drawn out of weak body.

The Education Commission (1964-66) remarked that "Destiny of our nation is being shaped in our classrooms'" It has become even more relevant in the recent years. As the formal education has become a necessity to achieve the goal of national development and aim of education i.e. all round development of the individual. Today in India, many children have to work for the household in the morning and walk long distance to the schools with empty stomachs, this is more conspicuous with the girl child who has to fend a helping hand to the mother and then attend the school. These children stay at school for more than five to six hours a day and even longer, without taking food from their home. In these conditions mere feeding the mind of pupils with all kinds of information will not help in developing all the faculties of the children. Extensive emphasis on only intellectual aspect of human personality is against the fundamental principle of education.

Further, Gandhiji once remarked that, "To the hungry, food is God". Parulekar a follower of Gandhi ji also introduced a sociological perspective to education by talking in terms of 'needs' of Indian pupils. He drew attention to the interface between education and society

and felt strongly that in order to promote literacy in all sections of society, it is important that education is related to the real needs of people.

One century ago, Muckraker Robert Hunter (1904) expressed his concern for malnourished children in school. His argument is still valid today: " ... but the poverty of any family is likely to be most serious at the very time when the children most need nurture, when they are most dependent, and when they are obtaining the only education which they are ever to receive ... Learning is difficult because hungry stomachs and languid bodies and thin blood are not able to feed the brain. The lack of learning among so many poor children is certainly due, to an important extent, to this cause ... It is utter folly, from the point of view of learning, to have a compulsory school law which compels children, in that weak physical and mental state which results from poverty, to drag themselves to school and to sit at their desks, day in and day out, for several years, learning little or nothing. ”

School age is a dynamic period of growth and development as children undergo physical, mental, emotional and social changes during this period. It is one of the crucial periods of life, as about 40% of the physical growth and 80% of the mental growth take place during this period. The purpose of education is to identify the inner potentialities of the individual and provide all kinds of nourishment so as to enhance healthy growth and development of the individual to contribute to the well being of the society.

A hungry child is less likely to attend school regularly. Hunger drains of their will and ability to learn. Chronic hunger can lead to malnutrition. Chronic hunger also delays or stops the physical and mental growth of children. Poor or insufficient nutrition over time means that children are susceptible to diseases like measles or dysentery, which can kill malnourished children. Malnutrition adversely affects Universalization of Elementary Education. Even if a malnourished child does attend school, she finds it difficult to concentrate on and participate in the teaching learning activities in school. He or She therefore tends to drop-out, because of the inability to cope with studies. If the child does not actually drop out his or her attainment level tends to be low.

Therefore, in a country like India, to achieve universalization of education we have to fight on several fronts by providing immediate relief from hunger, disease, malnutrition etc. and creating conditions that would not let us lapse into poverty. As it is a well recognized fact that the educational development of children cannot take place without adequate attention to their health and nutritional status. Thus Indian Constitution under Article 47 has directed state governments that, they 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. Even

under the auspices of the UNICEF, India has provided every child the right to life and well - being, health care, nutritious food, clean water and shelter, protection from conflicts and injustice, education to acquire knowledge etc. These rights have been given but not realized.

Even today malnutrition is widely prevalent in India among growing children. By and large they are government school going children from poor families who cannot afford one square meal a day and are facing two types of hunger. The first is overt (or raw) hunger, or the need to fill the belly every few hours. The second type of hunger is "hidden hunger" for micronutrients. (e.g. vitamins, iron, iodine, zinc, calcium) that are required in tiny amounts. The National Nutrition Monitoring Bureau (2002) has clearly brought this out in its report on Diet and Nutrition status of Rural Population that, rural child in the one to six age group does from a deficiency of calories (about 40 percent) and proteins (about 10-20 percent), the deficits with regard to vitamins are truly alarming: about 75 percent for vitamin A, 65 percent for Vitamin C, 70 percent for riboflavin or vitamin B2, 35 percent for folic acid and so on. The deficits of minerals are also very large, e.g. about 70 percent for iron and 65 percent for calcium.

Doctors working in rural areas in Punjab have found that a large number of school children dropped out of schools were suffering from acute iron deficiency anemia (IDA). Most of such students stopped going to school as they were unable to carry out normal activities due to lack of energy and concentration. "We examined several children who had left school on the pretext that they were not able to understand anything. We got their hemoglobin checked and found them highly anemic," said Dr. Aslam Parvez, president of the Rural Medical Service Association (2004).

Many studies have proved that there is direct relationship between school performance and nutritional status of the child. Research suggests that providing students with opportunities to refuel with nutritious snacks and burn off some energy with physical activity can help maximize instructional time by improving attentiveness and decreasing disciplinary problems. Opportunities for healthy snacks and physical activity during the school day can help students to be more attentive during instruction. Healthy eating habits, including participation in school breakfast programs, are associated with higher academic test scores, improved daily attendance, and better classroom behavior (Miller Patti, 2011). Malnutrition at any stage of childhood affects schooling. Both underweight and micronutrient deficiencies - undermine educational attainment and, thus, the lifetime-earnings potential of the child. Some of the pathways through which malnutrition affects educational outcomes include a reduced capacity

to learn (as a result of early cognitive deficits or lowered current attention spans) and fewer total years of schooling (Gragnolati, Shekar et, al., 2005).

All these factors necessitate the provision of school feeding programme for all children. The ultimate goal of such school feeding programmes is in order to attain education, overcome food insecurity and health concerns. Even this has become a major concern of the United Nation Organisations as well. Once James T. Morris, Executive Director, UN World Food Programme said "Providing food and education is the single most important thing we can do for the development of the individual and his or her nation."

A properly designed nutritional support can be an additional incentive to help poor families meet expenditure incidental to effective learning and thereby can be a component of the package economic, pedagogical and institutional measures required for Universalisation of Elementary Education(UEE). Effective delivery of nutrition support is in conceivable without the facilitative role of the local community.... The success of the 'Green Revolution' and development of a large scale public distribution system have also created conditions facilitative for nutrition support for education. (Report of the Committee on Mid-Day Meals, 1995)

In India school feeding programmes have been functioning in various states of the country for over six decades, sponsored by many organizations from time to time. But in an attempt to address the problems of health and education at national level, the government created a solution in the form of National Programme of Nutritional Support to Primary Education, commonly known as the Mid-Day Meal Scheme (MDMS) in 1995. In 2007, the name of the scheme has been changed to 'National Programme of Mid-Day Meals in Schools'. Mid-Day Meal Scheme is essentially a child welfare programme. The idea behind this scheme was to develop the ignored aspect of child's development that is physical health of pupils, by providing nutritional diet in schools. This scheme is considered to be the most potential incentive for children belonging to disadvantaged class of society to attend school regularly and improve their health and academic status at the same time. Due to these considerations educational administrators and researcher's world over deliberated upon different aspects of this incentive.

Now the question arises why schools have been selected for the same? Schools are recognized as institutions that not only provide children their right of education but must also be seen as the only institutions that can offer all other rights to children. In fact, this is a clear understanding from Supreme Court's historic judgment, of November 2001, having far reaching implications for defining the role of schools, and the need to have every child in school. Provision of cooked food in all the states would mean that schools have a role in

providing better nutrition for children and alleviating hunger among children. It is felt that it is only when all children are in schools that their freedom from hunger is possible, and policy endeavors for their care and protection and a realization of their fullest potential can be achieved. Therefore, in order that children secure their rights such as right to food, right to health, right to education it must be predicated by the act of all children actually being in school (Sinha, 2004).

WHAT IS MID-DAY MEAL SCHEME?

On August, 1995, Mid-Day Meal Scheme was launched as a centrally sponsored scheme by the Ministry of Human Resource Development (Department of Education) with the objective of "Universalization of primary education by increasing enrolment, retention and attendance and simultaneously impacting on nutrition of students in primary classes". This scheme covers students of class I to V in government elementary schools, elementary schools aided by government and primary schools run by local bodied. Under this scheme, cooked Mid-Day Meals were to be introduced within two years. Until 2001, however the Mid-Day Meal Scheme was not implemented and most of the states were providing "dry rations" (food grains) at the rate of 3 kgs. per students per month, having minimum attendance of 80 percent. On November 28, 2001 Supreme Court in the "right to food" case directed all the states supplying food grains (wheat/ rice) free of cost on every govt. and govt. assisted primary school @ 100 gm per child, to serve cooked or processed hot meal with a minimum content of 300 calories and 8¬12 gms. of protein each day of school for a minimum of 200 days within three months.

The Apex Court intervened and vide its orders dated 28th November, 2001. The Supreme Court directed:

1. "We direct the State Governments/Union Territories to implement the Mid-Day Meal Scheme by providing every child in every Government and Government Assisted primary schools with a prepared Mid-Day Meal with minimum contents of 300 calories of energy and 8-12 grams of protein each day of school for a minimum of 200 days. Those Governments providing dry rations instead of cooked meals must within 3 months start providing cooked meals in all Government Aided primary schools in all half the districts of the state(in order of poverty) and must within a further period of 3 months extend the provisions of cooked meals to the remaining parts of the state. "
2. "We direct the Union of India and the FCI to ensure provision of fair average quality grain for the scheme on time. The State/Union Territories and the FCI are directed to do joint

inspection of food grains. If the food grains are found, on joint inspection, not to be of fair average quality, it has been replaced by the FCI prior to lifting".

Like many other states, Punjab could not switch over to cooked meal scheme from the very beginning due to few reasons inter alia due to paucity of funds involved in the conversion of food grains to cooked meal. However, in compliance with the Supreme Court's order dated 28.11.2001, cooked meal was provided to the children of primary classes in one block in every district of Punjab during the year 2002-03. The government of Punjab started providing cooked meal to all the students of primary classes in government elementary schools with effect from September, 2004 and for this purpose, a sum of Rs. 666.00 lakh during the financial year 2004-05 was released to the Deputy Commissioners, who were also the Chairmen of the respective District Level Steering-cum-Monitoring Committees for implementation of this scheme at district level. During the financial year 2005-06, a sum of Rs. 1309.86 lakh was released to the Deputy Commissioners as conversion cost for providing cooked meal to the students in the Government and Government-Aided Private Schools under the Scheme. Subsequently, it was extended to children enrolled under Education Guarantee Scheme (EGS) and Alternative Innovative Education (AIE) centers working under Sarva Shiksha Abhiyan Programme.

Very few states, however introduced cooked meal in primary schools before the Supreme Court's initial deadline of February, 28, 2002. The deadline was later extended to January, 2005 by Supreme Court. Till October 2004, serving of cooked meal could not be universalized in eight states which included certain major states. In many of the remaining states, quality of meal served to children was not satisfactory. Keeping these aspects in view, changes in the scheme had become necessary. Following the Supreme Court's orders the Government of India revised its guidelines for the Mid-Day Meal Scheme in 2004. According to these guidelines, the Mid-Day Meal Scheme was fully implemented in 20 states and all seven union territories, and partially in the remaining eight states, where scheme was not fully implemented. New guidelines were also provided for meals to be served during the summer vacations, in drought affected areas. Some states including Andhra Pradesh, Chhattisgarh, Karnataka and Tamil Nadu have been following this directive. The center after witnessing the successful implementation of the scheme revised the guidelines in 2006 and went a step further by increasing the calorific values of cooked food from 300 to over 450, 12 grams of proteins and adequate quantities of micro nutrients like iron, folic acid, vitamin A. In October 2007, the scheme was further revised to cover children in upper primary (classes VI to VIII). The scheme was again revised in April 2008 to extend the scheme to recognized as well as unrecognized

Madarasas/Maqtabs supported under Sarva Shiksha Abhiyan (SSA) as Government Aided centres. The programme was extended to all areas across the country from 2008-09.

EMERGENCE OF THE PROBLEM

Childhood is the period of rapid physical and mental growth, and development. Children's nutritional requirements are higher per unit of body weight than those of adults. Good food, adequate in quality and quantity is essential to stimulate and maintain their growth, to regulate their body function, to repair the tissues already formed, and to supply energy for work. If children are not provided with the nourishment they need, undernutrition and malnutrition of one type or other will inevitably result, the type and degree depending on the nutrients lacking in the diet.

'Undernutrition' refers to inadequacy of calories, while the term 'malnutrition' is associated with poor quality of meals. Undernutrition indicates that 'just more food' is the prominent need, whereas malnutrition means that the diet is lacking in one or more essential nutrients: proteins, vitamins and minerals. Malnutrition is caused by a number of factors and is not a deficiency. Dr. W.R. Aykroyd, one of the eminent nutrition workers, expressed, "The tragedy of malnutrition in children in India is so much that it not only leads to high mortality, but also cripples and permanently damages the growing generation. Among the many crippling effects of malnutrition probably the most dangerous is the impairness of vision in children. Malnutrition is dangerous also as a very important cause of the high mortality rates among children in India."

The problem of malnutrition affects not only the health of children, but also their attendance and performance in schools. Improperly or inadequately fed children cannot concentrate on their studies. In many parts of India, it is the custom for children to have a meal before they leave for the school and have no food until they return home in the late afternoon. Even more serious is the condition of children, of whom there are doubtless many, who come to school with empty stomachs. Therefore, many who attend schools are not able to study their lesson with interest and enthusiasm.

These problems have challenged the attention of the Government of India, State Governments, educationists and social and nutrition workers. Realising that health of children is the most important asset to the community, the Government of India has given a prominent place to Child Welfare in the Community Development programme. Thus the Mid-Day Meal Scheme as a part of the programme of Child Welfare has come to occupy a prominent place in our national plans.

But this is not sufficient if we want to have good results from this scheme. We will have to evaluate its working and the expected outcomes again and again, so that we can amend and improve the planning and working of this scheme.

The present study was a humble attempt in this direction. It was intended to evaluate the working and impact of Mid-Day Meal Scheme.

INDIA'S RESPONSE

The challenge for us in the country has been to ensure fewer and fewer children go to bed hungry. The Supreme Court of India in one of its landmark decisions, linked a feeding programme to the government's quality education programme. This was to encourage poor families to enroll their children in government schools and thereby enable them to guarantee at least one square meal a day. Called as MDMS, all State Governments in the country have to ensure that every child coming to a government school gets one wholesome meal for lunch on school days.

Logistically, the problem was tackled through government schools in India that educate 60 per cent of the country's children, most of them being from below poverty-line background (the family earns less than Rs 700 a month). With parents (often single) going off for wage labour early in the morning, the children usually come to school hungry because kitchen fires at home are only lit in the evenings after the father or the mother brings home the daily wage[1].

To address, the Government of India, in its wisdom, launched the MDMS. It was designed to provide every child enrolled in a government school, nutritiously cooked afternoon meal every day. The meal not only fights hunger, it brings a hungry child's attention back to the lessons, and it also encourages out-of-school children to get enrolled so that they can at least be assured of one wholesome meal every day.

The MDMS is a well-intentioned programme. Government of India has attempted to address the fundamental problems of health, education, and overall development of children in the country by implementing programme all over the country. It provides children with at least one nutritionally adequate meal a day. This program is known to lead to higher attention spans, better concentration, and improved class performance. School meal program also provides parents with a strong incentive to send children to school, thereby encouraging enrollment and reducing absenteeism and dropout rates. It supports health, nutrition, and education goals and consequently will have a multi-pronged impact on a nation's overall social and economic

[1] Manju Singh & Mishra N., Evaluation Study on Mid-Day Meal Programme in Meghalaya. Hyderabad: Council for Social Development, 2010. p.no.1

development. There is also evidence to suggest that apart from enhancing school attendance and child nutrition, Mid-Day meals have an important social value and foster equality. As children learn to sit together and share a common meal, one can expect some erosion of caste prejudices and class inequality. Moreover, cultural traditions and social structures often mean that girls are much more affected by hunger than boys. Thus the Mid-Day meal programme can also reduce the gender gap in education, since it enhances female school attendance. Mid-Day meal has also helped the poor families that, engulfed in poverty, hunger and starvation striving hard to have one square meal a day, cannot even think of sending their children to schools. The poor households such as those headed by widows or landless labourers value that assurance of a free lunch every day for their children. The contribution of Mid-Day meals to food security and child nutrition seems to be particularly crucial in tribal areas where hunger is endemic (Dreze and Goyal, 2003). School feeding Programme is a direct approach to improve the nutritional status of the children who are in the stage of rapid development requiring special nutritional requirement (Mishra, 2002; Dogra and Dogra, 2003). Highlighting the importance of MDM programme Saxena (2003) claimed that it has lowered the widespread incidence of malnutrition primarily among children of poor families and to increase their access to education. Shiva Kumar (2003) says that Mid-Day meal helps the malnourished and well-nourished children to overcome short term hunger and thereby increase their concentration and learning inside the classroom. It not only takes care of the dietary gap but can also be effective in ensuring that short-term hunger does not inhibit their capacity to learn (Mathew, 2003) This programme has created a very congenial atmosphere for education, health growth and overall well-being of the poor and needy children (Dhananjayan, 2003; Kanam, 2003). According to Shiva Kumar (2003), in poor countries like India school feeding programmes serve as an incentive for parents to enroll their children. They ensure higher attendance and reduce dropout rates. These programmes ncrease the possibility of retaining children in school for a longer period during day and thereby increasing the learning opportunities for them. According to Saihjee Aarti (2003), in recent survey, almost all schools (95%) in Tamil Nadu reported that noon meal programme has helped in increasing enrollment and retention of girls. Kameshwari's (2003) study reflects that Mid-Day meal has brought a sharp increase in school enrollment and attendance rates across all the states and more importantly narrowing the gender gaps in school attendance rates. Dreze and Goyal (2003) says that Mid-Day meal programme has helped in undermining caste prejudices by creating an atmosphere of seating together and sharing meal together in school. Shiv Kumar (2003) says that school feeding programme serve as a very effective mechanism for strengthening the socialization process. It helps to break the

caste and class barriers. The study done by Dreze and Goyal (2003) reveals that MDM provides an excellent opportunity for female employment in rural areas and liberating working women from the burden of having to feed the children at home during the day.

In India, the long-standing success of school meal schemes in States such as Kerala and Tamil Nadu and the continued food stock surplus led to the launching of the National Programme of Nutritional Support to Primary Education (or Mid-Day Meals Scheme) in 1995. According to the Department of Education, the Mid-Day Meals Scheme "is intended to give a boost to universalization of Primary Education by increasing enrolment, retention and attendance and simultaneously impacting upon nutritional status of students in primary classes."[2] This legislation was backed up in 2001 by a landmark Supreme Court order requiring the State governments to provide cooked Mid-Day meals to children studying in primary classes in all government schools. The central and State governments share the cost of converting the food grains into meals (cooks' salaries, additional food ingredients, dishes and utensils, etc.) Panchayats and other local governing bodies are responsible for organizing and monitoring the transportation of grains and regular provision of cooked meals in the government schools. Local governments may choose to have the cooked meals provided through NGOs, as long as coverage is limited to government, local body, and aided schools. The Mid-Day Meal Scheme does not normally extend to private unaided schools and non-formal schools.[3]

Despite all the successes attributed to food against education programs in India, the net impact of the Mid-Day Meals Scheme on the educational and nutritional status of primary school children in the Sabarkantha area is under debate. Since the introduction of the program in 1984, local newspapers have published reports of children and teachers spending class hours fetching firewood and stirring pots of sabji instead of teaching and learning. Teachers complain that even when they are able to hire a cook, they must spend an inordinate amount of time supervising meal preparation and keeping records, and that funds provided by the government are inadequate for providing quality meals. Cooks are dissatisfied with their meager salaries, and children are tired of the everlasting khichadi.

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2 "National Programme of Nutritional Support to Primary Education." The Department of Education, Government of India. 2005

3 "National Programme of Nutritional Support to Primary Education." The Department of Education, Government of India. 2005

8.41 Cr. Primary children and 3.36 Cr Upper Primary children i.e., a total of 11.77 Cr children were estimated to be benefited from MDM Scheme during 2009-10. 11.04 Crore children were covered under MDM Scheme during 2009-10.

During 2010-11 11.36 Cr children i.e., 7.97 Cr. children in primary and 3.39 Cr. children in upper primary are expected to be covered in 12.63 lakhs institutions.

Today, Mid-Day Meal scheme is serving primary and upper primary school children in entire country.

Thus, this scheme is one of the most enthuse scheme of the Government. Is it effective to attract students to come? What kind of problems related to the implementation? What kind of support of the society? These questions made curious to researcher to make research for the above subject.

STATEMENT OF THE RESEARCH PROBLEM

There are two types of research problems, viz., those which relate to states of nature and those which relate to relationships between variables. At the very outset the researcher must single out the problem he wants to study, i.e., he must decide the general area of interest or aspect of a subject-matter that he would like to inquire into. Initially the problem may be stated in a broad general way and then the ambiguities, if any, relating to the problem be resolved. Then, the feasibility of a particular solution has to be considered before a working formulation of the problem can be set up. The formulation of a general topic into a specific research problem, thus, constitutes the first step in a scientific enquiry. Essentially two steps are involved in formulating the research problem, viz., understanding the problem thoroughly, and rephrasing the same into meaningful terms from an analytical point of view.

To investigate the impact of Mid-Day Meal Scheme implemented in government aided primary schools of Sabarkantha district, the researcher has coin the research title in this manner:

An Evaluation of the Mid-Day Meal Scheme in Gujarat

(A Special References to Sabarkantha District)

RESEARCH OBJECTIVES

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Each research study has its own specific purpose. To investigate the impact of Mid-Day Meal Scheme on educational development of the students, the researcher has set following objective of the research.

- To construct and validate a research tool "Mid-Day Meal Opinionnaire" for Teachers, Students, Parents and Organizer of Mid-Day Meal Scheme.
- To find out the important factor of "Mid-Day Meal Opinionnaire" for Teachers, Students, Parents and Organizer of Mid-Day Meal Scheme.
- To find out the Satisfaction level of students and teacher towards various aspect of MDM scheme
- To find out the most important aspect of MDM which leads towards the overall satisfaction of students and teacher towards MDM
- To investigate the impact of demographic variable on opinion of teacher, parents, students and organizer towards MDM
- To investigate the impact of demographic variables of students and teacher on the satisfaction level of various aspect of MDM and overall satisfaction level also.

RESEARCH AREA OF THE STUDY

In present time, too many researches are being conducted by the researchers all over the world. In the faculty of education. Every research is related with one or more than one research area. It is important for a researcher to identify the research area of the study.

Shah (2004)[4] has narrated research area as follow: 1) curriculum development, 2) educational measurement and evaluation, 3) value education, 4) regulation and education, 5) economics of education, 6) social change and education, 7) stages of education developments, 8) educational administration and management, 9) education and employment etc.

In present study, researcher has to investigate the effectiveness of Mid-Day Meal Scheme implemented in primary school. So area of this study was educational administration and management.

RESEARCH TYPE OF THE STUDY

Research is a scientific process. Nowadays, research is a cyclical process of steps that typically begins with identifying a research problem or issue of study. It then involves reviewing the literature, specifying a purpose for the study, collecting and analyzing data, and forming an interpretation of the information. This process culminates in a report, disseminated to audiences, which is evaluated and used in the educational community. The classification of educational research, given by ***Uchat (2005)***[5]***,*** is as shown in figure 1.1 bellow.

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4 D. B. Shah. Shaikshanik Sansodhan. Ahmedabad: University Granth Nirman Board, Gujarat Rajya, 2004, p.n.52.

5 D. A. Uchat, ***Sanshodhan Darshan.*** Rajkot: Parash Prakashan, 2005, p.n.1.

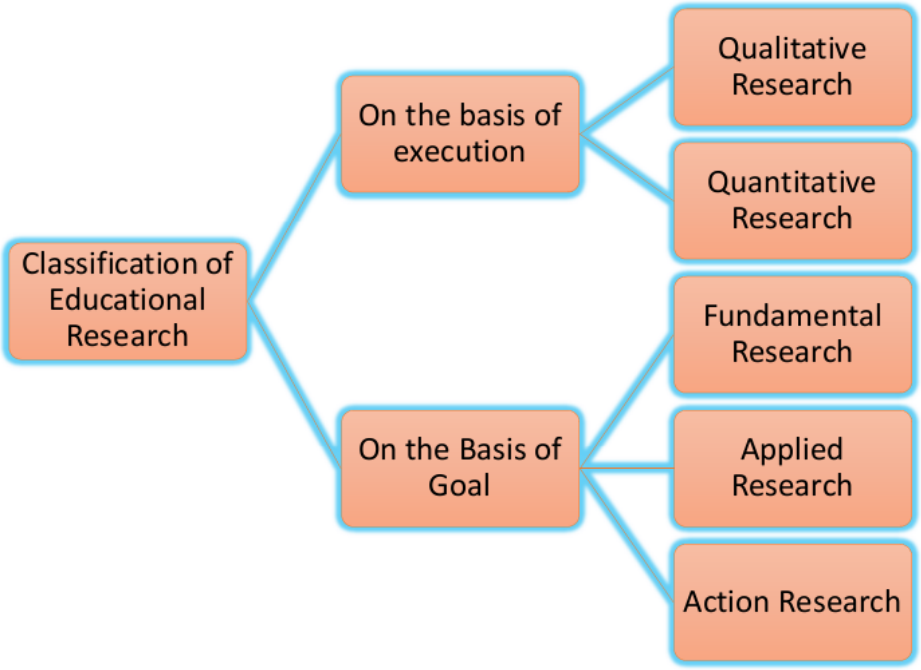

Figure 1.1: classification of educational research

On the Basis of Execution: Education research can be classified in two types according to the execution of the research.

Qualitative Research: This type of research is Exploratory & understanding oriented. Literature review plays a minor role in this type of research. Sometimes the Purpose of the study is general and broad. Date collection is emerging from protocol, text or image data. Generally, conclusion may be drawn through text analysis.

Quantitative Research: This type of research is description and explanation oriented. Literature review plays a major role in this type of research. The Purpose of this type of study is scientific and measurable. The data collected in this type of research, are predetermined, instruments and numeric. There are several statistical tests available to analyze this kind of data.

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e.,

research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour. Through such research we can analyze the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists. The present study can be put under qualitative research.

On the Basis of Goal: Education research can be classified in three types according to the goal of the research.

Fundamental Research: In this type of research, some basic principles of science can be drawn. Findings of the study cannot have applied directly to the beneficiary. Research directed toward the increase of knowledge, the primary aim being a greater knowledge or understanding of the subject under study.

Applied Research: Applied research can be undertaking to solve the problems. Generally, applied research is not focusing to enhance knowledge. But the goal of this type of research is to apply the theories in practice.

Action Research: Action research is a practical approach to professional inquiry in any social situation. The examples in this component relate to education and are therefore of particular relevance to teachers or lecturers engaged in their daily contact with children or students. But professional practice need not be teaching: it may be management or administration in a school or college, or it may be in an unrelated area, such as medicine or the social services. The context for professional inquiry might change, but the principles and processes involved in action research are the same, regardless of the nature of the practice.

Research can either be applied (or action) research or fundamental (to basic or pure) research. Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organization, whereas fundamental research is mainly concerned with generalizations and with the formulation of a theory. “Gathering knowledge for knowledge’s sake is termed ‘pure’ or ‘basic’ research.” Research concerning some natural phenomenon or relating to pure mathematics are examples of fundamental research. Similarly, research studies, concerning human behaviour carried on with a view to make generalisations about human behaviour, are also examples of fundamental research, but research aimed at certain conclusions (say, a solution) facing a concrete social or business problem is an example of applied research. Research to identify social, economic or political trends that may affect a

particular institution or the copy research (research to find out whether certain communications will be read and understood) or the marketing research or evaluation research are examples of applied research. Thus, the central aim of applied research is to discover a solution for some pressing practical problem, whereas basic research is directed towards finding information that has a broad base of applications and thus, adds to the already existing organized body of scientific knowledge. By nature, the present study can be putted under applied research. Because primary aim of this research is to identify the problems in implementation of Mid-Day Meal Scheme and give suggestions for better practice.

According to ***Ross K. N. (2005)[6],*** there are many types of educational research studies and there are also a number of ways in which they may be classified. Studies may be classified according to topic whereby the particular phenomena being investigated are used to group the studies. Some examples of educational research topics are: teaching methods, school administration, classroom environment, school finance, etc. A more widely applied way of classifying educational research studies is to define the various types of research according to the kinds of information that they provide. Accordingly, educational research studies may be classified as follows:

1. ***Historical research*** generates descriptions, and sometimes attempted explanations, of conditions, situations, and events that have occurred in the past. For example, a study that documents the evolution of teacher training programs since the turn of the century, with the aim of explaining the historical origins of the content and processes of current programs.
2. ***Descriptive research*** provides information about conditions, situations, and events that occur in the present. For example, a survey of the physical condition of school buildings in order to establish a descriptive profile of the facilities that exist in a typical school.
3. ***Correlational research*** involves the search for relationships between variables through the use of various measures of statistical association. For example, an investigation of the relationship between teachers' satisfaction with their job and various factors describing the provision and quality of teacher housing, salaries, leave entitlements, and the availability of classroom supplies.
4. ***Causal research*** aims to suggest causal linkages between variables by observing existing phenomena and then searching back through available data in order to try to

[6] K. N. Ross. ***Educational Research: Some Basic Concepts and Terminology.*** Paris, France: International Institute for Educational Planning/UNESCO, 2005, p.n.2

identify plausible causal relationships. For example, a study of factors related to student 'drop out' from secondary school using data obtained from school records over the past decade.

5. ***Experimental research*** is used in settings where variables defining one or more 'causes' can be manipulated in a systematic fashion in order to discern 'effects' on other variables. For example, an investigation of the effectiveness of two new textbooks using random assignment of teachers and students to three groups – two groups for each of the new textbooks, and one group as a 'control' group to use the existing textbook.
6. ***Case study*** research generally refers to two distinct research approaches. The first consists of an in-depth study of a particular student, classroom, or school with the aim of producing a nuanced description of the pervading cultural setting that affects education, and an account of the interactions that take place between students and other relevant persons. For example, an in-depth exploration of the patterns of friendship between students in a single class. The second approach to Case Study Research involves the application of quantitative research methods to non-probability samples – which provide results that are not necessarily designed to be generalizable to wider populations. For example, a survey of the reading achievements of the students in one rural region of a particular country.
7. ***Ethnographic research*** usually consists of a description of events that occur within the life of a group – with particular reference to the interaction of individuals in the context of the sociocultural norms, rituals, and beliefs shared by the group. The researcher generally participates in some part of the normal life of the group and uses what he or she learns from this participation to understand the interactions between group members. For example, a detailed account of the daily tasks and interactions encountered by a school principal using observations gathered by a researcher who is placed in the position of 'Principal's Assistant' in order to become fully involved in the daily life of the school.
8. ***Research and development research*** differs from the above types of research in that, rather than bringing new information to light, it focuses on the interaction between research and the production and evaluation of a new product. This type of research can be 'formative' (by collecting evaluative information about the product while it is being developed with the aim of using such information to modify and improve the development process). For example, an investigation of teachers' reactions to the various drafts and redrafts of a new mathematics teaching kit, with the information

gathered at each stage being used to improve each stage of the drafting process. Alternatively, it can be 'summative' (by evaluating the worth of the final product, especially in comparison to some other competing product). For example, a comparison of the mathematics achievement of students exposed to a new mathematics teaching kit in comparison with students exposed to the established mathematics curriculum.

Present study can be putted under descriptive research. Because this study will provide information about condition and situation of Mid-Day Meal Scheme.

RESEARCH QUESTIONS OF THE STUDY

The research question is one of the first methodological steps the investigator has to take when undertaking research. The research question must be accurately and clearly defined.

Choosing a research question is the central element of both quantitative and qualitative research and in some cases it may precede construction of the conceptual framework of study. In all cases, it makes the theoretical assumptions in the framework more explicit, most of all it indicates what the researcher wants to know most and first. The researcher then carries out the research necessary to answer the research question, whether this involves reading secondary sources over a few days for an undergraduate term paper or carrying out primary research over years for a major project.

To investigate implementation of Mid-Day Meal Scheme, the researcher has form the research questions as given below:

1. Management of meal provision in schools:
   - Are meals being provided regularly?
   - What kind of cooking facility has been provided?
   - Is wheat supply and funding always received in full?
   - Is wheat supply and funding always delivered on time?
   - Is the wheat and funding provided adequate for the needs of the school meal program?
   - How much time must teachers spend managing the program?
   - Is the school meal program disruptive to teaching and learning activities?
   - Is the work manageable for the cooks, and are they satisfied with their salaries?
2. Quality of the school meals:
   - What foods are prepared, and what variation is there from day to day?
   - Is sufficient food prepared for each child to have a filling meal?
   - How palatable are the school meals? Do children like them?
   - Have children ever gotten sick from eating the school meals?

3. Impact of the school meals:

- What effect has the introduction of school meals had on parents' decision to enroll their children in school?
- Do parents send their children to school more regularly because of the meals?
- Do children wish to attend school more regularly because of the meals?
- Has the yearly enrollment rate increased significantly since the meal program was started?
- Has daily attendance increased significantly since the meal program was introduced?
- Has children's academic performance improved as a result of the school meals?
- How do school meals compare to what children eat at home?
- Do children eat less at home because they receive meals in school?

OPERATIONAL DEFINITION OF TERMS

Much misunderstanding in human communication results from people bringing different meanings to the words they use in speaking and writing. Effective researchers seek to avoid this difficulty by clearly explaining the meanings they assign to key terms in their investigations. If, early in the research process, you define precisely what you intend by words and phrases crucial to your project, (a) you help identify appropriate methods of gathering and interpreting data and (b) your advisors can judge at the outset how well they agree with your definitions, thereby saving you possible trouble during subsequent stages of your research. The terms key words and key phrases refer to concepts at the core of your study, concepts that must be unambiguous if you are to conduct your research with proper care and if the procedures and outcomes are to be properly understood by your reading audience. The researcher has define the key terms used in this research title is as follow:

Mid-Day Meal Scheme: The Mid-Day Meal Scheme is a multi-faceted programme of the Government of India that, among other things, seeks to address issues of food security, lack of nutrition and access to education on a pan nation scale. It involves provision for free lunch on working days for children in Primary and Upper Primary Classes in Government, Government Aided, Local Body, Education Guarantee Scheme (EGS) and Alternate Innovative Education (AIE) Centres, Madarsa and Maqtabs supported under Sarva Shiksha Abhiyan and National Child Labour Project (NCLP) Schools run by Ministry of Labour. The primary objective of the scheme is to provide hot cooked meal to children of primary and upper primary classes.

Primary Education: Primary education is the first stage of compulsory education. It is preceded by pre-school or nursery education and is followed by secondary education. In North America, this stage of education is usually known as elementary education and is generally followed by middle school. Typically, primary education is provided in schools, where the child will stay in steadily advancing classes until they complete it and move on to high school/secondary school. Children are usually placed in classes with one teacher who will be primarily responsible for their education and welfare for that year. This teacher may be assisted to varying degrees by specialist teachers in certain subject areas, often music or physical education. The continuity with a single teacher and the opportunity to build up a close relationship with the class is a notable feature of the primary education system. The main purpose of primary education is to give children a strong foundation in the basics of a general curriculum, with an emphasis on reading and math. Primary education usually composed of grades one through eight. In fact, grade one to five known as lower primary and grade six to eight is known as upper primary.

For this research purpose, the researcher has limited this widely used term. Primary education means elementary education given in lower primary and upper primary schools of Sabarkantha district.

Effectiveness of Mid-Day meal scheme: For this research, the response given by the samples towards research tool was call as effectiveness of Mid-Day meal scheme.

ROLE AND IMPORTANCE OF THIS RESEARCH

Research means the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions. In other words, it is the collection of evidence or information for ascertaining an assumption or verifying some hypothesis. In simple words we can say *Research* is the combination of Re + Search which means, the repetition of search. It means a search for facts, answers to questions and solution to problems. Research is considered as the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct, or verify knowledge, whether the knowledge aids in construction of theory or in the practice of an art. It is a systematized effort to gain knowledge. It presents more information for investigation. This allows for improvements based on greater information and study. It is very important. The main importance of research is to produce knowledge that can be applied outside a research setting. Research also forms the foundation of program development and policies everywhere around the universe. Educational research is important

because it allows us to assess and review the quality of schools and education. It allows for reform and policy change.

Research provides the basis for nearly all government policies in our economic system. For instance, government's budgets rest in part on an analysis of the needs and desires of the people and on the availability of revenues to meet these needs. The cost of needs has to be equated to probable revenues and this is a field where research is most needed. Through research we can devise alternative policies and can as well examine the consequences of each of these alternatives. Decision-making may not be a part of research, but research certainly facilitates the decisions of the policy maker. Government has also to chalk out programmes for dealing with all facets of the country's existence and most of these will be related directly or indirectly to economic conditions. The plight of cultivators, the problems of big and small business and industry, working conditions, trade union activities, the problems of distribution, even the size and nature of defense services are matters requiring research. Thus, research is considered necessary with regard to the allocation of nation's resources. Another area in government, where research is necessary, is collecting information on the economic and social structure of the nation. Such information indicates what is happening in the economy and what changes are taking place. Collecting such statistical information is by no means a routine task, but it involves a variety of research problems. Research is important for social scientists in studying social relationships and in seeking answers to various social problems. It provides the intellectual satisfaction of knowing a few things just for the sake of knowledge and also has practical utility for the social scientist to know for the sake of being able to do something better or in a more efficient manner.

The importance of this research is as follow:

- One can know the effectiveness of Mid-Day meal scheme in Sabarkantha district.
- On the base of this study, approach of the students toward attendance because of the Mid-Day Meal Scheme can be defined.
- On the base of this research work, the problems of the Teachers, Principal and the management body of the Mid Day Meal Scheme can be defined.
- The opinion of the teachers of Sabarkantha district toward Mid-Day meal scheme can be find out.
- The opinion of the students of Sabarkantha district toward Mid-Day meal scheme can be find out.

- The opinion of the parents of Sabarkantha district toward Mid-Day meal scheme can be find out.
- The opinion of the Mid-Day meal scheme manager of Sabarkantha district toward Mid-Day meal scheme can be find out.
- On the base of this research work, other researchers can make new researches on this scheme.
- This research work is important to make future planning for the improvement of the scheme. This research is very useful for the policy makers of Mid-Day meal scheme.

SCOPE OF THIS RESEARCH

The scope of research refers to the areas that were covered in the research such as research populations, samples etc. Finding and suggestions of any research cannot be applied directly to any kind of population or samples. The scope of the present research was as given bellow:

- The study was conducted only for Sabarkantha district stake holders.
- Only government primary schools were selected as sample of the study.
- The sample for this study, the teachers, parents and students, were belong to academic year 2012-13 only.

LIMITATIONS OF THIS RESEARCH

Though at first glance, it may seem as though the scope and limitations of research would be the same; however, they are actually quite different. The scope of research is the areas covered in the research. This part of the research report, the researcher should clear exactly what was done and where the information that was used specifically came from. The type of information that would be included in the scope of a research project would include facts and theories about the subject of the project. Depending on the subject, the scope can be large or small, as there are different materials available for different projects. The limitations, also known as the bounds, are the cease of the scope of studies. When enough information has been gathered from a scope of a study, the individual who is doing the project may "wrap up" the information once a conclusion can be formed. Projects with too much information may bore or overwhelm the audience and cause the project to be ineffective due to the lack of information retained. For example, the scope would be something such as a person gathering information from children between the ages of five years of age to 18 years of age. The information could be used for several purposes, such as for school record keeping. The limitations of this study would include the decision to not gather information from students from college and up. The

information for school record keeping would not include those who have already graduated high school; therefore, information collected from college students and beyond would be irrelevant. Every research project includes scopes and limitations of the material being researched. Without these two factors, the reports would be meaningless and drone on for a length of time, and would not benefit anyone in the long run. The limitations of this research work are as follow:

- To get response from samples the researcher has constructed four tools (Mid-Day Meal Opinionnaire). So the limitations of that tool will automatically apply to this research.
- The researcher has appealed to the sample to give their honest response. In spite of that, it is quite possible that some of them have not gave their honest response. And this could be another limitation of this research.
- This research was conducted in academic year 2012-13. So the responses to these opinionnaires, were according to the implementation of the Mid-Day meal scheme till date. In future, if some innovative practice appears in implementation of Mid-Day meal scheme the response can be varying.

OVERVIEW OF THIS RESEARCH

From the very beginning to the end, how this research was gone though is prescribe in figure 1.2 below.

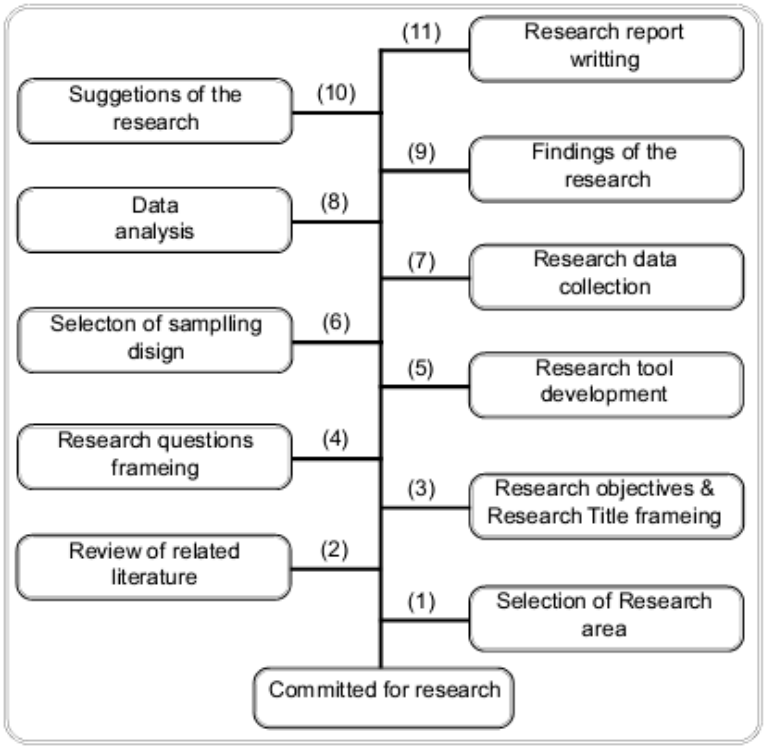

Figure 1.2 Overview of the Research

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CHAPTER-2

RELATED LITERATURE REVIEW

INTRODUCTION

In developing countries like India, food insecurity poses a threat to the health, education, and overall development of children and is of critical concern to governments. Governments have addressed this fundamental problem by implementing school meal programmes that provide children with at least one nutritionally adequate meal a day. These programmers are known to lead to higher attention spans, better concentration, and improved class performance. In India, the programme known as "MID-DAY MEAL SCHEME." Mid-Day meal scheme also provides parents with a strong incentive to send children to school, thereby encouraging enrollment and reducing absenteeism and dropout rates. Mid-Day meal scheme support health, nutrition, and education goals and consequently have a multipronged impact on a nation's overall social and economic development.

During research work a researcher has to review literature which is related with the topic of the research. Review of related literature will increase research skill of the researcher.

There are various ways to review the related literature. According to Shah (2004)[7] mainly there are two way to review the related literature.

1. **Conceptual literature**: it includes books and other literature about the problem of the study, in which principles and concepts of the research topic can be define. By review of this kind of literature researcher can become clear mind about the research topic. Researcher can broad his view related the problem of the study by review this kind of literature.
2. **Research literature:** It includes research reports like thesis, dissertations, research papers, etc. Research report of previously done research can be very useful to decide the way of current research.

The researcher has divided this chapter in two parts. Part-1 includes conceptual review of related literature. Part-2 includes review of previously done research work in the same field of the research.

CONCEPTUAL REVIEW OF RELATED LITERATURE

Following point has been covered under conceptual review of related literature.

History of Mid-Day meal scheme:

Economic logic behind Mid-Day meal scheme

[7] D.B.Shah, **Shaikshanik Sansodhan**. Ahmedabad: University Granth Nirman Board-Gujarat Rajya, 2004, p.no.28.

Objectives of Mid-Day meal scheme

Three tiered perspective on Mid-Day meal scheme

Administrative structure of Mid-Day meal scheme

Process of plan Formulation

Multi-level Responsibility

Logo of Mid-Day meal scheme

Menu for Mid-Day meal scheme

Food grain management for Mid-Day meal scheme

Fund flow for Mid-Day meal scheme

Staffing for Mid-Day meal scheme

History of Mid-Day meal scheme:

The Mid-Day Meal Scheme is the popular name for school meal programme in India. Free Mid-Day meals for school students were first introduced in a Japanese private school in the late 1800s, in Brazil in 1938 and in the United States in 1946. It involves provision of lunch free of cost to school-children on all working days. The key objectives of the programme are: protecting children from classroom hunger, increasing school enrolment and attendance, improved socialization among children belonging to all castes, addressing malnutrition, and social empowerment through provision of employment to women. The scheme has a long history especially in Tamil Nadu and Gujarat, and has been expanded to all parts of India after a landmark direction by the Supreme Court of India on November 28, 2001. The success of this scheme is illustrated by the tremendous increase in the school participation and completion rates in the state of Tamilnadu. 12 crores (120 million) children are so far covered under the Mid-Day Meal Scheme, which is the largest school lunch programme in the world. Allocation for this programme has been enhanced from Rs 3010 crore to Rs 4813 crore (Rs 48 billion, $1.2 billion) in 2006-2007

One of the pioneers of the scheme is the Madras Presidency that started providing cooked meals to children in corporation schools in the Madras city in 1923. The programme was introduced in a large scale in 1960s under the Chief Ministership of K. Kamaraj.

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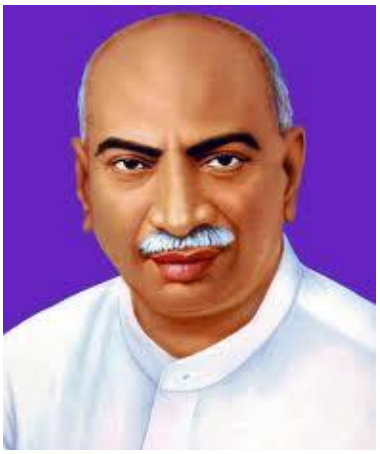

Figure 2.1: K. Kamaraj

There is an interesting story about how K. Kamaraj got the idea of a noon meal scheme. The spark is said to have occurred in a small village (now a town) called Cheranmahadevi in Tirunelveli District of Tamil Nadu. K Kamarajar was a very simple person who used to travel in his car (even without the red lamp at the top) and was not accustomed to convoys.

On one such journey, he had to stop at the railway intersection in Cheranmahadevi and got out of the car and waited. He saw a few boys busy with their cows and goats. The Chief Minister had asked one small boy, "What are you doing with these cows? Why didn't you go to school?" The boy immediately answered, "If I go to school, will you give me food to eat? I can learn only if I eat." The boy's retort sparked the entire process into establishing the Mid-Day meal programme.

But the first major thrust came in 1982 when the then Chief Minister of Tamil Nadu, Dr. M. G. Ramachandran, decided to universalise the scheme for all children in government schools in primary classes. Later the programme was expanded to cover all children up to class 10. Tamil Nadu’s Mid-Day meal programme is among the best known in the country.

Several other states of India also have had Mid-Day meal programme. The most notable among them is Gujarat that has had it since the late 1980s. Kerala started providing cooked meals in schools since 1995 and so did Madhya Pradesh and Orissa in small pockets. On November 28, 2001 the Supreme Court of India gave a landmark direction, which made it obligatory for the government to provide cooked meals to all children in all government and government assisted primary schools. The direction was resisted vigorously by State governments initially, but the programme has become almost universal by 2005.

National Programme for Nutrition Support to Primary Education

Although the programme in Tamil Nadu was initially termed as an act of "Populism", the success of the scheme made the project hugely popular. The success was so spectacular that in 1995, the then Indian prime minister P. V. Narsimha Rao hailed the success of the project

and suggested that the scheme be implemented all over the country, and thus began the "National Programme for Nutrition Support to Primary Education". National Programme of Nutritional Support to Primary Education (NPNSPE) was launched as a Centrally Sponsored Scheme on 15 Aug, 1995 with intent to increase enrollment, retention and attendance of school going children. This was launched initially in 2408 blocks in the country, by the year 1997-98. The NP-NSPE was introduced in all blocks of the country. Today, the NP-NSPE is the world's largest school meal programme covering around 12 Crore children in over 9.50 Lacs schools across India. The programme involves contribution from Central and State Government. According to the programme the Government of India will provide grains free of cost and the States will provide the costs of other ingredients, salaries and infrastructure. Since most State governments were unwilling to commit budgetary resources they just passed on the grains from Government of India to the parents. This system was called provision of 'dry rations'. On November 28, 2001 the Supreme Court of India gave a famous direction that made it mandatory for the state governments to provide cooked meals instead of 'dry rations'. The direction was to be implemented from June 2002, but was violated by most States. But with sustained pressure from the court, media and in particular from the Right to Food Campaign (http://righttofoodindia.org/) more and more states started providing cooked meals.

In May 2004 a new coalition government was formed in the Centre, which promised universal provision of cooked meals fully funded by the Centre. This promise in its Common Minimum Programme was followed by enhanced financial support to the states for cooking and building sufficient infrastructure. Given this additional support the scheme has expanded its reach to cover most children in primary schools in India.

Economic logic behind Mid-Day meal scheme

There is certain economic logic behind the Mid-Day Meal Scheme in India. According to Deodhar (2007)[8] the simplest answer to implementing the spirit of Mid-Day Meal Scheme could have been to give direct income support to eligible disadvantaged households. Consider the choice a household makes between spending money on food for the Children and spending money on other goods.

[8] S. Y. Deodhar & others**, Mid-day meal scheme: understanding critical issues with reference to Ahmedabad city**. Research publication, IIM-Ahmedabd,2007, p.no.3

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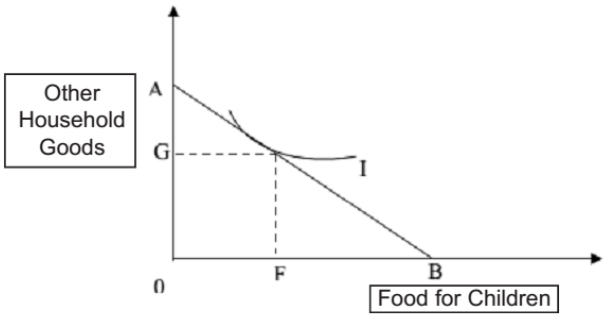

Figure 2.2: Household Spending on Food for Children and Other Household Goods

The preference for these two goods for a household is shown by an indifference curve I as shown in Figure 2.2. At the same time, the household has its budget (income) constraint given by the line segment AB. Given the preferences and the income constraint, a household chooses a bundle (F, G) that maximizes its utility. If government for that matter, gives direct income support to the targeted households, there is no guarantee that food consumption of the Children will go up. As shown in Figure 2.3, with income support, the household budget constraint shifts outward, say to line segment MN.

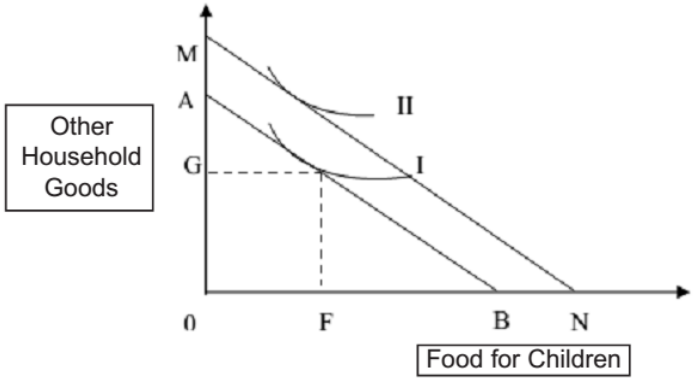

Figure 2.3: Spending on Food for Children and Other Household Goods With Income Support

The household preference for the two goods is such (indifference curve II) that food consumption of the kids may go down further, for disadvantaged households may choose other goods even more.

This perverse choice results because disadvantaged households do not have full information about nutritional aspects and the long term benefits of healthy upbringing. Another solution to this could be on the lines of Food Stamps Program that is implemented in the United States. Disadvantaged households are given food stamps which they can exchange for food items in the grocery shops. For example, a four member household which has gross (net) income level of $26,000 ($20,000) or less is eligible for about $500 worth of food stamps per

month[9]. However, such food stamp scheme may not work in the context of India's Mid-Day Meal Scheme for the same reason mentioned above. A secondary market may evolve for food stamps where disadvantaged households may sell the food stamps to relatively well-off households at discounts and use the money for other goods as mentioned above. And, even if the households use the stamps for their own use, one does not know how much will go to the kids. Therefore, the situations will be similar to the one described in Figure 2.2.

The long term solution to this problem is to have an extension activity to educate disadvantaged households about the importance of nutrition and healthy growth of children. Basically, this amounts to changing the household preferences (indifference curves I and II in the diagrams above) in favor of food consumption by the kids. If this is achieved by health ministries and departments at various governmental levels in the long run, then one can think of providing income support or food stamps to disadvantageous households. However, one is uncertain about how long is the long run and what would be the degree of impact of the extension activity. Hence, something urgent needs to be done in the short and the medium run. The solution lies in providing incentive in such a fashion that households choose to send their kids to school and increase kids' food consumption.

This possibility is described in Figure 2.4. Instead of giving income support or food stamps,

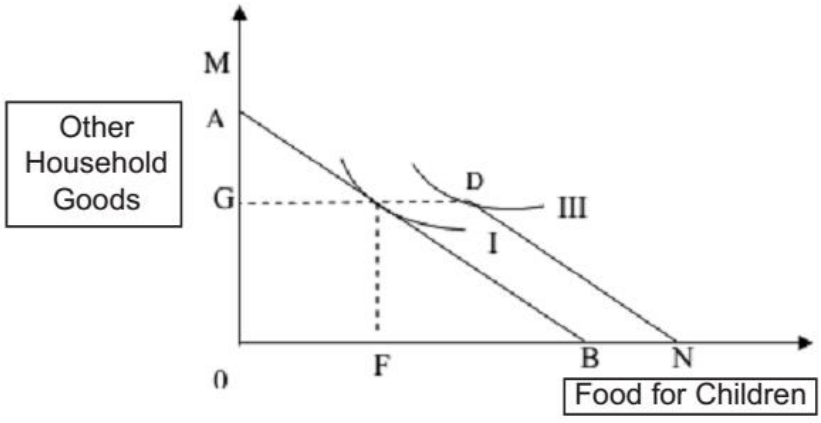

Figure 2.4: Increase in Kids' Food Consumption with MDM Scheme in Place

government or an NGO organizes to provide lunch in (mostly) government run schools where kids of the disadvantage households get enrolled. The new budget line of the disadvantageous households is now GDN. i.e., since, no income support is given, no food stamps are distributed, and kids take their lunch at school (parents cannot resell the lunch), the MD part of the spending

[9] Source: Food Stamps Program, http://www.fns.usda.gov/fsp/applicant_recipients/fs_Res_Ben_Elig.htm

option is just not available to the households. Given the household preferences are not changed, the optimal decision occurs at point D, a corner solution. Households do not alter their spending on other goods but they end up providing higher consumption of food to their children. Indifference curve III represents this situation where the household has a higher level of satisfaction as compared to no-scheme situation. As described in Figure 2.3, if the MD portion of the budget line was available to households, they would have increased their "satisfaction" further by being on the in difference curve II. But that situation is not socially optimal as disadvantageous households do not have full information about nutritional aspects and long term benefits of healthy upbringing.

Objectives of Mid-Day meal scheme

According to commissionerate of Mdm - Gujarat[10]

- To improve the nutritional and health standard of the growing children.
- To reduce drop-out rate and to increase attendance and to attract poorer children to come to the school.
- To create supplementary employment opportunities at the village level.
- To promote social and national integration.
- To supplement the state efforts towards reduction in poverty.

The salient features of the MDM scheme are as follows:

(i) The central government provides foodgrains (wheat and rice) free of cost through the Food Corporation of India (FCI).

(ii) Food grains (wheat/rice) are allocated at the rate of 100 grams per child per school day where cooked/processed hot meal is being served and 3 kg per student per month subject to a minimum attendance of 80 per cent by the students where foodgrains are being distributed.

(iii) The programme is being implemented through panchayats and nagarpalikas. The scheme envisages for serving of cooked meals having a calorific value of equivalent of 100 g rams of wheat and rice per student per school.

(iv) Foodgrains were to be distributed in the interim period as a prelude to provisions of cooked meals till institutional arrangements are made. However, all schools under the programme are expected to switch to cooked meals at the earliest.

[10] Commissionerate of Schools & MDM, Gujarat State, Government of Gujarat, Annual Work Plan & Budget:2017-18

Three tiered perspective on Mid-Day meal scheme

In order to clear his view on the Mid-Day Meal Scheme, the researcher has studied the Mid-Day Meal Scheme in three different perspectives. They are as follow.

Mid-Day Meal Scheme at national level

Mid-Day Meal Scheme at State level

Mid-Day Meal Scheme at District level

Mid-Day Meal Scheme at national level

The school lunch programme is not a recent phenomenon. At the global level, Victor Hugo introduced the lunch programme in France in 1885. Since then, the school lunch programmes have been introduced in various parts of the world, e g, US(1946), UK(1945), Japan (1947), China (1964-69), Australia (1950), Switzerland (1946) and Singapore (1975). The MDM also received attention in some of the developing countries like Indonesia (1967), Thailand (1970), and Korea (1973).

National Programme of Nutritional Support to Primary Education (commonly known as Mid-Day Meal Scheme) was launched as a centrally sponsored scheme on 15th August 1995 with an objective of "Universalization of primary education by increasing enrolment, retention and attendance and simultaneously impacting on nutrition of students in primary classes." It was implemented in 2408 blocks in the first year. However, even after nine years of the commencement of the MDM scheme, serving of cooked meals could not be universalized in six states (Assam, Bihar, Jharkhand, Uttar Pradesh, Haryana and Jammu and Kashmir). In many of the remaining states quality of the meal served to children was not satisfactory. The Supreme Court has been giving certain directions in its orders passed from time to time. In its judgment in the case People's Union for Civil Liberties vs. Union of India (Writ Petition (Civil) No. 196 of 2001) the apex court decreed that state governments must "implement the Mid-Day meal scheme by providing every child in every government and government assisted primary schools with a prepared Mid-Day meal with a minimum content of 300 calories and 8-12gramsof protein each day of school for a minimum of 200 days. Those governments providing dry rations instead of cooked meals must within three months (by 28 February 2002) start providing cooked meals in all government and government aided primary schools in half of the districts of the state (in order of poverty) and must within a further period of three months (by 28 May 2002) extend the provision of cooked meals to the remaining parts of the state.

In June–July, 2004, government made certain policy pronouncements in regard to MDM scheme. President of India, in his address to parliament on 7 June 2004 said, "A national cooked nutritious Mid-Day meal scheme, funded mainly by the central government will be

introduced in a phased manner in primary and secondary schools…" Later, in the budget speech, union Finance Minister said on 8 July 2004, "The poor want basic education for their children: we shall provide it, and we shall make sure that the child remains in school for at least eight years. We shall also make sure that the child is not hungry while he or she is at school…, …The whole of the amount collected as cess will be ear marked for education, which will naturally include providing a nutritious cooked Mid-Day meal. If primary education and the nutritious cooked meal scheme can work hand in hand, I believe there will be a new dawn for the poor children of India[11]. " These pronouncements were followed by central government's approval of a revised scheme, "National Programme of Nutritional Support to Primary Education, 2004 (NP- NSPE, 2004)." Article 21 A provides that Right to Children for free and compulsory education. This has been ensured through the enactment of Right to Education Act, 2009 Act, 2009, which came into force on 1st April 2010. SSA has been designated as the vehicle to realize the provisions of RTE Act, 2009. Chapter 4, Para 21 of RTE Act, 2009 stipulates that preference will be given to disadvantaged groups and weaker sections while nominating the representatives for the School Management Committee. The Act further states that all schools should have all weather building consisting of a kitchen-cum-stores to cook Mid-Day meal in the school by 2012-13. The model rules under RTE Act also provide that School Management Committee will monitor the implementation of the Mid-Day Meal in the school.

The basic objectives of the Mid-Day-Meal scheme include prevention of malnutrition among children, achieve universalization of Elementary Education by increasing enrolment, retention and attendance of students and there-by reducing dropout rate and improve the nutritional level of children. The main objectives of the scheme (as per the 2006 revision) are to:

- To boost Universalization of primary education (classes 1-5) by improving enrolment, attendance, retention and learning levels of children especially those belonging to disadvantage sections,
- Improve the nutritional status of children in classes one through five in government schools and government aided schools, and
- As well as provide nutritional support to students in drought- ridden areas throughout summer vacation also.

[11] Source: Extracts from policy pronouncements regarding Mid-Day Meal and guidelines for National Programme of Nutritional Support to Primary Education, 2004, MOH&FW.

In October 2007 the scheme was revised to cover children in the upper primary section as well i.e. classes VI to VII. The Scheme estimates a cooked Mid-Day meal with a minimum of 300 calories and 8-12 grams of protein to all children studying in classes I-V. Upper Primary meals consist of 700 calories and 20 grams of protein by providing 150 grams of food grains (rice/wheat) per child/school day. The central government supplies state and union territory government with free food grains (wheat/rice) at 100 grams per child per school day from the nearest Food Corporation of India (FCI) go-down and compensation of the cost of transporting the food grains from the nearest FCI to the Primary school. The scheme provides assistance for meeting the cooking cost of Re 1 per child per school day.

Implementation of Mid-Day Meal Scheme at National Level

Implementation of Mid-Day Meal Scheme is in various stages in different states and union territories (UTs). Full implementation has taken place in 14 states (which includes Andhra Pradesh, Chhatishgarh, Gujarat, Karnataka, Kerala, Sikkim, Tripura and Uttranchal) and all 7 UTs. They provide cooked meals to all primary school children. Partial implementation in some selected districts has occurred in 9 states (Bihar, Goa, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Orissa, Punjab and West Bengal). Four states (Arunachal Pradesh, Assam, Manipur and Uttar Pradesh) have not implemented the scheme. They do not serve cooked meals but distribute food grains instead. Finally, Jammu and Kashmir has not implemented the programme in any form. Initially the programme was started in a phased manner to cover all children studying in primary classes (I-V) in government, local body and government aided schools in the country.

The programme is being carried out by local authorities with assistance from village panchayats, village education committees, school management committees, parent teacher associations, etc. In rural areas the cooking is being done by women self-help groups. In urban areas, some NGOs have taken responsibility for cooking the food and bringing it to the primary schools. Free Mid-Day meals can achieve a great deal with regard to child education and health. They promote the participation of the child in school, reduce classroom hunger, facilitate the healthy growth of a child, promotes good eating habits like washing ones hands, finishing ones food, etc, and fosters social and gender equality as all children get the same food and must eat together.

It has been estimated that 8.41 crore Primary students and 3.36 crore Upper Primary Students i.e. a total of 11.77 crore students have benefited from MDM Scheme during 2009-10

Mid-Day Meal Scheme at State level (with reference to Gujarat)

The state of Gujarat is situated on the west coast of India, bounded by the Arabian Sea in the West, Rajasthan in the North and North-East, and Madhya Pradesh in the East and Maharashtra in the South and South East. The state also shares an international border with Pakistan at the north western fringe. It has the longest coastline of about 1600 km which is also the longest among all states in the country. Gujarat is one of the most prosperous states of the country owing to its booming economy and industry. The state provides about 19.8% of the country's total industrial output and is the most industrialized state of the country. Gandhinagar, the capital of Gujarat is a beautiful planned city. Gujarat is known for its rich culture and tradition. It is famous for its exquisite handicrafts and textiles. Gujarat is the birth place of Mahatma Gandhi and is connected intimately with many events pertaining to India's independence. The land is replete with beautiful temples, historical monuments, architectural and cultural heritages, pristine beaches and many more other attractions. The name Gujarat has been derived from 'Gujarata' meaning the land of Gurjars or Khazars. The Gurjars were originally dwellers of Punjab. They passed through Punjab and settled in some parts of Western India, which came to be known as Gujarat. The Gurjars ruled the land during 8th and 9th centuries AD, followed by Muslim rulers until the end of the 13th century. Gujarat then came under the control of Mughals and the Marathas in the mid 18th century followed by British in 1818. The British rule continued till India got her independence in 1947.

After Independence in 1947, all of Gujarat except Saurashtra and Kutchh became part of Bombay State until May 1, 1960, when the Government split Bombay state into the States of Maharashtra and Gujarat. As per provisional data of census 2011. Gujarat's population is 6.03 crore with 19.17% population growth which is about 5% of the population of India. The Gujarat State at present comprises of 33 districts, sub-divided into 226 talukas, having 18,618 villages and 242 towns. It is also one of the most urbanized states in India, with about 42.6% urban population (in 2001 it was 37.4%) and 57.4% rural population. The eastern tribal belt and the northern dry region remain underdeveloped parts of the state. Gujarat is doing better than the national average for most demographic and health indicators. It has a higher literacy rate, lower total fertility rate (TFR), higher life expectancy at birth for women, and less population per sq km. Gujarat has about 15 % population of Scheduled Tribes and about 8 % of Scheduled Castes[12].

[12] N. Grewal & others, **Report of 5th Joint Review Mission on Mid-Day Meal Scheme Gujarat.** MHRD, New Delhi, 2013-14. p.no.12

ISBN-978-81-973071-0-2
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Figure 2.5: State of Gujarat

Gujarat occupies an area of 196,024 sq km and accounts for 6.19% of the total area of the country. As per provisional data of latest census 2011, Gujarat's latest figure of population is 6.03 crore with 19.17% population growth. The Gujarat State at present comprises of 26 districts, sub-divided into 226 talukas, having 18618 villages and 242 towns. The Literacy rate in Gujarat has gone up to 79.31% in 2011 as compared to 69.14% in 2001. Of that, male literacy stands at 87.23% while female literacy is at 70.73%.

Demographic Profile of Gujarat state

Table 2.1: Demographic profile of Gujarat state

Sr. No.	Item	Unit	1971	1981	1991	2001	2011
1	2	3	4	5	6	7	8
1	**Population**						
1A	Total	Lacs	266.97	340.86	413.09	506.71	603.83
1A.1	Male	Lacs	138.02	175.63	213.55	263.86	314.82
1A.2	Female	Lacs	128.95	165.33	199.54	242.85	289.01
1A3	Rural	Lacs	192.01	234.84	270.63	317.41	346.70
1A.4	Urban	Lacs	74.96	106.02	142.46	189.30	257.12

Sr. No.	Item	Unit	1971	1981	1991	2001	2011
1	2	3	4	5	6	7	8
2	**Decadal Population Growth Rate**	%	29.39	27.67	21.19	22.66	19.17
3	**Urbanization**	%	28.08	31.10	34.49	37.36	42.58
4	**Population Density**	No.	136	174	211	258	308
5	**Sex Ratio**						
5A	Total	No.	934	942	934	920	918
5A.1	Rural	No.	951	959	949	945	947
5A.2	Urban	No.	893	905	907	880	880
6	**Literate Population**						
6A	Total	Lacs	96	149	211	303	419.48
6A.1	Rural	Lacs	64	96	130	166	218.97
6A.2	Urban	Lacs	32	53	81	137	200.51
7	**General Literate Rete**						
7A	Total	%	35.79	43.70	51.15	69.14	79.31
7A.1	Rural	%	46.11	54.44	60.99	79.66	87.23
7A.2	Urban	%	24.75	32.30	40.62	47.80	70.73
	Rural						
7B	Total	%	28.33	36.20	44.00	52.29	73.00
7B.1	Rural	%	38.92	47.85	55.31	62.93	83.10
7B.2	Urban	%	17.19	24.06	32.08	41.03	62.41
	Urban						
7C	Total	%	54.90	60.31	64.75	72.27	87.58
7C.1	Rural	%	63.96	68.62	71.55	77.68	92.44
7C.2	Urban	%	44.78	51.33	57.25	66.13	82.08
8	**IMR**						
8A	Total	Per 1000 Live Birth	63	62	60	60	48
8A.1	Rural		70	69	87	68	55
8A.2	Urban		45	45	42	37	33

Sr. No.	Item	Unit	1971	1981	1991	2001	2011
1	2	3	4	5	6	7	8
9	**MMR (As per SRS)**		1991-01	2001-03	2004-06	2007-09	-
9A	Per One Lac live Birth		202	172	160	148	-

In view of above data[13] the implementation of Mid-Day Meal scheme in Gujarat for each and every child of all Govt. And Govt. Aided schools studying in primary and upper primary classes are an uphill task. However Mid- Day Meal scheme is running successfully in Gujarat.

Implementation of Mid-Day Meal Scheme in gujarat

Gujarat was the first (after Tamilnadu) state in the country to start the Mid-Day Meal scheme. By October 1984, the scheme had covered 5083 schools in 68 talukas out of 225 talukas and 25 districts of Gujarat. November 1984 onwards the scheme was extended to the entire state. The aim was to feed students studying in primary classes (1 to VII), with the objective of mitigating malnutrition among the vulnerable groups. MDM scheme was discontinued for a brief period from August 1990 and MDM Scheme was re-introduced in Gujarat from 15th January1992. During 1991 and 1992, a scheme called Food for Education was implemented where in primary school children having at least 70% attendance were provided 10 kilograms of food grains free of cost per month.

Since then it is being implemented throughout the State. Gujarat is one of the pioneer states to introduce the concept of providing hot cooked Mid-Day meals to all the primary school children from Std. I to VII run by State Government and Municipal Corporations. During, lunch-time children are served mid day meals. At present 32,275 MDM Centres are functioning in Gujarat State. Total 39,30,051 children are taking meals. In 2008-09, MDM were provided in primary schools for 208 days and in 2009-2010 for 147 days (upto Dec.2009). Total MDM centre honorary employees are: 88,442. Total budget is Rs. 461.84 crores for 2009-2010 (Central Share Rs. 301.84crores and State Share Rs.160 crores). Total budget proposed for 2010-2011 is Rs 506.00 crores (Central Share Rs.331.00 crores and State Share Rs.175.00 crores). At the respective MDM centres located in the school premises, district wise weekly menu has been introduced to bring flexibility and change in tastes, conforming with food

[13] Commissionerate of Schools & MDM, Gujarat State, Government of Gujarat, Annual Work Plan & Budget:2010-11, p.no.2

preferences of children from that particular region. Government of India provides rice and wheat to the students of Std I to VII free of cost since August-1995[14].

A free Mid-Day meal is provided to all children in government, corporation, panchayat and municipal primary schools in the state. The main objective of the Mid-Day meal scheme was to boost enrollment and reduce school drop-outs. These objectives have been substantially attained, with dramatic impact on the enrollment and retention of girl children in particular. Additionally, it has provided employment to destitute mothers who work as cooks in the various noon meal centres in the state.

Mid-Day Meal Scheme at District level (With reference to Sabarkantha District)

Sabarkantha District is bounded by Rajasthan state to the north and northeast, Banaskantha district and Mehsana district to the west, Gandhinagar District to the south and Aravalli District to the South - East. As of 2011 it is the second least-populous district of Gujarat (out of 33), after Dang. Sabarkantha forms a part of the erst while Kathiawar peninsula located in the western part of Gujarat.

Himmatnagar is a district headquarters, and talukas Prantij and Talod are major industrial locations in Sabarkantha

Focus Industry Sectors – Agriculture, ceramics, chemicals and milk processing

Tourist Destinations – Idar, Polo Forests, Vijaynagar

Key raw materials such as groundnut, cotton, clay, oilseeds and tobacco are abundantly present in Sabarkantha.

The district comprises 7 Talukas. It is spread across an area of 7390 km^2. It has a gender ratio of 950 females per 1000 men, and the literacy rate for the district is 76.6%.

It falls under Sesmic Zone 3

History

During the Western Satrap rule, the region was known as *Shwabhra* (Gujarati:). The river of the region is named as *Shwabhravati* which is now known as Sabarmati River. During the British Raj Vijaynagar in Sabarkantha district was the capital of Vijaynagar State or Pol State, one of the princely states of the Mahi Kantha Agency.

[14] Commissionerate of Schools & MDM, Gujarat State, Government of Gujarat, Annual Work Plan & Budget:2010-11, p.no.5

Festivals

The Traditional Fair Chitra – VichitraMela

The fair is held a fortnight after Holi, around the month of March–April. It starts on the eve of the new moon (called Amavas), the time when the wheat crop is ready for harvest. Each year the Chitra Vichitra Fair plays itself out within the limits of the village Gunbhakhari in the border area of the Sabarkantha district adjoining Rajasthan, 32 km away from the nearest railway station of Khedbrahma. The main temple of the fair is situated on a picturesque site called the TriveniSangam, the sacred confluence of the three rivers Sabarmati, Akul and Vyakul, amid the foothills of the Aravalis. The name of the fair is derived from two brothers Chitravirya and Vichitravirya, sons of King Shantanu, and step brothers of Bhishma, from the story of the Mahabharata. There is a belief that they had settled here and were cured of their diseases by the waters of this site. The fair is one of the most important fairs of the Adivasis in the region, and attracts about 60,000 people, most of them hailing from the Garasia and Bhil communities. People from many far away and distant villages arrive here. The fair is so popular that in 25 to 30 surrounding villages all the houses are deserted for the duration of the fair as every able-bodied person visits it. This fair is also a great opportunity for tribal men to meet prospective partners for marriage. Numerous couples have been known to elope directly from the fair site.

Economy

In 2006 the Ministry of Panchayati Raj named Sabarkantha one of the country's 250 most backward districts (out of a total of 640).[3] It is one of the six districts in Gujarat currently receiving funds from the Backward Regions Grant Fund Programme (BRGF).[3]

Divisions

Sabarkantha district has following 8 Talukas:

- Himatnagar - District Headquarters
- Idar
- Prantij
- Talod
- Khedbrahma
- Vadali
- Vijaynagar
- Poshina

Demographics

According to the 2011 census Sabarkantha district has a population of 2,427,346, roughly equal to the nation of Kuwait or the US state of New Mexico. This gives it a ranking of 183rd in India (out of a total of 640). The district has a population density of 328 inhabitants per square kilometre (850/sq mi). Its population growth rate over the decade 2001-2011 was 16.56%. Sabarkantha has a sex ratio of 950 females for every 1000 males, and a literacy rate of 76.6%.

Punsari, a small village in the district was selected as the best village in Gujarat.

Culture

Communities in the districts

Major communities in Sabarkantha are traditional Hindu communities of Ahirs, Rabaris, Thakores and Harijans. The Ahirs are traditionally followers of Lord Krishna, supposed to have migrated from Northern India and settled here, this community has striking features and long cultural traditions. The main occupation of the communities is agriculture and cattle breeding.

Forts

Idario Gadh - Ilva Durga (ancient fort) – Idar is an ancient fort, known as 'Ilva Durga' and finds mentioned in Mahabharat and in the travelogue of the Rathore Rajputs in the Mahi Kantha agency at the time of British Raj. It is a classic example of a naturally protected hill fort, located at the southern edge of the Aravalli range. At the foothill, lay the ruins of an old palace, a fine specimen of architecture in stone with delicately carved balconies. The entry to Idar town is through a three storeyed clock tower cum entrance gate, with a huge arch and semi circular dome at the top. The road, with a colourful bazaar on both sides, leads to the tower and ends at the foothills of Idar fort. [8]

Vijay Villas Vijaynagar - Vijay Villas Vijaynagar is nested on the foothills of the aravali ranges and is on the edge of among the few dense forests left in Gujarat in the Sabarkantha district which is on the border of Gujarat and Rajasthan. It is a heaven for nature and wild life admirers. Unique for its picturesque surroundings which serves as a refuge for fascinating species of flora and fauna, a sanctuary of rare birds and wild animals, adorned by beautiful flowing rivulets and unsullied lakes fills up your senses.[9]

Darbargadh - About 18 km from Ambaji in Sabarkantha district, Poshina takes one back to the simple beauty of traditional village life, populated by a captivating mélange of colorful tribal communities of the Garasias, Bhils and the pastoral Rabaris. Poshina is home to

a tribal shrine where you find the staggering scene of thousands of terracotta horses standing in rows as offerings to the local goddess. Nearby villages have similar horses carved in reverence to her divinity. A visit to the homes of the potters who make these striking horses is an excellent glimpse into tribal culture.

In Poshina you find the Darbargadh Poshina, once a palace, and now a welcoming heritage hotel, with huge gateways, a massive dome, numerous pillars and arches, a pleasant courtyard, gardens, lawns and terraces, owned by the descendants of the Chalukyas, whose empire spread through much of Gujarat and Central India in the 12th century. You also find old Jain sandstone temples of Parshvanath and Neminath and an old Shiva temple.

Poshina is host to the famous Chitra-Vichitra fair, at the nearby Gunbhakhari village, a couple of weeks after Holi.[10]

Polo forest is a beautiful forest area spread across 400 square KM located near Abhapur village in Vijaynagar taluka of Gujarat, Polo forest is surrounded by beautiful hills from where the Harnav River is crossing and spread across the forest, ancient Shiv temple, Jain temple and other heritage site located in nearby areas, every year, Gujarat government celebrate Polo festival by organizing well planned travel events which includes adventure activities, cycling, camping and many more things. There is a polo camp city is setup at polo forest where you can stay and enjoy the polo utsav.

Notable personalities

- Umashankar Joshi (1911–1988) Writer and scholar. Born in Bamna.
- Rashid Patel Indian cricketer
- Zohraben Chavda (1923–1997) a Gandhian social reformer and member of the 3rd Loksabha from Banaskantha

Administrative structure of Mid-Day meal scheme

The Central Government issues guidelines which are taken into consideration by State Governments when implementing the scheme. However, there are some states which have issued guidelines that are different from Central Guidelines.

A National Steering-cum-Monitoring Committee is set up at the national level to monitor the program, assess impact and provide policy advice to Central and State Governments. Central assistance in the form of subsidies is released upon submission of the committee's Annual Work Plan by the Program Approval Board[15].

[15] Akshaya Patra**, Programme Implementation**. retrieve on 23th Sep. 2012: http://www.akshayapatra.org/program-implementation

ISBN-978-81-973071-0-2
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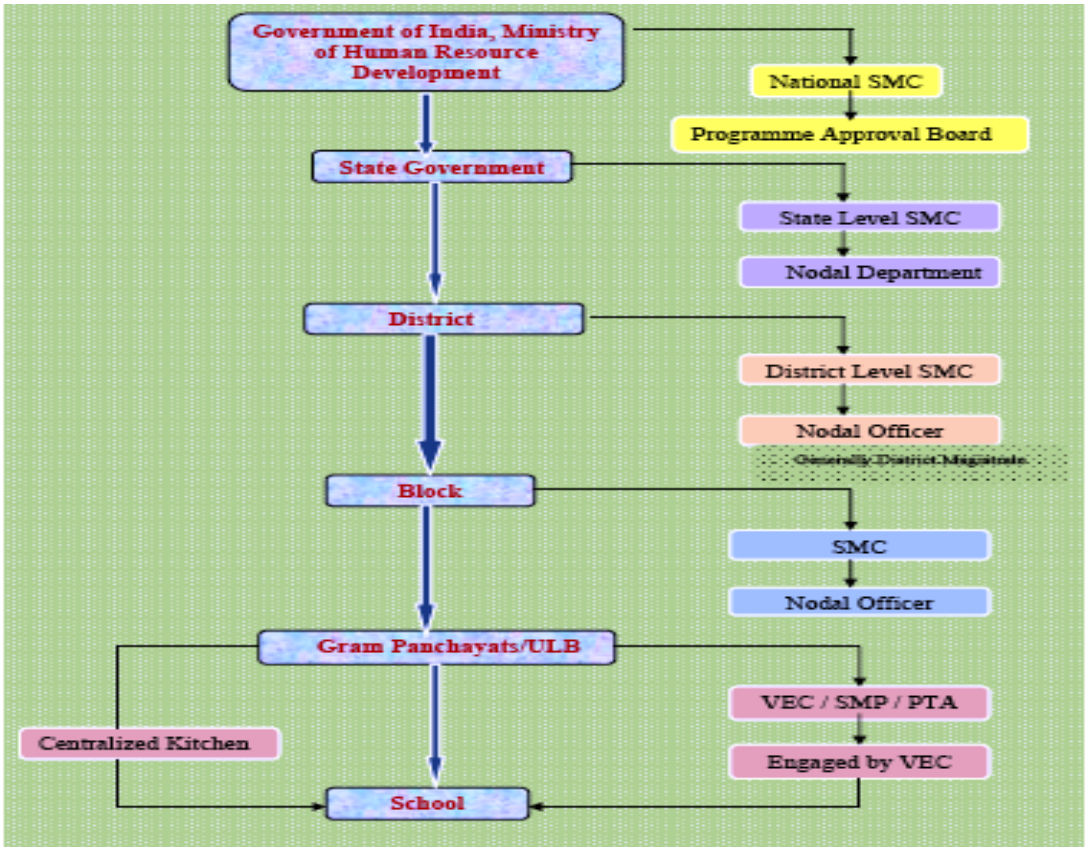

Figure 2.6: Administrative Structure suggested By MHRD

Steering-cum-Monitoring Committees are also set up at a state level to monitor the program. A nodal department is authorized to take responsibility. Implementation cells are organized by the nodal department and one officer is appointed at each district and block level to oversee effective implementation of the program.

The Panchayats/ Urban Local Bodies are in charge of the scheme in states where primary education is entrusted to them.

In Gujarat, the Administrative structure for implementation of Mid-Day Meal Scheme is as follow.

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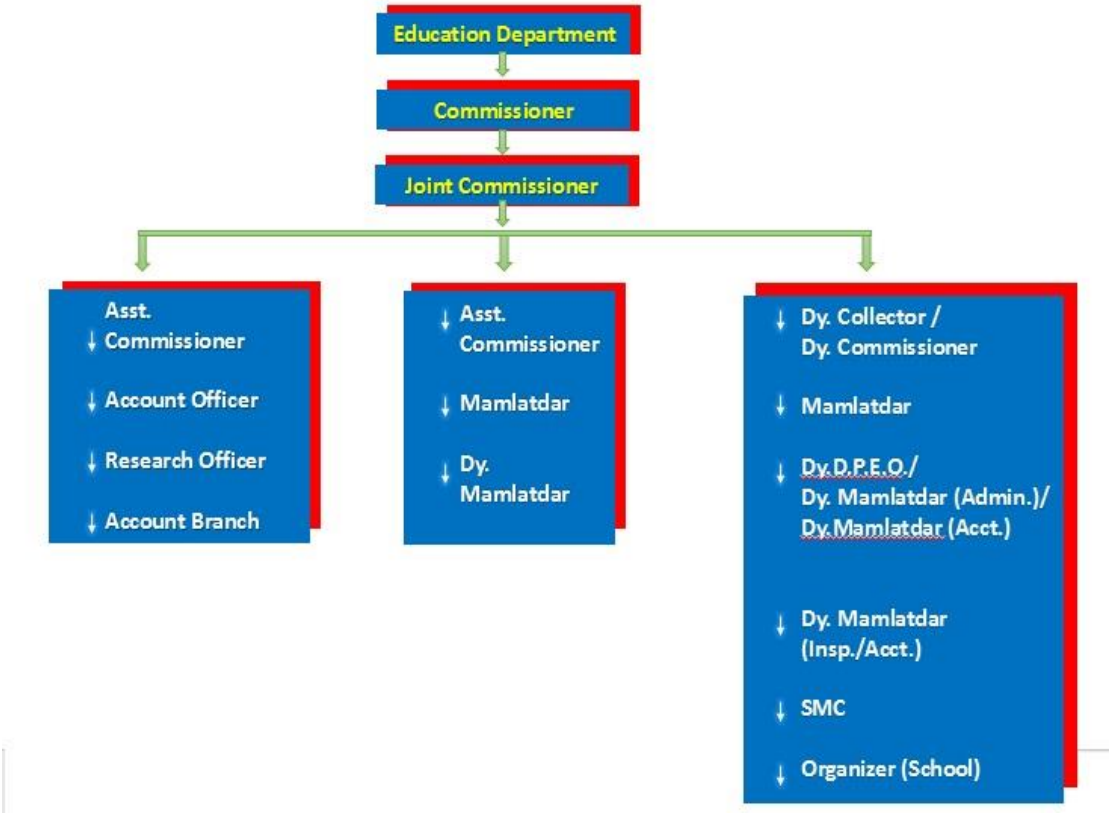

Figure 2.7: Administrative structure for implementation of MDMS in Gujarat

The Commissionerate of MDMS is responsible for implementation of the scheme in the state. It looks after all administrative issues like providing fund to the District Collect orate; coordinating the supply of food grains / edible oils. And provides administrative support to the system. The District collector is responsible at the district level for co-ordinating and supervising the programme.

The District Development Officer is required to extend all possible help to the District Collector in the implementation of the scheme. The day-to-day management of MDM is done by Deputy Collector (MDM), assisted by a Deputy Primary Education Officer, carries out today functioning of the programme. At the District level, the vigorous implementation and proper functioning of the scheme is looked after by a vigilance committee, which is headed by the Collector and consists of the Deputy Collector (MDM), District Development Officer, Civil Supply Officer, District Primary Education Officer, MPs and MLAs from the district.).

The Mamlatdar, the revenue officer at the taluka level, is the head of the MDM programme at Taluk level and is assisted by the Deputy Mamlatdar in charge of MDM as well as one primary education inspector. There is also a taluka level MDM advisory committee consisting of officers and MLA. MDM Committee under the chairmanship of District Collector compiles statistical data related to the programme and coordinates supervision work with the

District Primary Education Officer. At the taluka level, these functions are carried out by the Mamlatdar. In case of non-supply of foodstuff items in time by Civil Supply Corporation, the District Collector is empowered to purchase from the local market under the prescribed procedure of Government.

The Deputy Mamlatdars and Education Inspectors of Taluka (Tehsil) level are expected to supervise the MDM programme along with the other work when they visit schools. The extension workers are also expected to supervise the MDM programme during their visit to the villages. The Mamlatdar assigns the work every month to various officers to visit a minimum number of centres. The concerned officers are expected to provide feedback on the functioning of the MDM Programme. They check out the quality of material utilized in the preparation of cooked food and the cleanliness of the area of cooking operations and around, and the upkeep of stocks, accounts and other requisite data/ materials. The procurement and supply of pulse, edible oil and food grains is carried out by the Gujarat State Civil Supplies Corporation which distributes them to MDM centres through PDS system ensuring quality of materials, within the framework of fixed time limit. It is also a state transportation agency under NP-NSPE, which ensures logistics of timely supply of foodstuffs at MDM centre. In short, at the taluka level the taluka Mamlatdar is in overall charge of the programme, supported by a full-time deputy Mamlatdar (Administration) and Deputy Mamlatdar (Accounts). At school level Organizers, Cooks and Helpers are appointed to cook and distribute the Mid-Day meal. School Management Committee is expected to supervise the overall working of scheme.

Process of plan Formulation

The Mid-Day Meal Scheme is being implemented in all the Primary and Upper Primary Govt./ Govt. aided schools in the State of Gujarat. The flow of information for plan formulation starts from the school level. The school sends the proposal to Block offices. The Block office consolidates /scrutinizes the proposal and sends to Deputy Collector at District level, who after compilation / scrutinizing forwards it to Commissionerate of MDM. The proposal received from concerned districts are compiled / scrutinized as per norms prescribed by Government of India and sent the same to Education Department for approval. After approving the plan, the State Government forwards the same to Government of India.

ISBN-978-81-973071-0-2
First Edition

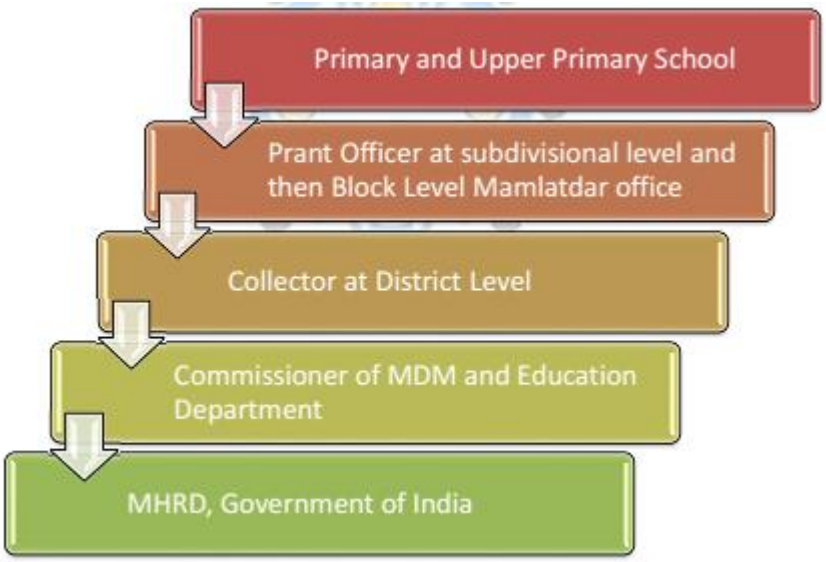

Figure 2.8: Formulation Process of MDMS in Gujarat

Multi-level Responsibility

The primary responsibility for the implementation of the programme was vested in the State Governments and the Union Territories. The following management structures were to be put in place in national, state, district/block and local levels

National Level

A National Level Steering cum Monitoring Committee (NSMC) was to be set up by the Department of School Education and Literacy to oversee the implementation of the programme. The NSMC is mandated to:

(a) Guide the various implementation agencies,
(b) Monitor programme implementation, assess its impact, and take Corrective steps,
(c) Take action on reports of independent monitoring/evaluation agencies,
(d) Effect coordination and convergence among concerned departments, agencies (e.g. FCI), and schemes, and
(e) Mobilize community support and promoting public-private partnership for the programme.
(f) Provide policy advice to Central and State Governments,
(g) Identify voluntary agencies and other appropriate institutions to undertake training, capacity building, monitoring and evaluation and research connected with the programme at the national level.

A Programme Approval Board was also to be set up by the Department of School Education and Literacy under the chairpersonship of Secretary, School Education and Literacy with membership of nutrition experts and representatives, from the Departments of Women

and Child Development, Ministry of Rural Development, Ministry of Panchayat Raj, Planning Commission, Food Corporation of India, etc. The Board meets at the beginning of each financial year and considers and sanctions the Annual Work Plan and Budget (AWP&B) submitted by the State Governments and UT Administrations.

The National Mission for Sarva Shiksha Abhiyan (SSA) was also to review the Mid-Day meal programme from time to time.

State Level

States and UT administrations were also required to setup Steering cum Monitoring Committees at the State, District and Block levels to oversee the implementation of the programme. The functions were to be similar to that of the NSMC with necessary changes in details. A representative of the Department of School Education and Literacy, Government of India, was invariably to be invited to meetings of the State/UT level Steering cum Monitoring Committee. Every State Government /UT Administration was also to designate one of its Departments as the Nodal Department, which would then take responsibility for the implementation of the programme. Taking into account the Central assistance available, each state was to prescribe and notify its own norms of expenditure for the allocation of funds. These norms were to spell out modalities for the uninterrupted supply of cooked food taking into account possible obstacles that might be encountered in implementation such as temporary interruption of flow of funds from the Centre for any reason, temporary interruption of funds from the state to the lower levels due to any reason, irregular supply of grains from the Food Corporation of India or local transport interruptions, failures in procurement and storage at the local level, and absence of cooks at local level.

The Department of School Education and Literacy, Ministry of Human Resources Development at the national level would convey the district wise allocation of food grains, cooking costs, construction of kitchen-cum-store, cooking-cum-kitchen devices and management, monitoring and evaluation monies as approved by the Programme Approval Board to the State Nodal Department and the FCI. The State Nodal Department was to convey the district-wise allocations to all District Nodal Agencies and would ensure that the District Nodal Agencies had sub-allocated the monthly district allocation to the sub-district level which in turn would further allocate it to each school.

District or Block Level

Every State Government/UT Administration was to designate one nodal officer or agency at the district and block level who would be assigned over-all responsibility of effective

implementation of the programme at the district/ block level. The District Nodal Agency would ensure that each school is informed of its monthly allocation of food grains and financial sanctions for construction of kitchen-cum-store, cooking costs, kitchen-cum-cooking devices, etc. It would also identify the transportation agency to transport food grains from the nearest FCI godowns to school. The transportations could be done once in a month. The district/ taluka nodal agency would also take responsibility for developing indicative menus using locally available and culturally acceptable food items.

Local Level

In States which had devolved the function of primary education on Panchayats and Urban Local Bodies, the responsibility of implementation and day to day supervision of the programme would be assigned to the Gram Panchayat/Municipality. The Gram Panchayat/Municipality could in turn assign responsibility of the day-to-day management of the programme at school level to the Village Education Committee (VEC) / School Management & Development Committee (SMDC) or Parent-Teacher Association (PTA) as the case may be. These would be responsible for the programme and report to the Gram Panchayat/Municipality.

Logo of Mid-Day meal scheme

The logo of Mid-Day meal scheme is as shown below in figure 2.10.

Figure 2.9: Logo of Mid-Day meal scheme

The Concept of the logo of the Mid-Day Meal Scheme is evolved of a group of children sitting together in a circle and having their meal served hot. Equal importance is given to boys and girls with communal harmony. Orange colour is used for the food plate to represent it as hot and fresh food. It also symbolizes energy, heat and sun. At the bottom of the image a picture of a book is used to bring in the relation of education and Mid-Day Meal Scheme. Overall from

also represents the shape of a flower as a symbol of childhood, happiness, healthiness, progress and well being of the future generation. The logo is visually balanced using the form of children, book and logo text in Hindi and in English[16].

Menu for Mid-Day meal scheme

According to the guideline provided by MHRD, the state of Gujarat has constituted two menu committees; the committee at state level is leaded by the Commissioner (MDM) and another at the district level. The menu committees have been empowered to change menu according to the availability of oil, pulses and other food grains. At district level, there is one district menu committee under the chairmanship of district Collector, for preparing a menu for district keeping in view the local availability, social habits and likes of the people. Municipal corporations have their own menu. Weekly Menu drawn up specific to each district conforming to the habitual diet of children of that district is given below in table no.2.3. Sabarkantha district follows the same menu for MDMS. The circular for guideline provided by MHRD has been putted in annexure 2.

Table 2.2: Menu for Mid-Day Meal Scheme in Sabarkantha district

Day of the Week	**Menu**
Monday	Lapsi, Sukhadi
Tuesday	Khichadi, Vegetables
Wednesday	Dal- Dhokli
Thursday	Dal-Rice
Friday	Muthiya, Handvo
Saturday	Vegetable- Pulav

Food grains management for Mid-Day Meal Scheme

The Gujarat State Civil Supply Corporation has been entrusted the task of procurement and supply of food grains and other food commodities including edible oil, pulses (Dal) for children studying in Std. I to VIII Primary & Upper Primary Schools. Edible oil and pulses are procured through a centralized purchase system.

[16] Govt. of India, **Guidelines for Logo.** Retrieve on 10th June 2012. http://mdm.nic.in/Files/Guidelines/Main_Guidelines%20for%20Logo.pdf

Based upon the prescribed daily food components and probable number of beneficiaries of students, a yearly advance indent is sent to the Gujarat State Civil Supply Corporation Limited for procurement of all food commodities.

After procurement, all commodities are supplied up to the level of MDM centre through the Public Distribution System. The commodity flow is depicted below in figure 2.11.

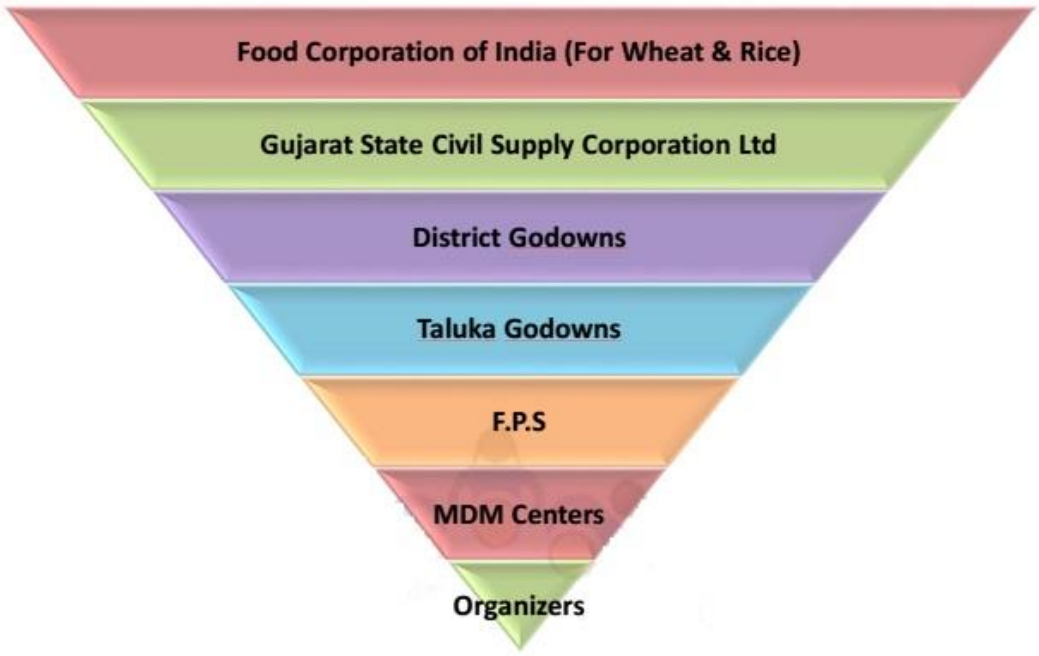

Figure 2.10: Food Grains Chanel for Mid-Day Meal Scheme

The food grain (Wheat/Rice) is lifted & transported by the nodal transport agency, i.e. Gujarat State Civil Supplies Corporation, from FCI godown to the FPS on the basis of authorization by the respective Deputy Collector. From FPS to respective school, the MDM Sanchalak transports/ carries the food grains.

In case of any delay in lifting the wheat/rice, the matter is solved by taking it up, with the concerned authorities immediately.

As per GR of Department of Education dated 22/03/2011, responsibility of implementation of MDM scheme has been entrusted to SMC. After the formulation of SMCs, the same have been given training 3 times so that they understand the working of MDM center and are able to see that it runs smoothly.

Fund flow for Mid-Day meal scheme

The Ministry of Human Resource Development is the nodal agency for sanctioning of funds and supply of food grains (central assistance) to the states on behalf of the Government of India. However, the fund flow chart to outline the process for the flow of funds (Central or the State funds) from Govt. to the ultimate implementing agencies at the school level is as shown in figure 2.12

ISBN-978-81-973071-0-2
First Edition

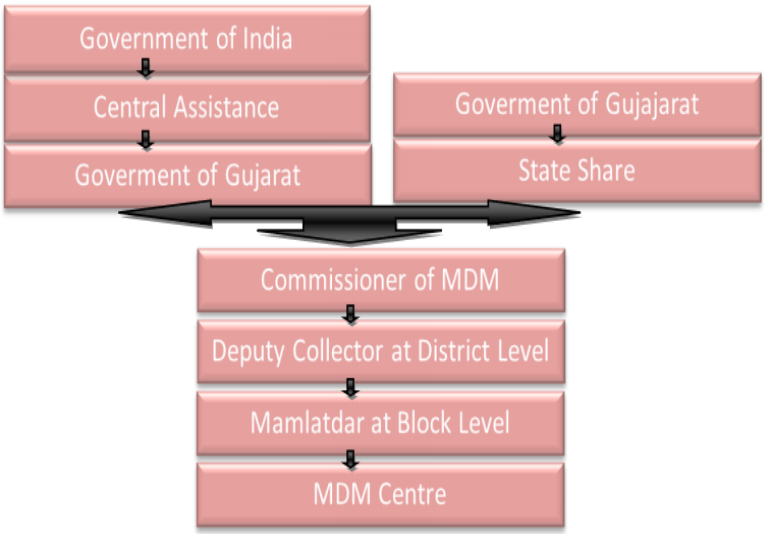

Figure 2.11: Fund flow for Mid-Day meal scheme

Staffing for Mid-Day meal scheme

There are 39,123 MDM Centres in the entire state, the centres in the urban areas have centralised kitchens, and while in rural areas there are kitchens in the schools. Current Staff position for implementation of MDM in Gujarat is shown below in table 2.3 to 2.4.

Table 2.3: Status of Establishment at State Level-MDM Gujarat

Status of Establishment at State Level-MDM Gujarat				
Sr.No.	**Level / Designation**	**Sanctioned**	**Filled**	**Vacant**
1	Class-1	4	2	2
2	Class-2	4	4	0
3	Class-3	25	22	3
4	Class-4	5	5	0
Total		**38**	**33**	**5**

Table 2.4: Status of Establishment at District / Block Level-MDM Gujarat

Status of Establishment at District / Block Level-MDM Gujarat				
Sr.No.	Level / Designation	Sanctioned	Filled	Vacant
1	Class-1	28	7	21
2	Other than CLass-1	1298	585	713

The aforementioned data from the state showed that a lot of positions are lying vacant, especially at the district and block levels. A similar trend was also observed in the schools visited did not have the prescribed number of Cook cum Helpers. It was observed that to overcome this manpower shortage the students and sometimes even the visiting parents were

asked to help with the cooking and serving of the MDM leading to in formalization of women's labour and distraction for the students.

Every Mid-Day Meal centre has the staff of three people. One organizer (Madhyahan Bhojan Sanchalak), one cook and one helper. If beneficiary students are more than 300 one additional cook will be provided. Salary in Rs. for the centre is shown below in table 2.5.

Table 2.5: Salary for Staff at MDM Centres in Gujarat

Designation	**If the numbers of beneficiary students are between...**			
	1-25	26-100	101-300	more than 300
Organizer	100	1000	1000	1000
Cook	400	1000	1000	1000
Additional Cook	-	-	-	1000
Helper	200	400	1000	1000
Total	1600	2400	3000	4000

FEASIBLE REVIEW OF ALREADY DONE RESEARCH WORK

It is very important for a researcher to have a clear vision for the current research. To clarify the vision and the research methodology related issue researcher has taken review of previously done research work in the same field of the research. By reviewing previously done research work one can prepare the road map for his research. To clarify his idea about effectiveness of Mid-Day meal scheme implemented in Sabarkantha district, the researcher has studied many literature sources like newspaper, research journals, thesis, dissertations etc. Some of them are as follow.

Nimavat, N.A. (1986)[17] has done a research to get feedback on Mid-Day meal scheme implemented in primary schools of Kotada Sangani taluka of Rajkot district. The research was done at M.Ed. level in Saurastra University. The methodology for conducting research was "survey research methodology." Main objectives of the research were as follow.

- To get feedback from students and guardians towards Mid-Day meal scheme.
- To investigate the effect of Mid-Day meal scheme on attendance of the students.
- To get view of teachers on Mid-Day meal scheme implemented in primary school of Kotada Sangani taluka.

[17] N.A.Nimavat, ***Kotada Sangani Taluka Ni Prathamik Sala Ma Chalati Mdhyahan Bhojan Yojana Pratyena Pratibhavo No Abhyas.*** M.Ed. dissertation, Saurastra University, Rajkot, 1986.

- To get feedback from organizer of Mid-Day meal scheme, principals of the schools on Mid-Day meal scheme.

Questionnaire was used as a research tool for the study. The researcher had constructed five questionnaires for collection of the research data. The population for the research was the students, teachers, principals, guardians and organizer of Mid-Day meal scheme of Kotada Sangani taluka. For collection of the data 1300 students, 150 teachers, 40 principals, 200 guardians and 40 organizers were as sample of the study. The research data was analyzed by descriptive statistic. Major findings of the study are given below.

- The meal served in Mid-Day meal scheme was according to taste of students but there is a good chance in increment of students availing Mid-Day meal.
- Mid-Day meal scheme was looking successful to thrust attendance of the students in primary schools.
- According to the teachers this was a time spending exercise.
- According to the organizer, quality of food grains was inferior. Some infrastructure related issues were also there. The contingency cost and salary given by the administration was not sufficient.

Mid-Day meal scheme was discontinued for a brief period from August 1990 and MDM Scheme was re-introduced in Gujarat from 15th January1992. During 1991 and 1992, a scheme called Food for Education was implemented where in primary school children having at least 70% attendance were provided 10 kilograms of food grains free of cost per month.

Dusara B.V. (1992)[18] has undertaken a research for investigate feedback about that Food for Education Scheme. The research was done at M.Ed. level in Saurastra University. The methodology for conducting research was "survey research methodology." Main objectives of the research were as follow.

- To get feedbacks for Food for Education Scheme from principals.
- To get feedbacks for Food for Education Scheme from teachers.
- To get feedbacks for Food for Education Scheme from students.
- To get feedbacks for Food for Education Scheme from guardians.

The researcher has constructed four different questionnaires respectively for principals, teachers, students and guardians. The population for the research was the students, teachers, principals and guardians of Gondal Taluka. For collection of the data 114 schools were

[18] B. V. Dusara, ***Madhyahan Bhojan Yojana Ni Aveji Ma Anaj Vitaran Yojana Pratye Na Pratibhavo No Abhyas.*** M.Ed. dissertation, Saurastra University, Rajkot, 1992.

selected. 374students, 266 teachers, 48 principals, and 434guardians were as sample of the study. The research data was analyzed by Chi-square test. Major findings of the study were....

- Food for Education Scheme should be continuing.
- Food for Education Scheme was time saving scheme for school students.
- So far as cleanliness of the school is concern Food for Education Scheme is more beneficiary in comparison with Mid-Day meal scheme.

Yadav V.K. (2007)[19] has done a research to get feedback on Mid-Day meal scheme implemented in primary schools of Chhota Udaipur taluka of Amreli district. The research was financially supported by GCERT-Gandhinagar. The methodology for conducting research was "survey research methodology." Main objectives of the research were as follow.

- To get feedback from students and guardians towards Mid-Day meal scheme.
- To get feedback from sarapanch (village head) towards Mid-Day meal scheme.
- To get feedback from Principals of the schools towards Mid-Day meal scheme.
- To get feedback from teachers towards Mid-Day meal scheme.

The opinionnaire developed by research branch of Gujarat Council of Educational Research and Training – Gandhinagar was used as tool in the research. The population for the research was the students, teachers, principals and guardians of Chhota Udaipur taluka. For collection of the data 48 schools were selected. 315students, 196 teachers, 48 principals, 48 sarapanchs and 258 guardians were as sample of the study. The research data was analyzed by Chi-square test. Major findings of the study were....

- 84.48% sarapanchs were satisfied with staff working in Mid-Day Meal Scheme.
- 66.29% guardians want to continue Mid-Day Meal Scheme.
- 88.09% teachers feel that Mid-Day Meal Scheme is helpful to free the students from classroom hunger.

Samson M. and others (2007)[20] has done a research to get feedback on Mid-Day meal scheme implemented in primary schools of Delhi city. This study was funded by Ratan Tata Trust. The methodology for conducting research was "case study approach." Main objective of the research was to see the quality of public provisioning for the disadvantaged right in the capital itself. The focus of this research has been to probe the current functioning of the cooked midday meal scheme in Delhi -- from the kitchens where it is prepared to when it comes in its

[19] V. K. Yadav, ***Madhyahan Bhojan Yojana Ange Chhota Udaipur Taluka Na Vividh Juth Na Abhiprayo No Abhyas.*** Abstract series-13, GCERT-Gandhinagar,2007.

[20] M. Samson & others, ***Towards More Benefits from Delhi's Midday Meal Scheme.*** Collaborative Research and Dissemination, New Delhi. 2007

cooked form to the school and is served to the children. We were keen to understand how all the stakeholders viewed the scheme – the management, the teachers, the children and their parents, and finally the suppliers selected to provide the food. We hoped to use our insights to suggest guidelines for a smoother implementation of the scheme

Population for this research was primary schools of Delhi city. The school sample consisted of twelve schools catering to populations living in resettlement colonies / slums in six outlying areas of Delhi. The idea was to triangulate information from all the stakeholders involved – the teachers in selected schools, the children attending the selected school (and their parents), and those supplying food to the selected schools.

In the school survey, observation was a key research tool as were semi structured interviews with the teachers as well as the supplier's employees who were distributing the food.

Major recommendations from the research team were as follow.

- Parents and teachers need more information about the potential benefits of the cooked Mid-Day Meal Scheme.
- Parents need to be involved on a day to day basis.
- Supplementary benefits of the midday meal scheme need to be explored by the school management and the teacher body.
- The meal needs to go beyond the minimum in terms of nutrients provided.
- The midday meal scheme needs to be linked with other health inputs.
- Monitoring the overall functioning of the school needs more attention from MCD.

Concluding the research, the research report says that "It is important to note that the midday meal in itself is not disrupting the teaching environment in schools. Care has certainly been taken to see that teachers are not burdened by meal procedures. Unfortunately, children are not necessarily being taught during the time they are in school. In many schools, they also have the freedom to leave when they wish. Monitoring of the midday meal is taking place. Monitoring of school functioning is certainly required."

Finally, the quantity and quality of the midday meal being served to Delhi's school-children needs to be improved. Deficiencies with regard to Supreme Court guidelines have been discussed. But there is a need to go beyond providing the minimum in terms of nutrients. So far what is provided does not justify the term "midday meal". Efforts must also be made to ensure that supplementary benefits of the scheme are explored.

Dr. Angom S. (2008)[21] has undertaken a research with a view to find out the implementation of Mid-Day Meal Scheme and also to find out the best practices following the schools in the state of Manipur. With this objective the present investigator visited five districts in Manipur. It took four days to complete the investigation. The visited districts were Imphal East, Imphal West, Senapati District, Bishempur District and Chandel District and the investigator visited altogether 20 schools, three schools in Imphal West, three schools in Imphal East, five schools in Bishempur District, six schools in Senapati district and three schools in Chandel district. It is a case study of the different schools developed through information from all relevant sources using questionnaires, interview schedules and documents of the concern schools.

It has reported some of the good practices in its implementation and related issues have been discussed and presented. Most of the good practices are common in most of the school except for the idea of having kitchen garden, using gas for cooking, maintenance of register and display of day to day menu. The exceptional good practices need to be encouraged by the implementing agencies. It is also found that though there is delay in the released of maintenance fund, but the Headmaster take proper initiative to get the necessary cooking items in time.

It is learnt that in successful running of the scheme handwork, sincerity, dedication and cooperation of the staff of the school is much needed. However, the concerned authority of the state needs to take more interest on inspection of the schools regularly. It is also needed to provide the grain and required maintenance fund to release in time so that school will not face any problem in running the scheme successfully. It is also suggested that the State government should take immediate action relating to the common problem of kitchen sheds, drinking water facilities, insufficient number of utensils and toilet facilities. The Directorate of School Education of the State need to have a cell for running the Mid-Day Meal Scheme effectively and efficiently.

Deodhar S.Y. and others (2007)[22] has done a comprehensive study to judge the efficiency of Mid-Day Meal Scheme implemented in Ahmedabad city. Government and government aided primary schools of Ahmedabad city were as the population of the research. The broad objective of the study has been to clearly identify some of the critical issues associated with the MDM scheme and to do an objective evaluation in terms of efficiency in

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21 Dr. S. Angom, ***Good Practice of Mid-Day Meal Scheme in Manipur.*** Department of Higher and Professional Education, National University of Educational Planning and Administration, New Delhi, 2008

22 S. Y. Deodhar and others, ***Mid-Day Meal Scheme: Understanding Critical Issues with Reference to Ahmedabad City.*** Research and Publications, Indian institute of management Ahmedabad, 2007.

delivery system and service quality (which includes food safety, food nutrition and sensory aspects). They addressed three critical aspects of the scheme: managerial, technical and school logistics issues. Managerial issues pertain to understanding the planning and administration of the scheme by the central, state and local governments. For technical issues the researchers have identified nutritional and food safety concerns. This involved understanding norms in terms of nutritional recommended daily allowances (RDA) for children; identifying food safety standards in terms of microbial, chemical and physical contamination; and comparing the standards with the tests conducted on food samples from schools. The researchers have also discussed possibility of evolving food quality systems such as Hazard Analysis and Critical Control Points (HACCP) for food delivery. Logistical issues which pertain to actual day-to-day running of the scheme in government schools, such as procurement, storage, preparation, and serving and disposal of food. Issues related to meal timings and consequential implications on teacher time were also considered.

To address the above mentioned issues the researchers have collected secondary data and information on the working of the MDM scheme from various sources. This included the policy documents of the government and data available from the local and state administration. They also conducted field visits to some of the participating schools from different wards of Ahmedabad city. These included visits to 3 participating schools - in Gomtipur, Sabarmati and Ellisbridge areas – along with an NGO involved in preparation and distribution of meals. The research team documented their observations and collected food samples from these locations. The collected food samples were subjected to laboratory tests to analyze the nutrition content and food safety aspects of the meals.

The study suggests that the implementation of the Mid-Day Meal Scheme maybe wanting on the grounds of nutrition and food safety. The weekly menu shows a variety of meals offered, however, the condiments and seasonings being very similar each day, the sensory variety maybe lacking. The study also indicates that in terms of calorific and nutritive intake, proportionate amounts of protein and iodine are not being provided through the meals. Calcium requirements are more than met by the Mid-Day meal. Proportionate requirements of fat and iron are also met by the meals. However, it must be borne in mind that Mid-Day Meal Scheme is mandated to provide a minimum of 300 calories, i.e., minimum of about 15% of the daily requirement of calories. There is no guarantee that the kids will get their rest of the 85% of calories at home, and, that their out-of-schools meals will have any significant amounts of nutrition. Hence, Mid-Day Meal Scheme may want to provide much more than proportionate requirements of nutrition.

The study suggests certain changes to address the above mentioned issues. For example, nutrition bars (or perhaps a local version like chikki) and fruits like banana could be considered as one of the menus on a couple of days. This will add variety and assured nutrition to the kids. It may seem that providing nutrition bars, especially the branded ones, my turn out to be an expensive proposition. However, if these bars are supplied in large quantities, economies of scale may reduce costs. Moreover, branded nutrition bars (say of ITC) could be provided only a couple of times a week, complemented by locally made items such as chikki on some other days. Large fast moving consumer goods companies, especially the food companies like ITC are already involved in social development projects. They could be requested to channel their corporate social responsibility through Mid-Day Meal Scheme.

The study also revealed traces of uric acid and Aflatoxins which if taken for a longer period of time could be carcinogenic for the children. Therefore, they suggest implementation of the HACCP system in preparation and serving of the meals. The food samples from the NGO were found to be good which are indicative of the fact that public private partnership could go a long way in making this scheme a success. However, our experience suggests that transportation of meals from the NGO kitchen to various schools was not hygienic and safe. Implementation of HACCP system can address such flaws. The visit to the schools revealed that cooking and serving food in the school premises leads to a significant if not substantive reduction in learning contact hours between the teachers and the students. A combination of warm meals on some day sand pre-packed convenience foods on other days may reduce this loss of contact hours to some extent.

There are many aspects the current study could not focus on. For example, we did not focus on collecting time series data and analyzing whether or not student enrolment has increased due to Mid-Day Meal Scheme, ceteris paribus. Moreover, although we were able to fathom the magnitudes of financial and administrative data at the national, state and local level, the scope of this study could be expanded to ascertain administrative and financial efficiencies (or the lack of it) in much more detail. A separate and contextual study may be conducted to understand these aspects. In fact, a much larger study at the regional or national level could be conducted that not only includes aspects not covered in this study, but also widens the sample size of schools, cities, and meals to get a much broader and representative picture of India’s Mid-Day Meal Scheme.

The government has left no stone unturned to achieve the aim of universalization of elementary education by launching various schemes to enroll and retain the maximum number of students and mini-mize the dropout rate. One such scheme launched by the government was

Mid-Day meal scheme that aims to primary and upper primary level in improving the nutritional status of children, encouraging poor children, belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities. ***Dr. Nangia A. and others (2009)***[23] conducted a research study in the Union Territory of Chandigarh on the Impact of Mid-Day Meal Scheme in enrolment of elementary school students. Main objectives of the study were as follow.

- To study the impact of Mid-Day Meal Scheme on the enrolment of students at Primary level.
- To study the impact of Mid-Day Meal Scheme on the enrolment of students at Upper Primary level.

Hypotheses for the research were as follow.

- There is significant increase in the enrolment of students at primary level after the initiation of Mid-Day Meal Scheme.
- There is significant increase in the enrolment of students at upper primary level after the initiation of Mid-Day Meal Scheme.

Descriptive survey method was used in the study. The sampling technique was purposive and random in nature. Data from the school records have been taken to find the enrolment of the students at primary and upper primary level. A self-constructed and validated questionnaire was also prepared by the investigators and used for the purpose of primary and upper primary level evaluative research.

Findings of the research study show that there were 20. 16 % increase in the enrolment of students at primary level and 23.76 % increase at upper primary level. Over the period of three years that is from 2006 - 2009. It may be concluded from the above results that enrolment at primary level and upper primary level are increasing every year after the initiation of Mid-Day Meal Scheme. Thus hypotheses I & 2 has been accepted. The results also indicated that Mid-Day Meal Scheme is a motivating force for the children to attend the school.

Laxmaiah A. and others (1999)[24] have conducted a research in the state of Karnataka. The title of the study was "Impact of Mid-Day Meal Scheme on educational and nutritional status of school children in Karnataka." Main objective of the study was to assess the effect of the Mid-Day Meal (MDM) Programme on enrolment, attendance, dropout rate and retention

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[23] A. Nangia and others***, Impact of Mid-Day Meal Scheme on Enrolment of Elementary School Students,*** International Referred Research Journal, 2009.

[24] A. Laxmaiah and Others. ***Impact of Mid-Day Meal Program on Educational and Nutritional Status of School Children in Karnataka***. Retrieved on 3rd Feb. 2006, http://www.indianpediatrics.net/dec-99/99-dec-3.htm

rate in the schools and its impact on nutritional status as well as on school performance. The research design adopted by the research team for the study was comparison by multistage random sampling. Primary school children, who are attending the school in the MDM and non-MDM areas were as population for the study. For sample of the study, all the districts, where the MDM program is in operation were stratified based on levels of literacy status and developmental criteria. One developmentally backward district with low literacy status was selected (Kolar) and another developmentally improved district with high literacy status was selected (Mysore) for the study. From each district, 3 inspector zones (as defined by the Department of Education) were selected and in each inspector zone, total numbers of schools were stratified according to the MDM and non-MDM. From each stratified list, 5 schools were selected randomly. Thus, in each district, 3 inspector zones and 5 schools from each inspector zone were chosen on systematic random basis in view of the limited resources and time available [2 (districts) ´ 3 (inspector zones) ´ 5 (schools) = 30schools].

Major findings of the study were as follow.

- The percentage of children with better attendance (> 60% of working days) was higher (97.8%) in MDM schools than in non-MDM schools (95%) ($p < 0.001$).
- The retention rates were calculated based on a four-year follow-up of the students of 1st standard (cohort of students, 1988) promoted to class V (1992). The proportion of students who were on roll to the number enrolled into first standard in 1988 for the next 4 years was better in MDM schools (80.2%) than in non-MDM schools (77%) ($p < 0.05$). It was surprising to note that the retention was higher among girls in MDM areas while the proportion was higher among boys (78.3%) than girls (75.6%) in non-MDM areas.
- The year-wise dropout rates were significantly lower in MDM schools than in non-MDM schools in every corresponding year. When all the primary classes were considered together the dropout rates varied from 14% to 18% in MDM schools, as against 27 to 36% in non-MDM schools.
- Marks obtained by each child in the preceding annual examination were collected from the school records, and were distributed as per the grades normally adopted in schools for the purpose of analysis. A majority of the children (76-80%) in both the areas obtained marks between 40-70% that is grades `B' and `C'. In general, the scholastic performance of children in the MDM and non-MDM schools was comparable.

However, the proportion of students, who secured grade `A' was marginally higher in MDM schools (13.1%) as compared to non-MDM schools (10.3%).

- About 9.5% of children in MDM schools and 9.1% in non-MDM schools had one or more signs of deficiency, either B-complex and vitamin A or clinical anemia (pallor). There were no significant differences between the groups availing Mid-Day Meal and not availing Mid-Day Meal at school.

According to the research team Mid-Day Meal Scheme needs to be strengthened in its operational supervision. Also the quantity and quality of the supplement needs to be further improved to fill the nutrient gap.

As Mid-Day meals Programme is a nation-wide Programme, it is important not only to know how different states of the country implement the Programme, but to identify good practices which can be documented and disseminated with a view to its replication by other states in the country. It is in this context ***Dr. Shrinivasan K. (2008)***[25] has taken up a study in Karnataka. The Study was taken up with the following objectives:

- To present brief history, objectives and rationale of the Mid-Day Meals Programme in the state of Karnataka.
- To document best practices in the implementation of Mid-Day Meals Programme in the State of Karnataka.
- To give Profiles of some primary schools having good practices.

The study was taken up with case study research design. The data was collected from the Primary and Secondary sources. The Primary data was collected after visiting 6 districts and 24 schools with the State and District Education officials Karnataka by using a format designed for the capturing the data and also interview schedules, observation schedules and open-ended questionnaire and Focus group discussions. The investigator observed and checked the physical structure and facilities available in the schools and also interacted with the School Development Management Committee (SDMC) members, members of the Mother committees, students, Mid-Day meals officials, and children.

Relevant secondary data like, the school records, reports, Annual work plan and Budget (AWP&B) for last three years for Mid-Day meals, SSA activities in the state, Guidelines of NP-NSPE 2006, Review meetings of Mid-Day meals External Evaluation Reports etc. were collected from the, Akshara Dasoha (MDM) Programme of the School Education Department

[25] K. Shrinivasan, ***A Study of Best Practices in the Implementation of Mid-Day Meal Programme in Karnataka.*** National University of Educational Planning and Administration, New Delhi, 2008.

from the State Head Quarters Bangalore, District Headquarters (EO Office), Block Education Office (BEO). These documents were collected from the Joint Director Mid-Day Meals Scheme, Education Officers, and Block Education Officers and also from NUEPA Library.

The Sample selection for case studies was done in consultation with the Joint Director (MMS) and other senior staff associate with the Akshara Dasoha Programme in Karnataka. The districts and schools were selected on the basis of the geographical nature and the population etc.

Major findings of the study are some specific best practices were as follow.

- To maintain social equality at the grass root level one cook appointed in every center necessarily belongs to SC/ST communities.
- Only women are appointed as cooks with preference given to widows, single mothers and destitute women.
- LPG is used in the preparation of food in the interest of protecting greenery, reducing air pollution and also protecting the women's health and cleanliness.
- SDMC and other civil amenities committees are giving good quality vegetables/fruits/sweets to children on National festival and other special occasions.
- Rain water harvesting for improving the ground water management.
- Availability of Structured training modules for cooks. Cooks have been trained in the preparation of hygienic and healthy food and in maintaining cleanliness.
- Good convergence with other government departments.
- All Children are served food by making them sit in rows irrespective of caste and creed. This helps in co-ordination, co-operation, equality and moving towards casteless society.
- Pucca kitchen sheds are provided to the schools out of various schemes of Zilla Panchayat and State Funds.

Robinson N. (2007)[26] has undertaken a study to investigate the implementation of the Mid-Day Meal Scheme in Madhya Pradesh. The report is based off interviews conducted in four districts in the state – Bhopal, Seoni, Barwani, and Sheopur – during the last three weeks of March, 2007.

The Madhya Pradesh government claims it has achieved 100% implementation of the Mid-Day Meal Scheme. This report finds that the Mid-Day Meal Scheme has been widely

[26] N. Robinson, ***A Report on the Implementation of the Mid-Day Meal Scheme in Four Districts of Madhya Pradesh.*** Jawaharlal Nehru University, Bhopal, 2007.

implemented throughout the state. However, the program still suffers from major implementation failures. This report identifies the principal failures as:

- The meal not being served because of corruption, teacher absenteeism, and other implementation problems.
- Teachers being distracted from their educational duties by their responsibilities involving the organization of the Mid-Day meal.
- Cooks in small schools not being paid enough because of the per student pay structure of the Mid-Day meal.
- Deficiencies in the quantity of food being served in several parts of the state.
- An inadequate supply of drinkable water at many schools.

These findings concerning the Mid-Day meal are troubling. Although great strides have been made in the last several years to implement a Mid-Day meal in the state much work remains to be done. Madhya Pradesh must ensure that its Mid-Day meal is universalized with quality in a manner that does not place undue burdens on already overworked teachers.

The findings of the study were based on a review of the relevant literature, individual interviews, group discussion, and observation. The focus of the interviews and other research in these districts was on poor and marginalized populations – slum dweller, tribal, and other backward caste communities – whose children would likely benefit most from the Mid-Day meal, but were also likely to have difficulty accessing the program.

Major recommendations from the researcher were as follow:

Staffing:

- Provide independent staff to organize meals. For larger schools this might be a full-time staff person to plan the meals, gather food supplies and monitor quality. In smaller schools this might mean the promotion of a cook or the hiring of a peon who the teacher could direct to gather the necessary food items. In some situations, a particularly active PTA might be able to organize the meal. Teachers' involvement in the Mid-Day Meal Scheme should not take away from their educational duties. Corruption in the Mid-Day Meal Scheme may also decrease if the role of taking attendance (the teacher's responsibility) and organization of the meal (other staff) are separated.
- Guarantee every cook a minimum salary. This salary should not be less than the daily minimum wage for the state.

Corruption:

- Increase community member's awareness about how they can complain about corruption or faults they find in the Mid-Day Meal Scheme. This awareness may come in the form of posters, radio announcements, or other educational campaigns.
- Create a district level vigilance committee that would receive complaints about the Mid-Day meal scheme and have to resolve them within one month. District courts could also receive complaints about the scheme and respond appropriately.
- Release every three months the attendance at each school in the district, the number of meals given, and comments from the PTA about the status of the program. This information should not only be available to community members, but be put on a website, like the NREGA-ICT model, so NGO's and others can monitor the programs implementation.
- Set up a social audit in which several panchayats in each district would participate each year. Through this audit district official would present data about the Mid-Day meal and the education system in the community. Community members could then respond to this data and give input about how to improve the school and its Mid-Day meal.
- The District Collector in Sheopur should regularly report to the Right to Food Commissioner on the operation of the school and Mid-Day meal in Kapoora. He should also report on other communities in his district which have schools that have also been identified as not giving the Mid-Day meal regularly.

Infrastructure and Supplies:

- All schools should have separate kitchens that are appropriately ventilated.
- Kitchens should be fully stocked with necessary equipment.
- All children should be provided with utensils for the Mid-Day meal.
- Natural gas should be considered as a fuel source instead of wood, especially where wood is scarce or the kitchen has poor ventilation.
- Provide drinkable water on all primary school premises. The school should be provided with a water tank if there is not a water source on school premises.
- Increase the amount of money given per student for the Mid-Day Meal Scheme. This money can be used to improve the quality of the Mid-Day meal. Rice, milk, egg, and other nutritious food should be rotated in the menu. Further, a greater variety of vegetables should be purchased.

Anuradha De(2005)[27] has undertaken a study at Delhi. The research was supported by Sir Ratan Tata Trust. The focus of the research was to probe into the current functioning of the cooked midday meal scheme in Delhi -- right from when the grain leaves the godowns of the FCI to when it comes in its cooked form to the school and is delivered to the children. The research team has also used the research to suggest guidelines for a smoother implementation of the scheme.

Primary education through government schools is provided by the Delhi government and by the Municipal Corporation of Delhi and by the New Delhi Municipal Corporation. In this research the research teams concentrate on Municipal Corporation of Delhi schools which cover the largest proportion of children enrolled in government primary schools, and which have the highest proportion of children from slum areas and disadvantaged socioeconomic backgrounds. So we can say that the population for the study was the primary schools runs by Municipal Corporation of Delhi.

Survey method was used for the study. The fieldwork had a school survey component and a household survey component conducted in mid-2005. It was supplemented by visits to some of the kitchens where the food was cooked. In the school survey, observation was a key research tool as were semi structured interviews with the teachers as well as the supplier's employees who were distributing the food. The school sample consisted of twelve schools in six outlying areas of Delhi where the proportion of slum population is high. In each of the six areas the morning and afternoon shift in the same school premises was done thus capturing the experiences of both boys and girls as the girls are generally allotted the morning shift and the boys the afternoon shift. During the household survey, the research team discussed parents' and children's perceptions of the cooked midday meal scheme as well as the infrastructure and the teaching quality in the school in which the child was enrolled. The household sample consisted of 10 households from each site, selected on the condition that they had a child enrolled in one of the sample schools in that area.

Major findings of the study were as follow:

- The entire process of serving and eating was generally done within half an hour. However, the actual teaching time disrupted in each school varied with the general level of school functioning.

[27] Anuradha De and others. ***Towards More Benefits From Delhi's Midday Meal Scheme***. Collaborative Research and Dissemination, New Delhi, 2005.

- In terms of taste, the quality of the meal was found to be sound for the most part with almost all items on the menu meeting the enthusiastic approval of the children.
- In terms of nutritive value, the food provided was supposed to satisfy a minimum in terms of calories and protein
- In no school, did investigators see any cleaning up of the area where the food would be served or where the children would eat. In some schools, where children ate out in the open grounds, dust and dirt could well have found its way into the food.
- No one insisted that children wash their hands before the meal and only the rare child did. The importance of washing one's hands with soap before eating was completely overlooked
- Teachers were generally positive about the meal. Since they were not involved in supervising the cooking or the distribution, most did not feel it was an additional work responsibility. Also they felt it was useful in their schools where there were many children from deprived socioeconomic backgrounds.
- Suppliers were using mostly ma1e staff for cooking and handling the machines.
- Some parents and children who were happy with the quality of the meal were unhappy about the quantity.
- Notwithstanding the reservations about the quantity and quality of the food distributed in the midday meal scheme, around two thirds of those interviewed wanted the cooked midday meal scheme to continue.
- Parents and children complained bitterly about the lack of drinking water in the school. In some schools there was no drinking water at all. In one school, only one out of the five taps provided was functioning and there was always a big crowd around it. No water was one more reason for teachers to excuse children going home during the recess, and perhaps not returning to school.

Gangadharan V.A. (2006)[28] has undertaken a study for The Director of Public Instruction at Kerala. The research was supported by Government of Kerala. The study reviews the existing management processes associated with the Noon Meal Scheme to devise an appropriate management Programme for the NMS. The study used appropriate questionnaire for interviewing PTA members, teachers, cooks, and students; consultative meeting with concerned officials, including members belonging to suppliers of goods and services.

[28] Dr. V. A. Gangadharan. ***Noon Meal Scheme in Kerala.*** State Institute of Educational Management and Training, Government of Kerala, 2006.

Main sources of information are officials associated with NMS; school authorities/staff responsible for NMS, particularly HM, teacher- in charge, parents, students, cooks, others; supporting structures such as PTA members, NGOs, other interested agencies/institutions or individuals. The functioning of NMS in forty-two schools (23 governments: 19 aided) in 14 districts was studied. Some of the main findings of the study are as follow:

- The physical facilities for NMS are available only in 50% schools; 94% schools depend on firewood for cooking; separate building for kitchen outside class rooms are rare; adequate space is not there in 50% schools. School verandah is the main venue for serving food.
- The government grant is far less than the total expenditure in many schools. The fund inadequacy is particularly high in schools with limited students. The average annual financial deficiency in schools is around 15 %.
- The average contingency expenditure in LPS per student is less than sixty-four paise though the government grant is much more than this amount. Schools with less number of students have higher per day student expenditure. There is a need to increase the contingency fund to schools particularly small. The problem of fund inadequacy is very severe and as result quality is the victim.
- There is a demand that the menu should be improved and made more attractive and the noon meal programme be made a full-fledged School Lunch Programme meant for all -teachers as well as students with partial or free packages.
- Most of the cook engaged with schools are untrained, inexperienced, aged and educationally under qualified.
- There is a need for continuous monitoring which is not there now.

Blue J. (2005)[29] has undertaken a study to asset the impact and implementation of Mid-Day Meal Scheme in Udaipur district. The objective of this study is to explore the quality of implementation and impact of the Mid-Day Meals Scheme in rural Udaipur district by focusing on the experiences of eight study schools: Mandwal (Kotra), Pareda (Kherwara), Magra (Kherwara), Sagwara (Kherwara), Barwaliya government school (Badgaon), Barwaliya NFE center (Badgaon), Chali (Badgaon), and Undithal (Badgaon). The field research consisted of personal observation of school meal preparation and distribution, and detailed semi-structured

[29] J. Blue. ***The Government Primary Mid-Day Meal Scheme: An assessment of Programme Implementation and Impact in Udaipur District.*** Seva Mandir, Udaipur, 2005.

interviews with teachers, cooks, primary school children, parents, and Seva Mandir Paraworkers.

The study found that cooked Mid-Day meals have become part of the daily routine of the schools, though both funding and quality of the meals varied substantially from village to village. While some schools were given 20 to 50 paise per meal and prepared only plain ghoogri for the students, others received Rs. 1.50 per meal and regularly served dalbati and roti subji. Cooks had been hired in most schools and the meals did not seem to greatly disrupt classroom activities, though teachers complained that the program had increased their workload significantly. However, several teachers also credited the Mid-Day meals with putting an end to classroom hunger and thus improving the students' academic performance.

Practically all of the parents interviewed insisted that the school meals had no effect on their decision to enroll their children in school, how often they sent them to school, etc. They generally said that they had adequate food at home and scoffed at the idea that they would send their children to school for the skimpy portions of badly cooked ghoogri that they got there. However, the study also found that many parents leave the decision of whether to attend school to the children themselves, at least in the early years. And the children seemed to thoroughly enjoy the school meals, which were also used as recess breaks. Many teachers believed that the meal program was responsible for increasing enrollment and attendance at their schools, though most of them explained that the meals mainly attracted younger children. The older ones, teachers said, were only interested in the academic part of school and would attend regularly regardless of whether meals were served, unless their families needed them to help with the farm work or migrate for wage labor. Parents' responses also supported this assessment.

The study's findings thus indicate that the Mid-Day Meals Scheme has had some impact on enrollment and attendance in Udaipur district, but that this effect has been uneven across age groups and communities. The school meals have likely boosted the enrollment and attendance of the youngest primary school children, but their ability to affect the attendance and retention of older students is questionable. In addition, interview respondents reported the greatest impact from the Mid-Day meals in the most impoverished communities covered by the study. The objective of the Mid-Day Meals Scheme is to improve child nutrition as well as school attendance, yet approximately half of the parents interviewed reported that their children eat less at home as a result of the school meals. Since school meals were usually less nutritious than the roti subji most respondents ate at home, this is a cause for concern. Future improvements to the quality of school meals (preferably backed up by better monitoring) will

likely ameliorate many of the Mid-Day Meals Scheme's problems and enhance its beneficial effects on both nutrition and school attendance.

Angelique Chettiparambil-Rajan (2007)[30] has reviewed the Indian Mid-Day Meal Scheme. In this research the researcher has reviewed historical development of Mid-Day Meal Scheme in India. Main objective of the study was to review the effect and implementation of Mid-Day Meal Scheme in India. Major conclusions of the study were as bellow:

- The actual implementation of the programme at ground level is a result of layering of many levels of policy starting from the nation, through the state, district, block and local governments and the schools.
- At the national level the programme funds certain requirements that are deemed to be minimal within budgetary constraints. These requirements allow for considerable variation and innovation, which are however confined to certain aspects only.
- Food grains are off-loaded from the central PDS system which has a wider role to play in the economy. This wider role is complemented by the Mid-Day Meal Scheme in two ways – by cutting costs of the PDS and improving food security.
- In terms of cutting costs it i) improves the purchasing power of families, which in turn could lead to more food related consumption creating greater demand thus deterring the piling up of surplus ii) allows the dissemination of excess food stocks to targeted populations thus deterring potential excess stock build, iii) the increased demand can keep prices more stable thereby decreasing the magnitude/need for price support mechanisms at the procurement end, thus reducing the costs of overall food subsidy, iv) The storage of food grains in locations handier to the MDM effectively leads to a decentralisation of storage, thus reducing storage costs and finally v) the overall demand and price stability can lead to a producer surplus.
- In terms of food security, the greater demand stimulated by the MDM extends the coverage both in terms of number of meals a family can afford and in terms of reaching hitherto excluded populations thus decreasing the gap between demand surplus and actual surplus in food.
- The overall effect of MDM on school attendance and retention are positive. However there is a class bias for this effect with lower classes benefiting (and valuing) the scheme more.

[30] Angelique Chettiparambil-Rajan. A Desk Review of the India Mid-Day Meals Programme: World Food Programme's Home Grown School Feeding Project. School of City and Regional Planning, Cardiff University, Cardiff CF10 3WA, United Kingdom, 2007.

- The MDM can in certain places displace the prime education function of schools, thus reducing it to a benefit distribution Centre.
- A large potential for introducing nutrition supplements to excluded populations exist.
- The management of the MDM leaves much to be desired. However, the main constraints for improvements are i) finance ii) lack of complementary infrastructure which relates back to finance, iii) lack of better role allocation with respect to management (only partly financial), iv) lack of parental involvement and bottom-up monitoring mechanisms, v) potential for corruption.
- MDM has an effect of releasing both time and resource in poor families.

Shukla and Prabhati (2009)[31] have presented a paper in Geographical Review of India 71(1). The paper has assessed the impact of Mid-Day meal programme running in Madhya Pradesh since 1995 by taking case study of Sagar district on enrolment and retention of pupils. The programme was initially based on distribution of raw food and later in 2004 changed to cooked food.

The study is both primary and secondary data based. The secondary data is collected from District Controller of Food, Zila Panchayat and District Education Officer, Zila Shiksha Kendras and census reports. The primary data is collected through surveying 1 primary school in each development block. In this survey students were asked questions to assess their development. Attendance records were also checked.

The increase in enrolment is unsatisfactory. The increase was maximum in 1998-99 and declined continuously thereafter with exception of 2005-06 and become negative in 2009. The unavailability of primary schools in some 12 percent villages, of middle schools in 39 percent villages shows low educational infrastructure available in villages which affects their attending schools. The diet given to children is found imbalanced. More than 50 percent children suffer from malarial disease. Thus, the claim of distribution of cooked nutritious food is unreal and this has affected attendance and enrolment in schools. The achievement of almost all students is below 50 percent of what is expected from them.

Stephanie Bonds (2012)[32] has undertaken a major research project to evaluate the impact of India's Mid-Day Meal Scheme on educational attainment. The dataset analyzed in this research is from India's 2004 Socio-Economic Survey, conducted by the Government of

[31] Shukla and Prabhati. ***Impact of Mid-Day Meal in Primary Schools of Sagar District, MP.*** Geographical Review of India, 71(1), 2009: 25-31

[32] Stephanie Bonds. ***Evaluating the Impact of India's Mid-Day Meal Program on Educational Attainment. Department of Economics***, University of California, Berkeley, 2012.

India's National Sample Survey Organization from June 2004-June 2005. Raw data was compiled and made available through the Minnesota Population Center's Integrated Public Use Micro Data Series- International (IPUMS) database. Using a two-staged, stratified sampling design, the survey collected information on the demographics, educational level, labor status, and income brackets of 602,833 individuals across the country.

For the purpose of this study, only the 79,558 primary school-aged children were extracted from the sample, in order to restrict analysis to those eligible for the Mid-Day Meal Program. Although provision of a Mid-Day meal was mandatory in all public, primary schools, only about 50% of the public school children in the sample who attended school reported benefitting from the program. Major findings of the study are as bellow:

- The high gains in attendance achieved through the Mid-Day Meal program in India provide further validity to the evidence that school feeding programs are not only successful in improving health outcomes for children, but also contribute to significant educational gains. The differential gains for children from lower socio-economic backgrounds suggest high benefits from targeting this program towards poorer areas, in order to increase enrollment of children who would otherwise be unable to attend school.
- An additional point in favor of this policy is the fact that the Mid-Day Meal program is relatively cheap, in comparison with other educational inputs. Providing a nutritious school lunch for children costs only $1.80 per child per day (Government of India), and given the high impacts on attendance rates and health, can contribute to long-run benefits in education and other development measures.
- Not only did the Mid-Day Meal program have a significant, positive effect on overall enrollment rates, but the effect was also more pronounced for those with the least educated parents and lowest economic status.
- In order to evaluate the long-term educational, social, and labor market outcomes of school feeding programs for the children that were treated, it would be useful to conduct a follow-up survey.

One important factor to note is that well-off individuals are over-represented in the survey, and thus, the impact estimated in this research is likely to be a lower bound of the program's effect on the entire population.

Radhakrishna and Ravi (2004)[33] report on malnutrition in India from studies of the National Nutrition Monitoring Bureau. They suggest that "about half of the children of India might not have reached their physical or mental potential and about one fifth of the children might be functionally impaired" (672). They identify 8 states – Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal – as accounting for 77% of malnourishments in children.

Pioneering studies by ***Sukhatme (1982) and Seckler (1982)***[34] who explain that conversion efficiency of food into energy is dependent on access to safe drinking water, health care and environmental hygiene as these reduce food wastage by diarrhoea and dysentery is cited. States like Kerala and Tamil Nadu thus have low levels of malnutrition even when their food energy intake is low, while states like Rajasthan and Uttar Pradesh have higher malnutrition even with higher levels of food intake.

Brinda Viswanathan (2006)[35] reviews data from the National Sample Survey for the year 1999-2000 to discern access to nutritious meals across states in both urban and rural areas. She reports that only a few states had a scheme in place, with Tamil Nadu out performing others in access rates which included girl children (rural area being better targeted than urban). Her study shows evidence of overall improved literacy rates and educational attainment in states that had the scheme.

Dreze and Goyal (2003)[36] conducted a survey of 81 randomly selected villages in 3 sample states (27 in each) - Chhattisgarh, Rajasthan and Karnataka – involving interviews with teachers, parents, cooks and others between January and April 2003. Even they found evidence for the presence of Mid-Day meal scheme in all 3 states they argue that while well devised school; meal could contribute to advancement of elementary education, child nutrition, and social equity a badly devised one might do more harm than good. The negative findings related to very poor infrastructure facilities (cooking shed, water supply, utensils and so on); repetition of same menu everyday (in Rajasthan ghoogri ; in Chhattisgarh, rice with dal or vegetables, and in Karnataka, a better menu of rice and sambar with vegetables, pongal, lemon rice and even sweets like kshira overt and covert forms of caste prejudices and discrimination towards lower caste children and cooks in some areas, serious health hazards including children allying

33 Radhakrishna and Ravi (2004). In Angelique C.R., ***A Desk Review of the India Mid-Day Meals Programme. World Food Programme's Home Grown School Feeding Project.*** Cardiff, UK: Cardiff University, 2007, p. 14.
34 ibid
35 ibid
36 ibid p.15.

sick after meals; disruption of classroom processes as teachers must oversee the operation (in one place evidence of soot-covered classrooms using make shift stoves and inadequate utensils with help from young children to cut vegetables resulting in no teaching after lunch);very low allocation of funds per meal (50 paise). Positive effects included improved (by 15% - 29%) school enrolment especially in girl children, improved school attendance and retention through the day, socialization to overcome caste and gender prejudices in some cases, non-income support to poor families; good management of food logistics in terms of delivery and supply, comparatively good financial allocation (1 rupee) and management in some states such as Karnataka and Tamil Nadu.

Afridi (2005)[37] reports on a survey conducted in the months of January and February in 2004 in 41 randomly sampled villages in the non-tribal block of Chindwara District of Madhya Pradesh. Within each village, 15 households having a child in the5-12 range were surveyed through systematic random sampling. The enrolled child was then linked to the schools he/she attended. Information on the scheme was collected from 615 households, 74 primary schools (public and private) and 35 village panchayats.

In Madhya Pradesh, the Mid-Day meal programme is devolved to local panchayats. The state government has framed different schemes for panchayats in tribal and non-tribal areas. There are separate ear-marked funds for the Mid-Day meal in tribal areas. In non-tribal areas, funds that are devolved from the centre to the local panchayats can be utilised for the scheme subject to a maximum of Rs 0.60/child/day. In November 2003, the state Government introduced a new Mid-Day meal scheme on a pilot basis mandating panchayats to spend Rs 1.25 to Rs 1.30/student/day. The area studied fell under this pilot scheme. The panchayats were also required to engage two cooks providing roti and sabji in the place of daliya. The general feeling however was that the cost estimates of the revised menu fell short of the prevailing market prices, which made the provision of quality meals difficult.

The study reports delay in the implementation of the programme citing reasons of grains stocks running out, cooks on holiday and delays in receiving permits for obtaining grain allocations from PDS shops. Thus 5 schools in the study sample continued to distribute dry rations. In the old scheme, the study found that 47% of the panchayats had spent less than the mandated amount. While the old scheme served daliya alone, the new scheme was to serve roti (100gms) with 60 Gms of vegetables or 20 Gms of dal/school/day, with a menu switch every 10 days.

[37] ibid p. 16.

The empirical evidence confirmed that children were getting a more nutritious diet than before. Infrastructure facilities were problematic however with no school having a separate kitchen. In most schools an abandoned room in the school building was used. Since fire wood was the main fuel, this resulted in smoke and distraction to classes. There were not enough plates. Students either brought plates from home or used a paper torn from school notebooks. Cooking utensils were provided by all panchayats and water was available either through water stored in steel buckets or hand pumps. While 60 % of parents were satisfied by the old programme, 80 % were satisfied by the new. The main problem was in relation to funds however. Afaridi reports that while the old scheme used up around 76% of the development funds of the Panchayats, the new scheme would leave a shortfall of around Rs 27,000per Panchayat thus potentially jeopardizing the programme viability in the long run. In places where the new scheme was run, it was found that the panchayats were cutting costs by involving students themselves in the implementation of the scheme thus adversely affecting learning. There was also very little evidence of involvement by village education committees or parent teacher associations.

In Karnataka, Afaridi reports better implementation. Thus children are provided with 100 gms of rice, 20 gms of pulses and 25 gms of vegetable with variations in cooked meals every week. Rice and sambharwas the most common menu. Children were also provided with iron and folic acid tablets and also deworming tablets. Community participation is high with the programme being extended from class V to class VII with additional community resources. Funds in Karnataka are ear-marked and allocated by the state government at the rate of Rs1 /child/day from lottery funds. Central government assistance was used for infrastructure and for payment of cooks' ages thus not burdening the Panchayat. Karnataka had also revamped the administration of its educational system to give power to School Development and Monitoring Committees (SDMC), with strong parental presence. The SDMC’s were powerful bodies and they received the funds for the meals scheme directly from the Tahsildar through Panchayat secretaries. Afaridi reports that in her empirical observations, the scheme was working smoothly with temporary kitchen sheds for cooking and water supply availability, even though in terms of other infrastructure facilities more could be done. She concludes that this operational smoothness was similar to what was observed in Madhya Pradesh where there were more funds allocated.

The Pratichi Research Team (2004)[38] conducted a comparative study in the Birbhum district in 2004 of 15 schools chosen randomly from a block that ran the Mid-Day programme and contrasted it against 15 schools chosen randomly from a block that did not run the programme.

Parents and children from 10 households in each of the 15 schools were interviewed along with teachers, Parent Teacher Associations, Panchayat members, Anganwadi sahayaks, others involved in cooking and political and social activists. The findings were also corroborated through a workshop were respondent parents and teachers were assembled. The Team found that attendance in school where the Mid-Day meal programme was run was up by more than 10%, while it was constant for the others. However, they reported that this impact was much higher among the SC (12.6%), ST (19.9%) and Muslim (13.2%) populations with the greatest impact being upon ST girl students (25.4%). Perceptions of impact varied. While the majority of the Hindu household felt that there was no positive impact, the wage earners and small cultivators (SC, ST and Muslim background) pointed to important impacts of the programme including the ability to provide a second meal in the day.

It was also felt that social taboos and inhibitions were reduced in the sharing of a meal. Teacher attendance was also reported as being more regular due to increased responsibility. When 80% was in favour of the programme, 20 % (who were caste Hindus) were opposed to it mainly on grounds of not really benefiting from it as their children had a meal anyway and also because the increased number brought in more SC/ST and Muslim students. 82% of the parents were willing to contribute and help in the programme either in cash, kind or labor. The meal served consisted of khichuri and 80% found the food attractive though suggestions to improve the same was also made. 74.4 % children did not have any food before coming to school, with a few having just tea. Most children (88%) wanted the programme to continue.

In the non- Mid-Day meal programme areas, most parents wanted the scheme to be introduced and were inclined to participate in materialising the same. The study as a whole however also reported on the following problems: poor quality of food in terms of both hygiene (including reports of sickness after meals) and variety, inadequate infrastructure (food prepared in the open, possibility of accidents, no adequate utensils) inadequate salary payment to cooks, insufficient budgetary allocation towards conversion costs which reportedly resulted in the fixed menu, caste and religious bias among some parents in some places, less scope for parental

[38] ibid p. 17.

participation in the programme, disturbance in teaching activity due to time demands on teachers even though participation was whole-hearted sometimes involving parents as well.

Bisht Anjana (2007)[39] has studied that national programme support to primary education (MDMS) in tribal areas of Himachal Pradesh and some major finding of the study were:

- This scheme should be implemented in such a manner that it should not affect the teaching learning process.
- For centralized cooking method NGO's, youth club, Panchayats, Mahila Mandals etc. can be engaged or tenders can be invited for this purpose.
- Quality of meal served to the children of Government Primary schools should be checked from time to time by the authorities of FCI and civil supply so that its quality should be ensured. Thus, it is suggested that frequent checking should be there.
- Due to lack of human and non human resources, infrastructure etc. parents prefer to send their children to private schools. Thus, enrolments in government primary schools are very less as compared to that of private schools.
- In school there should be provision of measuring instruments of measure/weight food grains (rice), pulses and other ingredients etc.

Nielsen (2007)[40] in his study mid day meal programme for school children, Akshayapatra unlimited food for life reported that enrolment of girls had improved more significantly than boys and school attendance rate had improved by 8.2% in Jaipur. Mid day meal programme had reduced the drop-out rates and improved the retention rates in all higher classes. Around 85% of heads of the school and teachers reported that classroom performance of children had improved.

Dreza Jean & KheraReetika (2008)[41] found that giving and sharing food mid day meal can do more to footer friendship and altercation than the most eloquent religious sermons. They stated that one argument for providing mid day meal in primary school is that this makes the school environment less hostile for the environment is often stiffing and unfriendly mid day meal program also provide an esculent opportunely to implement nutritious program that require mass instruction such as deworming. Mid day meal can be seen as a form of economic

[39] Bisht Anjana (2007). "National programme of nutritional support to Primary education (MDM scheme) in tribal areas of Himachal Pradesh: An evaluation study", M.Ed. Dissertation Himachal Pradesh University, Shimla.

[40] Nielsen, A.C. (2007). "Mid day meal programme for school children, Akshay a patra – unlimited food for life", Journal of Community Guidance and Research, Vol. 26(1), p. 50.

[41] Dreza Jean &KheroReetika (Nov. 2008), "Mid dayMeal in Primary School", Yojana, Vol. 52, pp. 36-37.

support to the poor section of society. More importantly pushups, mid day meals facilitate school participation among underprivileged children. Children are found generally happy to get mid day meal at school. This is not so much because they are hungry or because they enjoy sharing a new with their friends. Many states have started enhance the variety and nutritious content of mid day meal, and this tend to make them even more popular among children.

Baru et al. (2008)[42] reported that provision of dry rations and biscuits where were part of the National Programme of Nutritional support to primary education before the Supreme Court order on cooked meal have shown children often did not consume these. Although midday meal scheme has ensured enrolment but it had little impact attune and retention levels.

Kumar (2008)[43] in his study reported that most of the teachers teaching in government primary schools of Himachal Pradesh were not in favor of implementation of cooked mid day meal scheme. There is wastage of teaching time on the part of teachers as a result of mid day meal scheme.

The Hindu (2008)[44] New Delhi special correspondent under the article 'ready to-eat meal scheme opposed' reported that strongly opposing the center's proposal to serve 'ready to eat' meals under its mid day meal scheme, civil society groups and professional bodies have said that it would go against the interest of India's children and women, besides being in direct contradiction to the orders of the supreme court.

Further they pointed out that technical experts in India and other countries have never recommended packaged meals for infants and children and countries were moving away from such foods towards healthy eating habits for their population in their nutrition action. They said "ready-to-use foods" in whatever form would lead to not just dependency on processed foods and set an unhealthy trend in country but also destroy our vast culture and food diversity. Further, it was suggested that if the cabinet accepted this proposal, it would legitimize the transformation of poverty and child malnutrition into a source of profit for the food industry, and public funds would begin a reverse flow towards the industry rather than towards eradicating the root because of underdevelopment and inequity that led to such problems.

Bhardwaj, Richa (2009)[45] found that the academic achievements of students studying in Non-mid day meal school (private schools) were significantly highest in all subject in

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42 Baru Rama et al. (2008). "Full meal package deal in Economic and Political weekly Jun, 14 2008".

43 Kumar, Anup (2008). "Teachers perceptions towards national programme of nutritional support to primary education (mid day meal scheme)". The Primary Teacher, Vol. XXXIII (1-2), 63

44 The Hindu (2008). "Ready to eat' meal scheme opposed. Retrieved from ipsnews. Net/news/news.asp? odnes.

45 Bhardwaj, Richa (2009), "advancement of Primary school students in relates to their condor and type of school: A Comparative study". (Unpublished M. Ed Dissertated.) Abhilashi P.G. College of education Ner-ChowkMandi (H.P.) 175008.

comparison to students studying in mid day meal school (Govt. school) in district Kangra of H.P.

Gupta (2009)[46] has studied teachers and students perceptions towards mid day meal scheme in Mandi district of Himachal Pradesh and concluded the mid day meal scheme is helpful in encouraging poor children belonging to disadvantaged sections of society to attend school more regularity, lack of interest was noticed on the past of primary school teachers regarding implementation of mid day meal scheme.

Hadi (2009)[47] has found that midday meal schemes introduced by congress Govt. for school going chidlren is showing positive results in Aurangabad in Maharashtra. In Aurangabad alone, the scheme is currently running in about 296 Govt. older schools. Almost 24411 students from the 1st to fifth grade and 6025 students from the 6 to 8 grades have been selected and special care is also being taken to provide whole i.e. some food and ensure cleanliness while cooking. The National Programme of Nutritional support to primary education (commonly known as mid day meal schemes), one of the world's largest nutritional programme, covers more than one million schools.

Parida (2010)[48] was conducted a study entitled "Mid Day Meal scheme and growth of primary education- A case study of a district in Orissa" and found the mid day meal scheme has produced a positive impact in the case of attendance and dropout rate. This scheme has increased the enrollment of boys and girls of all categories in all the school. The scheme has also been able to increase the role of attendance of school going children. Though the impact of mid day mere scheme is impressive in terms of enrolment, retention and attendance, nonetheless the scheme suffers from a numbers of bottlenecks in the course of its implementation. The quality of food material supplies for the noon-meals programme is found very poor. Massive corrupted and kicks backs are also reported in the operations of scheme. Dal and other condiments supplied by the agents were not fit for human consumption. Financial allocation for operation at this scheme is inadequate irregular.

Mehrotra et al (2011)[49] have studied the nutritional health status of primary children. A study in Bareilly district found that the nutritional health analysis tools were used and the

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46 Gupta, Tamanna (2009). "A study of teachers and student's perceptions towards National Programme of Nutritional support to primary education (Midday meal scheme) in District Mandi of H.P. Pradesh. (Unpublished M. Ed Dissertation). Abhilashi P.G. College of education, NerChowk, Mandi (H.P.) 175008."

47 Hadi Abdue (ANI) (2009). "National Aurangabad midday meal shows positive results Maharashtra" retrieved April 4, 2009 from http://www.areaful.com/news/mid-day-mealshowry-postiveuls.

48 Porida Jayant (2010)." midday meal scheme and growth of primary education - A case study of a district Orrissa.Journal of education planning and administration vol. (XXIV) (2) April 2010". 169-177.

49 Mehrotra Monika, Arora Santosh and Nayar Veenu (2011). "Nutritional health status of primary school children. A study in Bareilly district. Journal of Educational Research. Indian Educational Review Vol. 48."

status of the nutritional health was assessed. On observing the rural children for any nutritional deficiency signs and symptoms, loss of luster of hair and skin indicates protein and energy deficiencies, chalky teeth show calcium deficiency among them. The urban children's nutritional analysis shows a normal appearance. The researcher recommends that the food provided to the children under mid day meal programme should be a mixture of all the essential nutrients.

Ramachandran Perma (2012)[50] has observed that in India under nutrition is state the major problem; about 18% of preschool children and about a quarter of school children are undernourished. It is essential to assess nutritional states of all children by measuring height weight and computing BMI (Body Mass index providing undernourished children food supplement (additional helping from mid day meal) and treating infection is any detected through the school health system can reduce under nutrition rules MDM schemes can help to provide adequacy nutrition to children up to 14.

Garg Manisha and Mandol, Sankar Kalyan (2013)[51] found that mid day meal as a policy intervention has benefited the disadvantaged group through increasing enrolments, attendance and improved nutrition. This is very significant finding, given the fact that most policy intervention for social development benefits the most of the sections of the society. Paradoxically, In spite of such operations of MDM, there is no bridging of the profiling educational inequalities, rather than is on the rise.

Prasad Archana (2013)[52] has studies that the medical attention on to mid day meal scheme of the court of India in the wake of the death of 27 children in Bihar school focused on the local cover implementation factures and corruption within Scheme. Many of these problems have out of the implementation and insufficient allocation fun and the faults in the very design of the scheme. These have already repeatedly been arisen out by all sections of society and also by several orders of the Supreme Court which have tried to improve the system. But instead of restructuring the scheme and addressing the problem of the workers working it, the control end the state govt. Seem to be using these problem to disinvest in the scheme and push for its privatizations. It is another they to note that the promotion of contrived kitchens and comrade to big private players have become the cornerstone of the implementation of hence social

50 Ramachandran Prema (Nov 2012), "Malnutrition's in Indian Children", Yojana, Vol. 56, pp. 10-15.
51 Gurg Manisha and Mandol Sankar Kalyan (July 2013)", Economic & Political Weekly, Vol. XLVIII," No. 30, pp. 155-163.
52 Prasad Archana (July2013). "Weekly organ of the Communist Party of India (Marxist)", Vol. XXXVII, No. 30.

welfare as mid day meal has become a method of not only getting financial benefit that is casted by the main activities of such companies.

Shailja & Nisha Gupta (2013)[53] in research paper "impact of midday meal on enrollment, Attendance and retention of primary school children studies that enrollment of both boys and girls was higher in MDM schools as compared to non-mid day meal school. Positive intervention of midday meal was reported in universalizaton of primaryeducation by increasing enrolment and attendance. It was stated that the introduction of menu based midday means has a positive impact on enrolment and attendance of children. It was revealed that there exists a positive relationship between midday meal program and enrolment and attendance of students in school. It was found that the % of children with better attendance (> 60% of working days) was higher (97.9%) in midday meal school than in non-MDM schools (95%) (P<0.001).

Verma Rekha (2013)[54] in her paper title "midday meal not a sufficient deal" found that midday meal has become almost universal scheme feeding primary children all over the country. She found that MDM schemes has it impact on enrolment and an enrolment in the 6-14 age groups continues to be very high. But the proportion of out of school children house increased, especially among girls in the age group of 11-14 years. The midday meal was observed being served in 87.1% school that was visited by her. She found that the nutrition proving under MDM is not nourishing the nation so this is required more effective steps towards the meal provision of MDM. She also stated that local community can be a major step toward not only proper working of midday meal but also self sufficiency of the society. In spite of cooked food more energetic packed food and the items that can be distributes easily should be included in the menu of midday meal. She also stated that odd timing of MDM divers the concentration of student from study to food so the timing should be changed.

Uma (2013)[55] Studied that number of incidents were highlights regarding midday meal scheme where carelessness mid day meal scheme where carelessness was reported white preparing food in the school. This incident results to many threats to life of children who are taking food under midday meal. Furthermore, the food was being prepared 10 open in primary school. Hence non-seriousness in the implementation of the scheme is directly observed in MDM. Moreover, the preparation of the food in the schools directly affects the provision of

53 Shailja Singh and Nisha Gupta (2013). "International Journal of Science and resead (IJSR) ISSN (Online) : 2319-7046.index Copernicus value (2013): 6.14 Impact factor (2013): 4.438."

54 Rekha Verma (2013). "International Journal of advances in management and economics ISSN: 2278-3369 May June (2013)/val.2/ssue.3/55-63.

55 Uma (2013). "International Journal of Scientific and Research Publication" (2013) Vol. 3 Issue 11, Nov. 2013 ISSN 2250-3153.

education in the schools. She found that there was no proper kitchen to prepared food in the primary school. Sitting arrangement for students was either in the classes or open grounds which invited flies and other insects. The cooks in the school did not know the guidelines to ensure hygiene. The grievance redress mechanism for the complaints of midday meal scheme was not known to the parents. The Haleness in schools agreed of infrastructure facilities for these schools.

Further he cooks hired are illiterate or hardly know to read basic Hindi or ensure. Hence she has concluded not MDM scheme thought has been implements but is not being monitored property.

Ishan (2013)[56] has reported that the mid day meal scheme for children are important in any health and welfare programme which contributes to the prevention or amelioration, treatment and rehabilitation of the mentally retarded. For normal growth and development, it is essential first to consider the usual nutritional needs of the child at his particular age, then to consider the modification required because of the specific illness or handicapping condition which may alter normal food needs and feeding practices.

Shukla (2014)[57] The midday scheme is the world's biggest school lunch programme and is being implemented all over India for primary and upper primary school students. However, nutrition and hygiene are now among the main challenges it faces. Out of 876 test reports of midday meal samples in Delhi from 1- Jan-2012 to 31 March 2013, more than 907. Failed to meet the standard of 12 gms of protein and 460 calories. A number of loopholes in the scheme need to be plugged if nutrition food, not just something cooked, is to reach the plates of poor students.

Nath Biswajit & NathIndrajit (2015)[58] in their research paper "A study of the impact of mid day-meals programme an enrolment and retention of primary school children" Studied that after the introduction of midday meal the percentage of enrolment has been increased. Parents are more interested to sent their children to schools. Due to the introduction of MDM percentage of retention has been increased.

The MDM programme helps increasing the attendance and enrolment of the poor students. The rural had teacher have should favorable attitude towards introduction at midday meal program at primary level.

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56 Ishan (2013). Food for education. Vol. 22(5). Retrieved from http://www.frontlineonnet.com.

57 Shukla Siddheshwar (Feb. 2014) "Midday meal: Nutrition of paper, poor food on the plat" Economic & political weekly Vol. XLIX No. 7 Page no. 51-57.

58 Nath Biswajit & Nath Indrajit (2015). "International Journal of Applied Research" page 407-413 www.allresearchjournal.com ISSN print: 2394-7500, ISSN online: 2394-5869.

Sarkar Kamalesh & Bhattacharya Dibyendu (2015)[59] in their research paper titled "Altitude of teacher toward Mid-Day meal (MDM) found that mid day meal is very important in terms of its potential for substantially improving the health of the younger generation of the country. It is also an important instrument to encourage children to attend school. It attracts children, especially from disadvantaged section, to school. MDM improve regularity socialization benefits etc. Learners get more energy, motivation, and interest in it. In spite of these successes of the programme, child hunger as a problem persists in India. According to current statistics, 42.5% at the children don't get enough to eat which has far reaching implication for the performance of the country as a whole. Another important question is that the quality of cooled food should be marinated strictly. The supervision system must be elective, not only in paper pencil, rather in the practical field and it will be regular. Then the MDM programme will be really beneficial & helpful the poor students.

Verma Lalita (2015)[60] in their research paper named "impact of mid day meal programme in India: A review studied that the key objectives of this programme are: protecting children from class room hunger, increasing school enrolment and attendance, improved. Socialization among children. The impact of midday meal scheme on student's academic achievement but no systematic efforts has yet been made to look into the role factors on which impact of mid day meal is association in academic achievement with a comprehensive manner. Through a targeted intervention, the MDM has a long term vision to be able to address the hidden issue of melodeon in India.

Kaur Manpreet (2016)[61] in her research paper "mid day meal: An analysis before and after analyze the before and after situation of government's efforts in the form of mid day meal scheme. The study is based on the secondary date she studied that mid day meal scheme is a school which talk about one meal in a day for 200 days to all children enrolled and present in the school to provide then nutritious food and ensure their attendance in the school. But the question crises: is one-time food in twenty-four hours is sufficient to provide them adequate nutritional level. Moreover, what about Sunday and holidays in which they do not get any kind of help. Secondly ensuring attendance in the school for certain days does not ensure quality education to a child.

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59 Kamalesh Sarkar & Dibendu Bhattacharya International & Dibendua Bhattacharya (2015)." Interaction multidisciplinary research journal" Vol. 3 issue 1 July 2015 page 1-5. ISSN No. 2321-5426 www.1505.in

60 Verma Lalita (2015). "International Journal of Multidisciplinary Approach and Studies" page (151158) Volume 02. No. 1, Jan-Feb 2015 ISSN No: 2348-537X.

61 Kaur Manpreet (2016) "International Journal of applied Researchers: 2 (5): 14-17 online.www. allresearchgeneral. com. ISSN online 2394-5869.

The above trend shows that before the launch of this scheme in few years the average enrollment increased in fifty years but after this scheme in few years the average enrollment decreased. There is noticed dropout rates before and after the implementation of this scheme but the change is not observed so significant. All this indicates that the mid day meal scheme is not the only factor which attracts children to school or when make their dropout rate low. There are certainly many other factors responsible for enrollment and dropout of children from school.

Panda (2010)[62] has studied that achieving universal primary education mid day meal programme in residential schools for the scheduled tribes in Chhattisgarh and concluded that there is definitely a co-relation between the mid day meal school feeding on enrolment in the schools, however if the quality of food which is served in the schools is satisfactory nature and the conducive environment can generate more retention in the schools. The catalytic role of the mid day meal hence can't be undermined in overcoming the problem of enrolment and regularity in the attendance. When the schools take care of food, health and nutritional security of the children, the children to a great extent can be active learners in the schools.

[62] Panda (2010). "Achieving universal primary education mid day meal programme in residential school for the scheduled tribe in Chattisgarh". Journal of India Education Vol. XXXV.

ISBN-978-81-973071-0-2
First Edition

CHAPTER-3

RESEARCH METHODOLOGY

INTRODUCTION

A sculptor would not begin a carving without an image in mind. A contractor would probably not begin construction without a blue print. Likewise, a researcher would probably not initiate data collection for a research study without the guidance of a particular research method.

Methodology provides an indispensable tool for collecting, organizing and interpreting data expressed in numerical terms. It involves plan and procedure for the research. Research method describe the various steps of the plan of the attack to be adopted in solving a research problem, such as the manner in which the problems are formulated, the definitions of the terms, the choice of subject for investigation of data and the process of drawing inferences and generalization. The overall plan of the present study has been explained under following headings.

"All progress is born of inquiry. Doubt is often better than overconfidence, for it leads to inquiry, and inquiry leads to invention" is a famous Hudson Maxim in context of which the significance of research can well be understood. Increased amounts of research make progress possible. Research inculcates scientific and inductive thinking and it promotes the development of logical habits of thinking and organization.

This chapter presents methodology describing how the study was conducted. It includes; research design, Study population, sample and sample size, methods of data collection, methods of data analysis and anticipation of the study.

TYPE OF RESEARCH (Research Methodology / Design)

The present study was aimed at finding out the effectiveness of Mid-Day Meal Scheme at the primary stage as well as the perceptions of teachers and parents towards the scheme. For this purpose, the researcher used Descriptive Survey Method. Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of the phenomenon and whenever possible, to draw valid general conclusions from the facts discovered. Descriptive research is concerned with conditions or relationships that exist. Descriptive studies are more than just a collection of data; they involve measurement, classification, analysis, comparison and interpretation.

Research design or research methodologies are plans that promote systematic management of data collection. Design and methodology dictate what you need to answer your research questions. There are many types of research designs for dissertation research. Here are the most common and basic types of research as follow:

1. *Descriptive vs. Analytical:*

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. In social science and business research we quite often use the term Ex post facto research for descriptive research studies. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. Most ex post facto research projects are used for descriptive studies in which the researcher seeks to measure such items as, for example, frequency of shopping, preferences of people, or similar data. Ex post facto studies also include attempts by researchers to discover causes even when they cannot control the variables. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods. In analytical research, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material.

2. *Applied vs. Fundamental:*

Research can either be applied (or action) research or fundamental (to basic or pure) research. Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organisation, whereas fundamental research his mainly concerned with generalisations and with the formulation of a theory. “Gathering knowledge for knowledge’s sake is termed ‘pure’ or ‘basic’ research. Research concerning some natural phenomenon or relating to pure mathematics are examples of fundamental research. Similarly,

research studies, concerning human behavior carried on with a view to make generalisations about human behavior, are also examples of fundamental research, but research aimed at certain conclusions (say, a solution) facing a concrete social or business problem is an example of applied research. Research to identify social, economic or political trends that may affect a particular institution or the copy research (research to find out whether certain communications will be read and understood) or the marketing research or evaluation research are examples of applied research. Thus, the central aim of applied research is to discover a solution for some pressing practical problem, whereas basic research is directed towards finding information that has a broad base of applications and thus, adds to the already existing organized body of scientific knowledge.

Conceptual vs. Empirical:

Conceptual research is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones. On the other hand, empirical research relies on experience or observation alone, often without due regard for system and theory. It is data-based research, coming up with conclusions which are capable of being verified by observation or experiment. We can also call it as experimental type of research. In such a research it is necessary to get at facts firsthand, at their source, and actively to go about doing certain things to stimulate the production of desired information. In such a research, the researcher must first provide himself with a working hypothesis or guess as to the probable results. He then works to get enough facts (data) to prove or disprove his hypothesis. He then sets up experimental designs which he thinks will manipulate the persons or the materials concerned so as to bring forth the desired information. Such research is thus characterised by the experimenter's control over the variables under study and his deliberate manipulation of one of them to study its effects. Empirical research is appropriate when proof is sought that certain variables affect other variables in some way. Evidence gathered through experiments or empirical studies is today considered to be the most powerful support possible for a given hypothesis.

3. *Quantitative vs. Qualitative:*

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. This type of research aims at

discovering the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour. Through such research we can analyse the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research in practice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

4. *Some Other Types of Research:*

All other types of research are variations of one or more of the above stated approaches, based on either the purpose of research, or the time required to accomplish research, on the environment in which research is done, or on the basis of some other similar factor. Form the point of view of time, we can think have research either as one-time research or longitudinal research. In the former case the research is confined to a single time-period, whereas in the latter case the research is carried on over several time-periods. Research can be field-setting research or laboratory research or simulation research, depending upon the environment in which it is to be carried out. Research can as well be understood as clinical or diagnostic research. Such research follows case-study methods or in-depth approaches to reach the basic causal relations. Such studies usually go deep into the causes of things or events that interest us, using very small samples and very deep probing data gathering devices. The research may be exploratory or it may be formalized. The objective of exploratory research is the development of hypotheses rather than their testing, whereas formalized research studies are those with substantial structure and with specific hypotheses to be tested. Historical researches that which utilizes historical sources like documents, remains, etc. to study events or ideas of the past, including the philosophy of persons and groups at any remote point of time. Research can also be classified as conclusion-oriented and decision-oriented. While doing conclusion-oriented research, a researcher is free to pick up a problem, redesign the enquiry as he proceeds and is prepared to conceptualize as he wishes. Decision-oriented research is always for the need of a decision maker and the researcher in this case is not free to embark upon research according to his own inclination. Operations research is an example of decision oriented research since it is a scientific method of providing executive departments with a quantitative basis for decisions regarding operations under their control.

The above description of the types of research brings to light the fact that there are two basic approaches to research, viz., quantitative approach and the qualitative approach. The former involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion. This approach can be further sub-classified into inferential, experimental and simulation approaches to research. The purpose of inferential approach to research is to form a data base from which to infer characteristics or relationships of population. This usually means survey research where a sample of population is studied (questioned or observed) to determine its characteristics, and it is then inferred that the population has the same characteristics. Experimental approach is characterised by much greater control over the research environment and in this case some variables are manipulated to observe their effect on other variables. Simulation approach involves the construction of an artificial environment within which relevant information and data can be generated. This permits an observation of the dynamic behaviour of a system (or its sub-system) under controlled conditions. The term 'simulation' in the context of business and social sciences applications refers to "the operation of a numerical model that represents the structure of a dynamic process. Given the values of initial conditions, parameters and exogenous variables, a simulation is run to represent the behaviour of the process over time." Simulation approach can also be useful in building models for understanding future conditions.

Qualitative research is concerned with developing explanations of social phenomena. That is to say, it aims to help us to understand the world in which we live and why things are the way they are. It is concerned with the social aspects of our world and seeks to answer questions about:

- Why people behave the way they do
- How opinions and attitudes are formed
- How people are affected by the events that go on around them
- How and why cultures have developed in the way they have
- The differences between social groups

Qualitative approach to research is concerned with subjective assessment of attitudes, opinions and behaviour. Research in such a situation is a function of researcher's insights and impressions. Such an approach to research generates results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis. Generally, the techniques of focus group interviews, projective techniques and depth interviews are used. All these are

explained at length in chapters that follow. Present research was conducted with qualitative research design.

The survey is a non-experimental, descriptive research method. Surveys can be useful when a researcher wants to collect data on phenomena that cannot be directly observed (such as opinions on library services). Surveys are used extensively in library and information science to assess attitudes and characteristics of a wide range of subjects, from the quality of user-system interfaces to library user reading habits. In a survey, researchers sample a population. Data are usually collected through the use of questionnaires, although sometimes researchers directly interview subjects. Surveys can use qualitative (e.g. ask open-ended questions) or quantitative (e.g. use forced-choice questions) measures. There are two basic types of surveys: cross-sectional surveys and longitudinal surveys.

Cross-sectional surveys are used to gather information on a population at a single point in time. An example of a cross sectional survey would be a questionnaire that collects data on how parents feel about Internet filtering, as of March of 1999. A different cross-sectional survey questionnaire might try to determine the relationship between two factors, like religiousness of parents and views on Internet filtering.

Longitudinal surveys gather data over a period of time. The researcher may then analyze changes in the population and attempt to describe and/or explain them. The three main types of longitudinal surveys are trend studies, cohort studies, and panel studies.

In a panel discussion at the 1996 International Conference on Information Systems, Newsted, Chin, Ngwenyama, and Lee (1996) raised the question whether surveys had outlived their usefulness. The panelists concluded that surveys are appropriate in certain conditions and less useful in others. But this is more complicated than just saying surveys should be used only in objective or positivist research and not in more subjective or interpretivist research. Burrel and Morgan (1979) provide a detailed distinction between these approaches.

In the '96 panel, Allen Lee indicated that in positivist research, surveys are particularly useful in determining the actual values of variables under study, and the strengths of relationships among them. In an interpretivist context surveys are appropriate as a complement to other forms of data or observations. They can serve as a way to add to one's knowledge through "triangulation" as one of several methods. Thus it is important to realize that while surveys are typically used in quantitative research, they can also help qualitative researchers as well. Overall the survey approach can be seen to have the following strengths and weaknesses:

Strengths:

- Surveys are easy to administer.
- Surveys are simple to score and code.
- Surveys determine the values and relations of variables and constructs.
- Responses can be generalized to other members of the population studied and often to other similar populations.
- Surveys can be reused easily, and provide an objective way of comparing responses over different groups, times, and places.
- Surveys can be used to predict behavior.
- Specific theoretical propositions can be tested in an objective fashion.
- Surveys can help confirm and quantify the findings of qualitative research.

Weaknesses:

- Surveys are just a snapshot of behavior at one place and time.
- One must be careful about assuming they are valid in different contexts. In particular, different cultures may produce different results. Kettinger, Lee, and Lee (1995) provide a good example of this by showing the effect of cultural differences in the measurement of IS service quality.
- They do not provide as rich or "thick" description of a situation as a case study.
- They do not provide as strong evidence for causality between surveyed constructs as a well-designed experiment.

With keeping all this thing in mind, the research design for the study was exploratory and conclusive descriptive research. This research was exploratory as it explores the opinion regarding MDM and a conclusive descriptive research because it describes the opinion of student, teachers, parents and organizer regarding MDM. This study also concludes regarding the satisfaction level regarding various aspect of MDM.

A personal survey method is used as a survey technique to experiment with an aim to note down the opinion and satisfaction regarding MDM.

RESEARCH POPULATION

The heart and the soul of the research plan is the accumulation of pertinent data. Sampling is the essential part of all the scientific procedures. Sampling is the process by which a relatively small number of individuals, objects or events are selected and analyzed in order to find out something about entire population from which it is selected. In order to select a

sample from a given population, it is imperative to have a complete, accurate and up to date list of all the units of population. Such a list is known as sampling frame.

Study population is the total members of a defined class of people, objects, places or events selected because they are relevant to your research question. For example, if you want to study maternal healthcare, the study population would be all the pregnant women who are under your care. However, a study population may consist of villages, institutions, records, or events such as death due to accidents, etc.

In any research study, the study population has to be clearly defined according to particular characteristics such as age, sex, residence or geographical accessibility to health services. The way you define your study population depends on the problem you want to investigate and on the objectives of the study. For example, to investigate health problems of orphans whose parents have died of HIV/AIDS, then your study population could be all children below twelve years of age whose parents have died as a result of HIV/AIDS. On the other hand, to investigate the problem of worm infestation in primary school children your study population could be all primary schools in your kebele.

A research study population is also known as a well-defined collection of individuals or objects known to have similar characteristics. Many authors refer to population as the number of persons or objects covered by the study or with which the study is concerned. In other words, it is a set of people or items under consideration in a study. In this research, students, teacher, parents and Mid-day meal scheme managers of Sabarkantha district primary schools were consider as population. Total number of primary school and in Sabarkantha district is as in tables follows. Each school has a separate Mid-day meal centre.

Table 3.1: Total Number of Primary Schools (Govt.+Aided)

Sr.	Block	Primary School	Upper Primary School	Total
1	Himatnagar	14	161	175
2	Idar	23	63	86
3	Prantij	3	70	73
District		**40**	**294**	**334**

Total number of teachers in Sabarkantha district is as table 3.2 given below.

Table 3.2: Total number of teachers in Sabarkantha district

Sr.	Block	Primary Teachers	Upper Primary Teachers	Total
1	Himatnagar	625	438	**1063**
2	Idar	322	164	**486**
3	Prantij	269	156	**425**
District		**1216**	**758**	**1974**

Total number of students in Sabarkantha district is as table 3.3 given below.

Table 3.3: Total number of students in Sabarkantha district

Sr.	Block	Boys	Girls	Total
1	Himatnagar	30682	27547	**58229**
2	Idar	10587	9182	**19769**
3	Prantij	6588	6084	**12672**
District		**47857**	**42813**	**90670**

RESEARCH SUBJECT (PARTICIPANTS)

In qualitative re-search individuals are identified as participants rather than subjects. A subject is an individual who participates in a research study or is some-one from whom data are collected. In experiments, for example, each person who is given a treatment and whose behavior is measured is considered to be a subject. The term subject may also identify individuals whose behavior, past or present, is used as data, without their involvement in some type of treatment or intervention. For instance, a re-searcher might use last year's fourth-grade test scores as data, and each fourth-grader included is considered to be a subject.

For the present research, the students, who were studying in government primary school of Sabarkantha district, selected as participants. The teachers, who were serving in government primary school of Sabarkantha district, selected as participants. The Mid-day meal scheme managers, who were serving government primary school of Sabarkantha district, selected as participants. And the parents, whose children studying in government primary school of Sabarkantha district, were also selected as participants.

RESEARCH SAMPLING

In The sample is the group of elements, or a single element, from which data are obtained. Although the phrase "the sample included" is used to indicate the characteristics of the people or events in the sample. It is important for the researcher to define as specifically as possible both the sampling procedure and the characteristics of the sample used in the study.

ISBN-978-81-973071-0-2
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SAMPLLING DESIGN

The purpose of sampling is to obtain a group of subjects who will be representative of the larger population or will provide specific information needed. The degree of representativeness is based on the sampling technique employed. I will first describe different sampling procedures and then consider the strengths and weaknesses of each in obtaining a representative sample.

Sampling is observing a part in order to glean information about the whole is an almost instinctive human act. In order to glean the information about the whole in this case, all sampling techniques were checked and the appropriate one was be chosen. Various sampling techniques are given in figure 3.1 below:

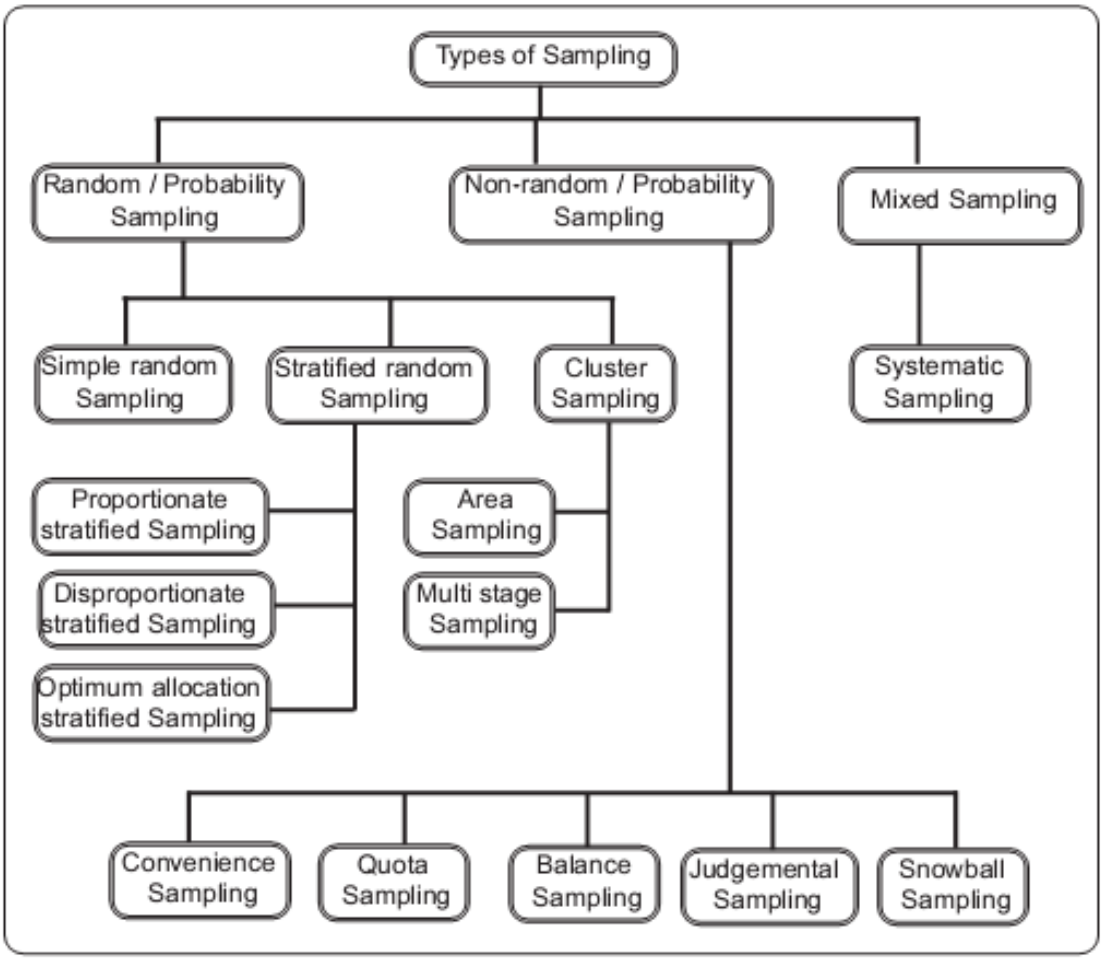

Figure 3.1: Types of Sampling

Various type of sampling design is prescribe in following table:

Table 3.4: Sampling Designs

Random / Probability Sampling	Simple random Sampling	Is obtained when all the units in the reference population have the same probability of being in the sample.	
	Stratified random sampling	Proportio-nate stratified Sampling	The accuracy of sampling estimates depends on-among other things- sample size and on the degree of variability in the distribution of the phenomenon studied within the reference population. This means that if the variability of the phenomenon under the investigation is very high, then the sample analysis need to larger, in order to maintain a certain level of accuracy in the estimate. Alternatively fi the phenomenon displays areas of greater homogeneity, it is possible to increase sample efficiency by adopting stratified sampling.
		Dispropor-tionate stratified Sampling	Happen when we decide to over represent some stratagem and to under represent others.
		Optimum allocation stratified Sampling	It is theoretically most efficient non proportionate stratified sample. In this procedure, the size of the sample drawn from each stratum is proportional under examination to the variability of the phenomenon under examination within each stratum.
	Cluster sampling	Area Sampling	A variant of multistage sampling is area sampling. This approach is adopted when no list of the reference population exists.
		Multi stage Sampling	This technique does not offer greater efficiency than simple random sampling, but it does simplify the selection procedure and reduce the cost of data-collection. Multistage sampling is the only viable option in some situations, when a complete list of the reference is unavailable, or when the members of the sample produced by simple random sampling of stratified sampling would be spread over too vast an area and thus difficult to reach. In multistage sampling, the population is subdivided into hierarchical levels, which are selected successively through a process of ‘narrowing down’.

Non-Random / Non- Probability Sampling	Convenience Sampling	A convenience sample is a group of subjects selected because of availability, for example, a university class of a professor conducting some research on college students, classrooms of teachers enrolled in a graduate class, for subjects. There is no precise way of generalizing from a convenience sample to a population.
	Quota Sampling	This is probably the most widely used sample design, especially in market research and opinion polls. To implement the procedure, the population must first be subdivided into a certain number of strata defined by a few variables of which the distribution is known. To implement the procedure, the population must: 1. Be subdivided into a certain number of strata defined by sew variables of which the distribution is known 2. The population 'weight' of each stratum is calculated - that is to say the overall population that belongs to each group (the sum of these weights must obviously equal 1) 3. The quotas – that is to say, the number of interviews to be conducted in each stratum – are established by multiplying these weight by the sample size. Quota sampling is used when the researcher is unable to take a probability sample but still wants a sample that is representative of the entire population. Different composite profiles of major groups in the population are identified, and then subjects are selected, nonrandomly, to represent each group. A type of quota sampling that is common in educational research is conducted to represent geographic areas or types of communities, such as urban, rural, and suburban. Typically, a state is divided into distinct geographic areas, and cases are selected to represent each area. As in availability and purposive sampling, there is a heavy reliance on the decisions of the researcher in selecting the sample, and appropriate caution should be used in interpreting the results.
	Balanc	This involves selecting the units in such a way that, with regard to certain variables, the mean of the sample is close to the mean of the population.
	Judgmental Sampling	In judgmental sampling (sometimes referred to as purposive, purposeful or judgment sampling) the researcher selects particular elements from the population that will be representative or informative about the topic. Based on the researcher's knowledge of the population, a judgment is made about which cases should be selected to provide the best information to address the purpose of the research. For example, in research on effective teaching it may be most informative to observe "expert" or "master" teachers rather than all teachers. Purposive sampling is not widely used in quantitative studies.

	Snowball Sampling	Snowball sampling involves identifying subjects for inclusion in the sample by referral from other subjects. This sample design is particularly useful in the study of those social groups whose members tend to hide their identity for moral, legal, ideological or political reasons. The procedure is also used to study 'rare elements': small group scattered over a large area but which keep in touch with one another in some way (member of minority religions, particular groups and associations, etc.)
Mixed Sampling	Systematic Sampling	In systematic sampling every n^{th} element is selected from a list of all elements in the population, beginning with a randomly selected element. Thus, if there is a need to select 100 subjects from a population of 50,000, every n^{th} element would correspond to every 500^{th} subject. The first element is selected randomly. In this example that would be some number between 1 and 500. Suppose 240 were randomly selected as a starting point. The first subject chosen for the sample would be the 240th name on a list, the next subject would be the $74O^{th}$, then the $1,24O^{th}$, and so on until 100 subjects were selected. Systematic sampling is virtually the same as simple random sampling. It is certainly much more convenient. There is a possible weakness in systematic sampling if the list of cases in the population is arranged in a systematic pattern. For instance, if a list of fourth-graders in a school division is arranged by classroom and students in the classrooms are listed from high to low ability, there is a cyclical pattern in the list (referred to as periodicity). If every n^{th} subject that is selected corresponds to the pattern, the sample would represent only a certain level of ability and would not be representative of the population. Alphabetical lists do not usually create periodicity and are suitable for choosing subjects systematically.

For the current study, Convenience sampling under Non probability sampling was chosen as a sampling technique because to measure opinion regarding MDM researcher had chosen the respondent as per the convenience.

SAMPLE SIZE

An important consideration in judging the credibility of research is the size of the sample. In most studies there are restrictions that limit the number of subjects, although it is difficult to know when the sample is too small. Most researchers use general rules of thumb in their studies, such as having at least 30 subjects for correlational research, and at least 15 subjects in each group in an experiment. In surveys that sample a population, often a very small percentage of the population must be sampled, for example, less than 5 or even 1 percent. Of

course if the survey sample is too small, it is likely that the results obtained cannot characterize the population. Formal statistical techniques can be applied to determine the number of subjects needed, but in most educational studies these techniques are not used.

In educational research a major consideration with sample size is concluding that a study with a relatively small sample that found no difference or no relationship is true. For example, suppose that you are studying the relationship between creativity and intelligence and, with a sample of 20 students, found that there was no relationship. Is it reasonable to conclude that in reality there is no relationship? Probably not, since a probable reason for not finding a relationship is because such a small sample was used. In addition to the small number of subjects, it is likely that there may not be many differences in either creativity or intelligence, and without such differences it is impossible to find that the two variables are related. That is, with a larger sample that has different creativity and intelligence scores, a relationship may exist. This problem, interpreting results that show no difference or relation-ship with small samples, is subtle but very important in educational re-search since so many studies have small samples.

It is also possible to misinterpret what is reported as a "significant" difference or relationship with a very large sample. Also, a sample that is not properly drawn from the population is misleading, no matter what the size. Determination of sample size depends on five factors:

- Desired degree of precision
- Statistical power required
- Ability of the researcher to gain access to the study subjects
- Degree to which the population can be stratified
- Selection of the relevant units of analysis

For this research the sample size was as follow in table 3.5.

Table 3.5: Sample Size for the Study

Sr.	Block	MDM Organizers	Parents	Students	Teachers	Total
1	Himatnagar	51	230	5000	425	**5765**
2	Idar	11	150	4000	200	**4395**
3	Prantij	21	150	4000	200	**4385**
Total Subjects		**83**	**530**	**13000**	**825**	**14545**

Total 125 Schools were visited during the school hours (10.30 a.m. to 4.30 p.m) and intensive discussions were made with children, teachers, head masters, village sarpanch, members of SMC and other members of the society. DIET, BRCs, CRCs, Anganwadies, etc were also visited to have in-depth idea about implementation of Mid-day meal scheme in the district. The names of the schools visited during research are as per annexure 21.

RESEARCH TOOLS

In order to fulfill the objectives of any research, certain well defined and designed tools are used. The selection of tool is vital importance for successful research. Different tools are available for collecting various kinds of information. To investigate the effectiveness of Mid-day meal scheme implemented in primary schools of Sabarkantha district was the primary goal of the research. To find out the facts researcher has decided to collect the data by students, teachers, parents and the organizer of Mid-day meal scheme. The research data was collected through opinionnaires. The researcher has constructed all four opinionnaires for students, teachers, parents and the organizer of Mid-day meal scheme. To find out some corning questions and issues about Mid-day meal scheme the investigator has developed a tool which was fill up by the researcher himself while he was at the visit of the school. The detail about tool construction and validation is given in next chapter of this research report.

DATA COLLECTION

After finalization of research tools and selection of sample, the next step is to collect data. The investigator visited the selected government primary schools on working days with prior intimation to the school regarding the purpose of visit i.e. data collection. All the primary school teachers in the sampled schools were requested to respond to all questions in the questionnaire in a free and frank manner. They were assured that their responses would not affect them in any way. These will be kept secret and confidential and will be used only for research purposes. They took about half an hour to provide the relevant data. The investigator thanked them for their cooperation and suggestions. The researcher also analyzed all the important aspects of the Mid-Day Meal Scheme in accordance with the observation schedule. In the next phase the selected primary school students were given the questionnaire and instructions were read and explained by the investigator. Items were also translated and explained to students whenever they found difficulty in understanding.

After the schools were selected, visits to all selected schools were conducted to investigate the implementation of Mid-day meal scheme. The data was collected by administration of the four opinionnaires viz. teacher opinionnaire, organizer opinionnaire,

parent opinionnaire and student opinionnaire. All the four opinionnaires were self-constructed. The details about construction of research tools have been given in chapter four earlier in this research report. The subjects for the present research were not comfortable with English language. They familiar with Guajarati language. Because Gujarati is their mother tongue. So researcher has decided to collect the data in their mother tongue. Hence, all the four opinionnaires were administrated in Gujarati version. The Gujarati versions of all the four opinionnaires were in the annexure. The Gujarati version of 'teacher opinionnaire' (final draft) is as per annexure-17. The Gujarati version of 'organizer opinionnaire' (final draft) is as per annexure-18. The Gujarati version of 'parent opinionnaire' (final draft) is as per annexure-19. The Gujarati version of 'student opinionnaire' (final draft) is as per annexure-20. The research data was collected through Gujarati versions of all the tools.

DATA ANALYSIS TECHNIQUE

After getting the research data from samples, it is very important to analysis them through proper statistical technique. The main aim of the present research was to find out the effectiveness of Mid-day meal scheme implemented in the primary schools of Sabarkantha district. After collected the responses from subjects the researcher has to find out the statistical technique which is suitable for the nature of the data and the type of the research tool. The output of the technique should be suitable for researcher to draw out findings from the research data. With keeping all these thing in mind, the researcher has decided to go with 'percentage' technique, which is one of the descriptive statistical technique. Detail about the data analysis is given in chapter–5 later in this research report.

ISBN-978-81-973071-0-2
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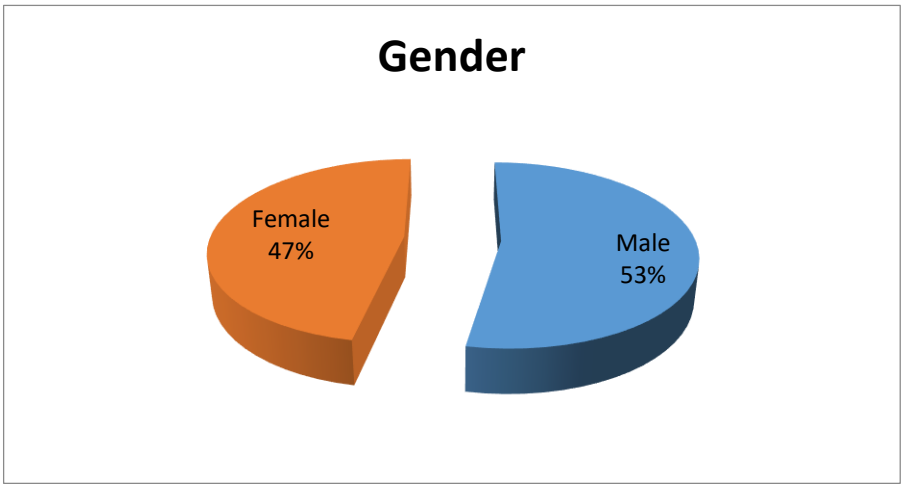
CHAPTER-4

DATA ANALYSIS

This chapter provides the analysis portion of the research study. This chapter divided in to mainly four portions as per different respondents namely students, teachers, parents and organizers.

Students

Table 4.1 Gender		
	Frequency	Percent
Male	690	53.1
Female	610	46.9
Total	1300	100.0



The classification of student respondents by gender is presented in table and graph above. 690 out of the 1300 were males' students and remaining 610 are female respondents. 53.1 % respondents are males where female students are 46.9%. It can be concluding that in student survey male and female students are almost same proportion.

Table 4.2 Area		
	Frequency	Percent
Rural	784	60.3
Urban	516	39.7
Total	1300	100.0

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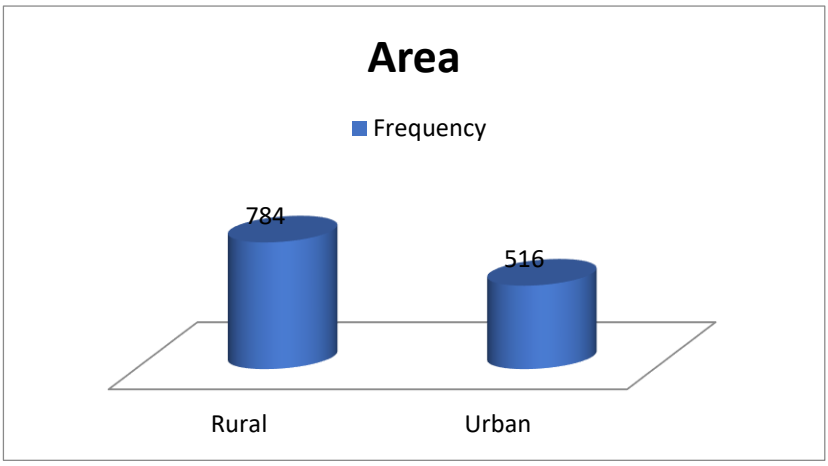
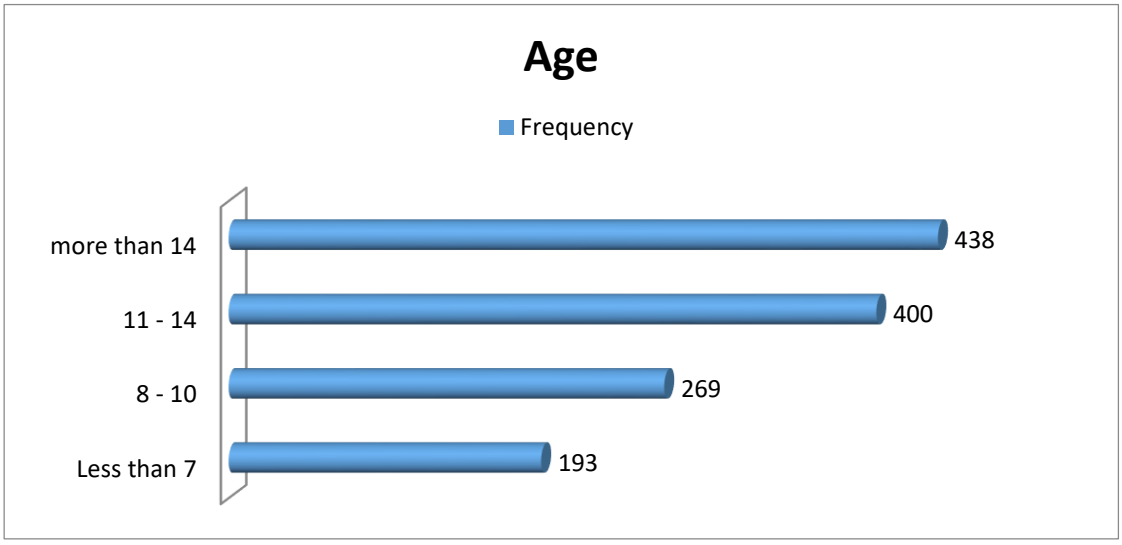


Table 4.2 provides the details regarding area background of the students. Table and figure conclude that 60.3 percent of the students are from the rural area where remaining 39.7 percent of the students are from urban area.

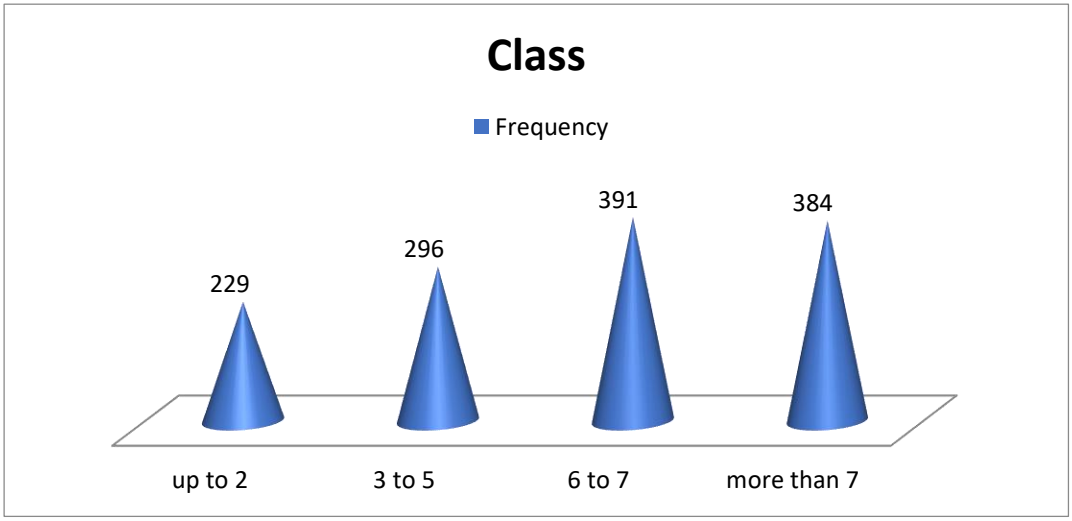
Table 4.3 Age

	Frequency	Percent
Less than 7	193	14.8
8 - 10	269	20.7
11 - 14	400	30.8
more than 14	438	33.7
Total	1300	100.0



Age wise distribution of the total students are shown in the above table and graph, which indicate that majority of the students have age more than 14 (33.7 %) followed by 11-14 years (30.8 %), 8-10 years (20.7 %) and less than 7 years of age (14.8 %)

Table 4.4 Class		
	Frequency	Percent
up to 2	229	17.6
3 to 5	296	22.8
6 to 7	391	30.1
more than 7	384	29.5
Total	1300	100.0



Class wise distribution of the total students are shown in the above table and graph, which indicate that majority of the students are studying in more 6 to 7 standard (392 students) followed by more than 7 standard (384 students), 3 to 5 standard (296 students) and up to 2 standard (229 students)

Factor Analysis

Opinion of the students regarding the MDM has been recorded on 24 items using five point Likert scale. Factor analysis reduced the many variables to the important few variables so further analysis can be carried out properly. Hence exploratory factor analysis applied on the Opinionnaire of students regarding MDM.

Further, before conducting factor analysis, we must check the appropriateness of using this multivariate analysis technique. This can be done using Kaiser-Meyer-Olkin measure of sampling adequacy and Barlett's test of sphericity (Nargundkar, 2003). As recommended by Kaiser, values above 0.7 are good whereas between 0.5-0.7 also is acceptable. (cited by Andy Field, 2005). The KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed further. If any pair of variables has a value less than

this, consider dropping one of them from the analysis. The off-diagonal elements should all be very small (close to zero) in a good model. Looking at the table below, the KMO measure is 0.814 hence it is inferred that the sample size is the adequate for the factor analysis.

Table 4.5 KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.814
Bartlett's Test of Sphericity	Approx. Chi-Square	54389.714
	df	276
	Sig.	.000

Barlett's test of sphericity tests the null hypothesis that the original correlation matrix is an identity matrix. For factor analysis, this is an important starting point since the technique is useful only if the variables are correlated. Therefore, for the test to be significant the p-value should be less than 0.05. In this data, the Bartlett's test shows the p-value as 0.000 for chi-square statistic (54389.714) at 276 degrees of freedom and hence the null hypothesis of correlation matrix being an identity matrix is rejected. Therefore, it is established from the statistical measures that the variables have some correlation and therefore, factor analysis is appropriate.

Table 4.6 Total Variance Explained						
	Initial Eigen values			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.784	32.432	32.432	7.784	32.432	32.432
2	4.881	20.338	52.769	4.881	20.338	52.769
3	3.057	12.738	65.508	3.057	12.738	65.508
4	2.096	8.732	74.239	2.096	8.732	74.239
5	1.679	6.998	81.237	1.679	6.998	81.237
6	.774	3.226	84.463			
7	.658	2.742	87.205			
8	.573	2.389	89.594			
9	.480	2.001	91.595			
10	.433	1.805	93.400			
11	.397	1.654	95.054			

12	.360	1.500	96.554			
13	.316	1.317	97.871			
14	.271	1.130	99.001			
15	.074	.306	99.308			
16	.053	.222	99.530			
17	.033	.138	99.668			
18	.019	.080	99.748			
19	.017	.072	99.820			
20	.012	.051	99.871			
21	.010	.043	99.914			
22	.008	.034	99.948			
23	.008	.033	99.981			
24	.005	.019	100.000			
Extraction Method: Principal Component Analysis.						

The initial solution was determined using PCA method. A method widely used for determining a first set of loadings. This method seeks values of the loadings that bring the estimate of the total communality as close as possible to the total of the observed variances.

Table 4.6 lists the Eigen values, associated with each linear component (factor) before extraction, after extraction and after rotation. All factors with Eigen values greater than 1 are extracted which leaves us with 24 variables reduced to 5 factors. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of five factors is equalized. First factor explains approximately 32.43 % of variance and other four factors also explain the significantly high variance. Also, it shows a cumulative percentage of 81.24% of the total variance explained by the five factors and leaving 18.76% of the variance to be explained by the other 19 components.

Using Kaiser's criterion, the study sought variables with Eigen values greater than or equal to 1. The first four components had Eigen values greater than or equal to 1 and accounted for 81.24 percent of the variance, with component 1 accounting for 32.43 percent of the variance, component 2 explained 20.33, component 3 explained approximately 12.74, fourth component explained 8.6 and last component explained approximately 6.998 % variance. Therefore, based on the total variance explained analysis, a maximum of 5 components could be extracted from the combined data set.

The rotated component matrix shows the factor loadings of each variable onto each factor. Factor loadings less than 0.4 have not been displayed. As cited by Field (2009), the original logic behind suppressing loadings less than 0.4 is based on Stevens' suggestion that this cut-off point is appropriate for interpretative purposes (i.e. the loadings greater than 0.4 represent substantive values.)

The rotated component matrix helps to determine what the factors represent as the factor loadings denote the correlation (coefficients) between the variable and the factor. The object of the rotation is to ensure that all the variables have high loadings only on one factor. While the researcher has the option of selecting from the two rotation methods: Orthogonal and Oblique; the first method has been selected here so that the rotated factors remain uncorrelated. For this purpose, the rotation method used is 'Varimax'.

Larger loadings on a single factor help to interpret the underlying factor. Finally, the factor analysis procedure gives five factors reduced from 24 variables.

Table 4.7 Rotated Component Matrix[a]

Factor	Item	Factor Loading
Administration and implementation	Every day we take Mid-day meal under observation of our teachers.	.927
	Mid-day meal menu has been displayed at my school.	.920
	Mid-Day Meal is being served at proper time.	.914
	In my school Mid-Day Meal is being served as per prescribed menu.	.912
	Cooked Mid-day meal is being served every day in my school.	.909
	I use plates provided by the government to take Mid-day meal.	.898
	Sometimes we help the cook to prepare the meal.	.897
Suggestive opinion	I think that Mid-Day Meal Scheme should be continue in the school.	.879
	Students' opinions are being considered to improve Mid-Day Meal Scheme.	.874
	According to my opinion, Mid-Day Meal Scheme menu need to be change.	.871
	Teacher should take Mid-Day Meal with us every- day.	.869

	I believe that students' view should be considered while deciding the Mid-Day Meal menu.	.851
	Every student should take Mid-Day Meal.	.792
	Mid-Day Meal should be given to the absent students also.	.770
Factor	**Item**	**Factor Loading**
Food, Health and hygiene	We have been told to wash our hands with shop before & after taking Mid-day meal.	.941
	Sometimes we fall ill after consuming Mid-Day Meal. (R)	.937
	After taking meal, the kitchen shed is being cleaned by the Mid-day meal helper	.934
	Proper hygiene is being maintained by the Mid-Day Meal Scheme staff.	.658
Social aspect	We all students take meal together	.967
	Taking Mid-Day Meal together helps to decrease caste discrimination among us.	.964
	There is no separate water arrangements for the students of different caste	.798
Academic changes of student	According to my view, Mid-Day Meal Scheme keeps the student free from classroom hunger	.862
	Sometimes Mid-Day Meal Scheme disrupts my classroom activities. (R)	.853
	I love to come at school regularly because cooked Mid-day meal is being served there.	.782
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]		
a. Rotation converged in 6 iterations.		

A varimax with Kaiser Normalization rotation method revealed a five component structure as shown in Table 4.7. The original 24 items in the instrument had been loaded on the five components.

Component one had 7 items loading on it which are shown in the table 4.7. It shows that item "Every day we take Mid-day meal under observation of our teachers." has the highest factor loading (0.927) where item "Sometimes we help the cook to prepare the meal" has the

low factor loading (0.897). Close observation of factor loading indicate that it converges in to factor name Administration and implementation.

Where, component two had 7 items loading on it which are shown in the table 4.7. It shows that item "Mid I think that Mid-Day Meal Scheme should be continuing in the school." has the highest factor loading (0.879) and item "Mid-Day Meal should be given to the absent students also." has the low factor loading (0.770). These seven items collectively make the factor called Suggestive opinion.

Component three had 4 items loading on it which are shown in the table 4.7. It shows that item "We have been told to wash our hands with shop before & after taking Mid-day meal." has the highest factor loading (0.941) where item "Proper hygiene is being maintained by the Mid-Day Meal Scheme staff." has the low factor loading (0.658). Close observation of factor loading indicate that it converges in to factor name Food, Health and hygiene.

Where, component four had 3 items loading on it which are shown in the table 4.7. It shows that item "We all students take meal together" has the highest factor loading (0.967) and item "There is no separate water arrangements for the students of different caste" has the low factor loading (0.798). These four items collectively make the factor called Social aspect.

Component five had 3 items loading on it which are shown in the table 4.7. It shows that item "According to my view, Mid-Day Meal Scheme keeps the student free from classroom hunger" has the highest factor loading (0.862) where item "I love to come at school regularly because cooked Mid-day meal is being served there." has the low factor loading (0.782). Close observation of factor loading indicate that it converges in to factor name Academic changes of student.

Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results. There are several methods for computing test reliability including test-retest reliability, parallel forms reliability, decision consistency, internal consistency, and inter rater reliability. Reliability widely measured through coefficient alpha. Nunnally (1978) states that a coefficient alpha greater than 0.70 represents a good indication of internal consistency. The study's results reveal that all of the measures exceed this criterion and therefore exhibit internal consistency reliabilities that are within the accepted limits for basic research; however, as the field of research statistics evolved, other researchers have since provided further interpretations of acceptable Cronbach's alpha value ranges. DeVellis (1991) recommends the following guidelines for coefficient alpha values: "below 0.60, unacceptable; between 0.60 and 0.65,

undesirable; between 0.65 and 0.70, minimally acceptable; between 0.70 and 0.80, respectable; between 0.80 and 0.90, very good".

Table 4.8 Reliability Statistics	
Cronbach's Alpha	N of Items
.879	24

Factor Wise

Table 4.9 Reliability Statistics of all factors	
	Cronbach's Alpha
Administration and implementation	.976
Academic changes of student	.800
Food ,Health and hygiene	.944
Social aspect	.910
Suggestive opinion	.934

Table 4.8 indicates the reliability of the Opinionnaire of students which conclude that instrument has good reliability as the coefficient alpha of the instrument is 0.909. Table 4.9 shows the factor wise reliability. It also provides the good reliability of the instruments.

Hypothesis

H0: There is no significant difference in mean score of opinion of Students regarding MDM for different gender.

H1: There is significant difference in mean score of opinion of students regarding MDM for different gender.

Opinion of the students on the MDM factors namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Gender, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.10 Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	11.244	.001	-15.488	1298	.000
	Equal variances not assumed			-15.322	1193.273	.000
Academic changes of student	Equal variances assumed	11.090	.001	-5.304	1298	.000
	Equal variances not assumed			-5.271	1236.061	.000
Food, Health and hygiene	Equal variances assumed	22.701	.000	-16.258	1298	.000
	Equal variances not assumed			-16.132	1222.504	.000
Social aspect	Equal variances assumed	9.471	.002	-3.511	1298	.000
	Equal variances not assumed			-3.534	1297.615	.000
Suggestive opinion	Equal variances assumed	16.491	.000	-3.119	1298	.002
	Equal variances not assumed			-3.143	1297.975	.002

Levene’s test for equality of variance for all the variables was applied. Levene’s test for all the variables indicate that p value for all the variables are less than 0.05. All the factors are statistically significant at 5 percent level of significance. Levene’s test conclude that both the groups male and female did not have the equal variance.

Two independent sample t test have the p value less than 0.05 for all the five variables of opinion regarding MDM. All the factors are statistically significant at 5 percent of the level of significance. T test conclude that Male and female have different mean score for all the variables of opinion of students regarding MDM.

Table 4.11 Group Statistics

Gender		Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Male	2.5708	.97115	.03697
	Female	3.4862	1.15903	.04693
Academic changes of student	Male	2.9696	1.02377	.03897
	Female	3.2869	1.13326	.04588
Food, Health and hygiene	Male	2.8359	.83529	.03180
	Female	3.6402	.94839	.03840
Social aspect	Male	3.2826	1.13832	.04333
	Female	3.4945	1.02374	.04145
Suggestive opinion	Male	3.3677	1.18731	.04520
	Female	3.5623	1.04493	.04231

Mean score table also indicate the difference in the mean score of all the five factors of students Opinionnaire for Male and female. Female has the higher mean score for all the factors compare to the mean of the Males. Difference between both the genders is also founded statistically significant.

Area

H0: There is no significant difference in mean score of opinion of students regarding MDM for various area of study

H1: There is significant difference in mean score of opinion of students regarding MDM for various area of study

Opinion of the students on the MDM factors namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Area of the study, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.12 Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	21.721	.000	14.574	1298	.000
	Equal variances not assumed			15.277	1253.978	.000
Academic changes of student	Equal variances assumed	6.275	.012	6.300	1298	.000
	Equal variances not assumed			6.426	1173.056	.000
Food, Health and hygiene	Equal variances assumed	40.705	.000	16.277	1298	.000
	Equal variances not assumed			16.964	1239.373	.000
Social aspect	Equal variances assumed	5.463	.020	3.557	1298	.000
	Equal variances not assumed			3.498	1038.932	.000
Suggestive opinion	Equal variances assumed	10.460	.001	5.139	1298	.000
	Equal variances not assumed			5.013	1008.096	.000

Levene's test for equality of variance for all the variables was applied. Levene's test for all the variables indicates that p value for all the variables are less than 0.05. All the factors are statistically significant at 5 percent level of significance. Levene's test concludes that both the group students from rural and urban did not have the equal variance.

Two independent sample t test have the p value less than 0.05 for all the five variables of opinion regarding MDM. All the factors are statistically significant at 5 percent of the level of significance. T test conclude that mean score for rural respondents and urban respondents are different for all the variables of opinion of students regarding MDM.

Table 4.13 Group Statistics

Area		Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Rural	3.3522	1.16216	.04151
	Urban	2.4657	.92125	.04056
Academic changes of student	Rural	3.2704	1.11099	.03968
	Urban	2.8876	1.00948	.04444
Food, Health and hygiene	Rural	3.5392	.95541	.03412
	Urban	2.7180	.78003	.03434
Social aspect	Rural	3.4690	1.04999	.03750
	Urban	3.2500	1.13840	.05012
Suggestive opinion	Rural	3.5880	1.05982	.03785
	Urban	3.2630	1.19558	.05263

Mean score table also indicate the difference in the mean score of all the variables for rural respondents and urban respondents. Students who are from the rural area have recorded more favorable opinion regarding various aspect of the MDM compare to the students who has the urban background and difference also founded statistically significant.

Age

H0: There is no significant difference in mean score of opinion of students regarding MDM for difference age group.

H1: There is significant difference in mean score of opinion of students regarding MDM for difference age group.

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and age of the students inserted as the independent variable in the One-way analysis of variance.

Table 4.14 ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	23.808	3	7.936	5.996	.000
	Within Groups	1715.396	1296	1.324		
	Total	1739.204	1299			
Academic changes of student	Between Groups	19.190	3	6.397	5.462	.001
	Within Groups	1517.678	1296	1.171		
	Total	1536.868	1299			
Food, Health and hygiene	Between Groups	28.573	3	9.524	10.207	.000
	Within Groups	1209.360	1296	.933		
	Total	1237.934	1299			
Social aspect	Between Groups	57.693	3	19.231	16.751	.000
	Within Groups	1487.888	1296	1.148		
	Total	1545.581	1299			
Suggestive opinion	Between Groups	12.026	3	4.009	3.175	.023
	Within Groups	1636.464	1296	1.263		
	Total	1648.489	1299			

Above table provides the ANOVA result for all the five variables with the different age groups of students. P value of all the variables are vary from 0.000 to 0.023 which all are less than 0.05. Here all the factors are statistically significant at 5 percent level of significant. Hence ANOVA test conclude that age has the significant impact on the opinion of the students regarding various aspect of MDM.

Table 4.15 Descriptives					
		N	Mean	Std. Deviation	Std. Error
Administration and implementation	Less than 7	193	2.8979	1.24289	.08947
	8 - 10	269	2.8147	1.13283	.06907
	11 - 14	400	3.1771	1.11272	.05564
	more than 14	438	2.9980	1.15290	.05509
	Total	1300	3.0003	1.15710	.03209
Academic changes of student	Less than 7	193	3.0864	1.05985	.07629
	8 - 10	269	2.9145	1.07306	.06543
	11 - 14	400	3.2575	1.06804	.05340
	more than 14	438	3.1309	1.10984	.05303
	Total	1300	3.1185	1.08771	.03017
Food, Health and hygiene	Less than 7	193	3.2902	1.01487	.07305
	8 - 10	269	2.9833	1.05125	.06410
	11 - 14	400	3.3869	.87063	.04353
	more than 14	438	3.1621	.97214	.04645
	Total	1300	3.2133	.97621	.02708
Social aspect	Less than 7	193	3.3748	.79967	.05756
	8 - 10	269	3.0657	1.13269	.06906
	11 - 14	400	3.6542	1.01403	.05070
	more than 14	438	3.3311	1.18244	.05650
	Total	1300	3.3821	1.09079	.03025
Suggestive opinion	Less than 7	193	3.3094	.98763	.07109
	8 - 10	269	3.5927	1.08369	.06607
	11 - 14	400	3.3896	.99622	.04981
	more than 14	438	3.5062	1.29994	.06211
	Total	1300	3.4590	1.12652	.03124

Table also provides the difference in the mean score of various factors of the opinion regarding MDM with reference to various age groups. All the factors have recorded the significant difference with reference to the age of the students. Higher age students have recorded the higher mean score compare to low age group students. It can be inferring that as age increase opinion of students become more positive towards the MDM.

Class of study

H0: There is no significant difference in mean score of opinion of student regarding MDM for difference class of study

H1: There is significant difference in mean score of opinion of student regarding MDM for difference experience class of study

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and class of study inserted as the independent variable in the One-way analysis of variance.

Table 4.16 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	48.441	3	16.147	12.377	.000
	Within Groups	1690.763	1296	1.305		
	Total	1739.204	1299			
Academic changes of student	Between Groups	21.306	3	7.102	6.073	.000
	Within Groups	1515.562	1296	1.169		
	Total	1536.868	1299			
Food, Health and hygiene	Between Groups	27.181	3	9.060	9.698	.000
	Within Groups	1210.752	1296	.934		
	Total	1237.934	1299			
Social aspect	Between Groups	34.117	3	11.372	9.751	.000
	Within Groups	1511.464	1296	1.166		
	Total	1545.581	1299			
Suggestive opinion	Between Groups	3.654	3	1.218	.960	.411
	Within Groups	1644.835	1296	1.269		
	Total	1648.489	1299			

Above table provides the ANOVA result for all the five variables with the different class of study groups. P value of suggestive opinion has the p value 0.411 which is not statistically significant at 5 percent level of significance. Where P value of other four factors is 0.000, which is less than the 0.05. ANOVA test is statistically significant at 5 percent level of significance for all the factors except Suggestive opinion. It can be inferring that different class of study has the different mean score for the factors of MDM except Suggestive opinion.

Table 4.17 Descriptives

		N	Mean	Std. Deviation	Std. Error
Administration and implementation	up to 2	229	2.8235	1.19085	.07869
	3 to 5	296	2.8311	1.15825	.06732
	6 to 7	391	3.2850	1.06860	.05404
	more than 7	384	2.9464	1.17227	.05982
	Total	1300	3.0003	1.15710	.03209
Academic changes of student	up to 2	229	2.9913	1.07057	.07075
	3 to 5	296	3.0282	1.05604	.06138
	6 to 7	391	3.3095	1.09934	.05560
	more than 7	384	3.0694	1.08866	.05556
	Total	1300	3.1185	1.08771	.03017
Food, Health and hygiene	up to 2	229	3.1801	1.02439	.06769
	3 to 5	296	3.0431	1.02140	.05937
	6 to 7	391	3.4214	.88672	.04484
	more than 7	384	3.1523	.96558	.04927
	Total	1300	3.2133	.97621	.02708
Social aspect	up to 2	229	3.3042	.88640	.05857
	3 to 5	296	3.1971	1.11884	.06503
	6 to 7	391	3.6172	1.08675	.05496
	more than 7	384	3.3316	1.14537	.05845
	Total	1300	3.3821	1.09079	.03025
Suggestive opinion	up to 2	229	3.3743	.98148	.06486
	3 to 5	296	3.5405	1.09570	.06369

	6 to 7	391	3.4487	1.03899	.05254
	more than 7	384	3.4572	1.30277	.06648
	Total	1300	3.4590	1.12652	.03124

Table also provides the difference in the mean score of various factors of the opinion regarding MDM with reference to various study class. All the factors have recorded the significant difference with reference to the study class of the students. Higher study classes students have recorded the higher mean score compare to low study class group students. It can be inferring that as class increase opinion of students become more positive towards the MDM.

Satisfaction EFA

Satisfaction of the students towards the various factor of the Mid Day Meal measured on the five point Likert scale. There were 17 items which entirely cover all the aspect of MDM. Exploratory factor analysis was applied to extract the import factors.

Further, before conducting factor analysis, we must check the appropriateness of using this multivariate analysis technique. This can be done using Kaiser-Meyer-Olkin measure of sampling adequacy and Barlett's test of sphericity (Nargundkar, 2003). As recommended by Kaiser, values above 0.7 are good whereas between 0.5-0.7 also is acceptable. (cited by Andy Field, 2005). The KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed further. If any pair of variables has a value less than this, consider dropping one of them from the analysis. The off-diagonal elements should all be very small (close to zero) in a good model. Looking at the table below, the KMO measure is 0.824 hence it is inferred that the sample size is the adequate for the factor analysis.

Table 4.18 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.824
Bartlett's Test of Sphericity	Approx. Chi-Square	28077.536
	df	136
	Sig.	.000

Barlett's test of sphericity tests the null hypothesis that the original correlation matrix is an identity matrix. For factor analysis, this is an important starting point since the technique is useful only if the variables are correlated. Therefore, for the test to be significant the p-value should be less than 0.05. In this data, the Bartlett's test shows the p-value as 0.000 for chi-square statistic (28077.536) at 136 degrees of freedom and hence the null hypothesis of correlation matrix being an identity matrix is rejected. Therefore, it is established from the

statistical measures that the variables have some correlation and therefore, factor analysis is appropriate.

Table 4.19 Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.677	39.276	39.276	6.677	39.276	39.276
2	3.045	17.914	57.190	3.045	17.914	57.190
3	2.052	12.069	69.259	2.052	12.069	69.259
4	1.744	10.258	79.517	1.744	10.258	79.517
5	.811	4.773	84.290			
6	.548	3.221	87.511			
7	.473	2.783	90.294			
8	.407	2.396	92.690			
9	.342	2.010	94.700			
10	.269	1.583	96.282			
11	.243	1.431	97.713			
12	.229	1.347	99.060			
13	.064	.376	99.436			
14	.037	.219	99.655			
15	.031	.180	99.835			
16	.020	.119	99.954			
17	.008	.046	100.000			

Extraction Method: Principal Component Analysis.

The initial solution was determined using PCA method. A method widely used for determining a first set of loadings. This method seeks values of the loadings that bring the estimate of the total communality as close as possible to the total of the observed variances.

Table 4.19 lists the Eigen values, associated with each linear component (factor) before extraction, after extraction and after rotation. All factors with Eigen values greater than 1 are extracted which leaves us with 17 variables reduced to 4 factors. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of four factors is equalized. First factor explains approximately 39.27 % of variance

and other three factors also explain the significantly high variance. Also, it shows a cumulative percentage of 79.517% of the total variance explained by the four factors and leaving 19.49% of the variance to be explained by the other 13 components.

Using Kaiser's criterion, the study sought variables with Eigen values greater than or equal to 1. The first four components had Eigen values greater than or equal to 1 and accounted for 79.517 percent of the variance, with component 1 accounting for 39.276 percent of the variance, component 2 explained 17.914, component 3 explained approximately 12.069 and last component explained approximately 10.258 % variance. Therefore, based on the total variance explained analysis, a maximum of 4 components could be extracted from the combined data set.

The rotated component matrix shows the factor loadings of each variable onto each factor. Factor loadings less than 0.4 have not been displayed. As cited by Field (2009), the original logic behind suppressing loadings less than 0.4 is based on Stevens' suggestion that this cut-off point is appropriate for interpretative purposes (i.e. the loadings greater than 0.4 represent substantive values.)

The rotated component matrix helps to determine what the factors represent as the factor loadings denote the correlation (coefficients) between the variable and the factor. The object of the rotation is to ensure that all the variables have high loadings only on one factor. While the researcher has the option of selecting from the two rotation methods: Orthogonal and Oblique; the first method has been selected here so that the rotated factors remain uncorrelated. For this purpose, the rotation method used is 'Varimax'.

Larger loadings on a single factor help to interpret the underlying factor. Finally, the factor analysis procedure gives four factors reduced from 17 variables.

Table 4.20 Rotated Component Matrix[a]

	Component			
	Quality of Food	Health and Hygiene	Support Infrastructure	Social benefit
Hot and fresh food	.916			
Quality of food	.914			
Availability of food	.900			
Quantity of food	.818			
Taste of food	.817			

Cleanliness of food	.727			
Cleanliness of food serving utensils		.917		
Cleanliness of person serving the food		.909		
Place of eating the food		.867		
Availability of weighing machine/height recorder for health monitoring		.851		
Facility of drinking water			.895	
Availability of sufficient utensil for serving food			.859	
Sitting arrangement in school			.851	
Availability of hand washing facility			.831	
Increase in affinity among children				.877
Increase in parents attention for sending their children to school				.859
Regular presence in school				.799
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]				
a. Rotation converged in 5 iterations.				

A varimax with Kaiser Normalization rotation method revealed a four component structure as shown in Table 4.20. The original 17 items in the instrument had been loaded on the four components.

Component one had 6 items loading on it which are shown in the table 4.20. It shows that item “Hot and fresh food” has the highest factor loading (0.916) where item “Cleanliness of food” has the low factor loading (0.727). Close observation of factor loading indicate that it converges in to factor name Quality of Food.

Where, component two had 4 items loading on it which are shown in the table 4.20. It shows that item “Cleanliness of food serving utensils” has the highest factor loading (0.917) and item “Availability of weighing machine/height recorder for health monitoring” has the low

factor loading (0.851). These four items collectively make the factor called Health and Hygiene.

Component three had 4 items loading on it which are shown in the table 4.20. It shows that item "Facility of drinking water" has the highest factor loading (0.895) where item "Availability of hand washing facility" has the low factor loading (0.831). Close observation of factor loading indicate that it converges in to factor name Support Infrastructure.

Where, component four had 3 items loading on it which are shown in the table 4.20. It shows that item "Increase in affinity among children" has the highest factor loading (0.877) and item "Regular presence in school" has the low factor loading (0.799). These three items collectively make the factor called Social benefit.

Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results. There are several methods for computing test reliability including test-retest reliability, parallel forms reliability, decision consistency, internal consistency, and inter rater reliability. Reliability widely measured through coefficient alpha. Nunnally (1978) states that a coefficient alpha greater than 0.70 represents a good indication of internal consistency. The study's results reveal that all of the measures exceed this criterion and therefore exhibit internal consistency reliabilities that are within the accepted limits for basic research; however, as the field of research statistics evolved, other researchers have since provided further interpretations of acceptable Cronbach's alpha value ranges. DeVellis (1991) recommends the following guidelines for coefficient alpha values: "below 0.60, unacceptable; between 0.60 and 0.65, undesirable; between 0.65 and 0.70, minimally acceptable; between 0.70 and 0.80, respectable; between 0.80 and 0.90, very good".

Table 4.21 Reliability Statistics

Cronbach's Alpha	N of Items
.864	17

Factor wise reliability

Table 4.22 Reliability Statistics of all factors

	Cronbach's Alpha
Quality of Food	.943
Health and Hygiene	.804
Support Infrastructure	.959
Social benefit	.885

Table 4.21 indicates the reliability of the Satisfaction of students which conclude that instrument has good reliability as the coefficient alpha of the instrument is 0.864. Table 4.22 shows the factor wise reliability. It also provides the good reliability of the instruments.

Regression

The impact of the import factors related to the MDM on the overall satisfaction towards MDM was examined using OLS method of estimation in multiple linear regressions. In the Multiple Regressions Average score of the overall satisfaction towards MDM inserted as the dependent variable and Average score of explored four factor inserted as the independent variables.

Table 4.23 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	552.228	4	138.057	1543.914	.000[b]
	Residual	115.799	1295	.089		
	Total	668.028	1299			

a. Dependent Variable: Overall satisfaction towards MDM

b. Predictors: (Constant), Support Infrastructure, Social benefit, Quality of Food, Health and Hygiene

The ANOVA is used to assess the overall significance of the regression model. In Table 23, the F-value (1543.914) and the p-value is 0.000. This meant that model significant is significant as p-values less than 0.05 at $\alpha = 0.05$ level, so it provides enough evidence for the significant of the model.

Table 4. 24 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909[a]	.827	.826	.29903

a. Predictors: (Constant), Support Infrastructure, Social benefit, Quality of Food, Health and Hygiene

The model summary of regression model is given in model summary Table and it shows the coefficient of determination (R^2) under model is 0.827, which meant that four factors explain 82.7 percent of the variations in overall satisfaction towards MDM.

Table 4.25 Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.479	.044		-10.785	.000
	Quality of Food	.262	.011	.327	23.232	.000
	Social benefit	.247	.008	.362	30.643	.000
	Health and Hygiene	.232	.009	.379	26.773	.000
	Support Infrastructure	.260	.007	.413	35.142	.000
a. Dependent Variable: Overall satisfaction towards MDM						

Further Table 25 provides the coefficients of the model. According to the coefficient table it can be said that all four factors of MDM has the statistical significant impact on the overall satisfaction level. All four factors have the p value 0.000 which is less than 0.05. All four factors are statistically significant at 5 percent level of significant. All the four factors have the positive impact on the overall satisfaction level. Support infrastructure has the highest impact with the beta weight of 0.413 followed by the health and hygiene with the beta weight of 0.379, social benefit with the beta weight of 0.362 and quality of food has the lowest impact with the beta weight of 0.327.

Hypothesis testing

Gender

H0: There is no significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for different gender.

H1: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for different gender.

Satisfaction of the students on the various aspect of MDM factors namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Gender, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.26 Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Quality of Food	Equal variances assumed	8.705	.003	-18.430	1298	.000
	Equal variances not assumed			-18.358	1254.346	.000
Social benefit	Equal variances assumed	18.216	.000	-5.619	1298	.000
	Equal variances not assumed			-5.577	1224.215	.000
Health and Hygiene	Equal variances assumed	16.607	.000	-14.973	1298	.000
	Equal variances not assumed			-14.813	1194.002	.000
Support Infrastructure	Equal variances assumed	11.004	.001	-2.090	1298	.037
	Equal variances not assumed			-2.104	1297.430	.036
Overall satisfaction towards MDM	Equal variances assumed	38.801	.000	-13.528	1298	.000
	Equal variances not assumed			-13.464	1248.572	.000

Levene’s test for equality of variance for all the variables was applied. P value of Levene’s test is ranging from 0.000 to 0.03, which is less than the 5 percent significance level. Hence it can be concluding that variance are different for male and female for all the satisfaction level factors.

Two independent sample t test have the p value less than 0.05 for all the four variables as well as overall satisfaction towards MDM. All the factors are statistically significant at 5 percent of the level of significance. T test conclude that mean score for Male and female are different. It infers that satisfaction level is different for different gender.

Table 4.27 Group Statistics

Gender		Mean	Std. Deviation	Std. Error Mean
Quality of Food	Male	2.8652	.77320	.02944
	Female	3.6820	.82397	.03336
Social benefit	Male	2.9816	.97790	.03723
	Female	3.3066	1.10687	.04482
Health and Hygiene	Male	2.5583	.98958	.03767
	Female	3.4594	1.17963	.04776
Support Infrastructure	Male	3.4069	1.19320	.04542
	Female	3.5393	1.07712	.04361
Overall satisfaction towards MDM	Male	2.5000	.64709	.02463
	Female	3.0049	.69833	.02827

Mean score table also indicate the difference in the mean score of all the four factors and overall all satisfaction towards MDM for Male and female. Female has the higher mean score for all the factors compare to the mean of the Males. Difference between both the genders is also founded statistically significant. It concludes that female are more satisfied compare to male.

Area

H0: There is no significant difference in mean score of explored satisfaction factors of Students regarding MDM on overall satisfaction for various area of study.

H1: There is significant difference in mean score of explored satisfaction factors of students regarding MDM on overall satisfaction for various area of study.

Satisfaction of the students on the various aspect of MDM factors namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Area of the respondent, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.28 Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Quality of Food	Equal variances assumed	33.128	.000	18.546	1298	.000
	Equal variances not assumed			19.244	1227.464	.000
Social benefit	Equal variances assumed	8.336	.004	6.371	1298	.000
	Equal variances not assumed			6.505	1177.090	.000
Health and Hygiene	Equal variances assumed	29.986	.000	14.334	1298	.000
	Equal variances not assumed			15.088	1263.239	.000
Support Infrastructure	Equal variances assumed	6.938	.009	4.148	1298	.000
	Equal variances not assumed			4.064	1024.495	.000
Overall satisfaction towards MDM	Equal variances assumed	13.359	.000	16.542	1298	.000
	Equal variances not assumed			17.212	1235.085	.000

Levene's test for equality of variance for all the variables was applied. P value of Social benefit is 0.004 and p value of social benefit is 0.09, all other variable has the p value 0.000. Here all the factors are statistically significant at 5 percent level of significance. Levene's test conclude that students from rural and urban has the different variance for all the factors.

Two independent sample t test have the p value less than 0.05 for all the four variables as well as overall satisfaction level towards MDM. All the factors are statistically significant at 5 percent of the level of significance. Two independent t test further conclude that mean score for all four factors and overall satisfaction have the different for rural area and urban area.

Table 4.29 Group Statistics

Area		Mean	Std. Deviation	Std. Error Mean
Quality of Food	Rural	3.5808	.84921	.03033
	Urban	2.7435	.70856	.03119
Social benefit	Rural	3.2827	1.07693	.03846
	Urban	2.9083	.97287	.04283
Health and Hygiene	Rural	3.3326	1.18726	.04240
	Urban	2.4472	.92156	.04057
Support Infrastructure	Rural	3.5749	1.08817	.03886
	Urban	3.3081	1.20184	.05291
Overall satisfaction towards MDM	Rural	2.9796	.69818	.02493
	Urban	2.3682	.57461	.02530

Mean score table also indicate the difference in the mean score of all the variables for rural respondents and urban respondents. Students who are from the rural area have recorded more satisfaction regarding various aspect of the MDM compare to the students who has the urban background and difference also founded statistically significant.

Age

H0: There is no significant difference in mean score of explored satisfaction factors of students regarding MDM on overall satisfaction for difference age group.

H1: There is significant difference in mean score of explored satisfaction factors of students regarding MDM on overall satisfaction for difference age group.

Average score of variables namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on the five point Likert scale inserted as the dependent variables and age of the students inserted as the independent variable in the one-way analysis of variance.

Table 4.30 ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Quality of Food	Between Groups	14.105	3	4.702	5.932	.001
	Within Groups	1027.253	1296	.793		
	Total	1041.358	1299			
Social benefit	Between Groups	19.599	3	6.533	5.964	.000
	Within Groups	1419.578	1296	1.095		
	Total	1439.177	1299			
Health and Hygiene	Between Groups	25.080	3	8.360	6.156	.000
	Within Groups	1759.958	1296	1.358		
	Total	1785.038	1299			
Support Infrastructure	Between Groups	18.580	3	6.193	4.793	.003
	Within Groups	1674.612	1296	1.292		
	Total	1693.191	1299			
Overall satisfaction towards MDM	Between Groups	4.789	3	1.596	3.119	.025
	Within Groups	663.239	1296	.512		
	Total	668.028	1299			

Above table provides the ANOVA result for all the five variables with the different age groups of factors. P value of all the satisfaction factors as well as overall satisfaction is ranging from 0.000 to 0.025. Here all the factors are statistically significant at 5 percent level of significant. ANOVA test conclude that age of the students has the significant impact on the satisfaction level. ANOVA test conclude that mean score of all the variables is different for various age groups of students.

Table 4.31 Descriptives					
		N	Mean	Std. Deviation	Std. Error
Quality of Food	Less than 7	193	3.3057	.95657	.06886
	8 - 10	269	3.0762	.98121	.05983
	11 - 14	400	3.3629	.83339	.04167
	more than 14	438	3.2245	.85093	.04066
	Total	1300	3.2485	.89536	.02483
Social benefit	Less than 7	193	3.0397	1.03868	.07477
	8 - 10	269	2.9591	1.00144	.06106
	11 - 14	400	3.2892	1.06696	.05335
	more than 14	438	3.1416	1.05831	.05057
	Total	1300	3.1341	1.05257	.02919
Health and Hygiene	Less than 7	193	2.8795	1.27273	.09161
	8 - 10	269	2.7890	1.14884	.07005
	11 - 14	400	3.1625	1.12759	.05638
	more than 14	438	2.9783	1.15989	.05542
	Total	1300	2.9812	1.17225	.03251
Support Infrastructure	Less than 7	193	3.3536	1.00014	.07199
	8 - 10	269	3.6459	1.11672	.06809
	11 - 14	400	3.3444	1.02644	.05132
	more than 14	438	3.5251	1.29068	.06167
	Total	1300	3.4690	1.14169	.03166
Overall satisfaction towards MDM	Less than 7	193	2.6684	.75269	.05418
	8 - 10	269	2.6729	.69436	.04234
	11 - 14	400	2.8200	.70983	.03549
	more than 14	438	2.7306	.71629	.03423
	Total	1300	2.7369	.71712	.01989

Table also provides the difference in the mean score of various factors of the satisfaction regarding MDM with reference to various age groups. All the factors recorded the significant difference in the different age group of the students. Close observation of the table indicate that age and satisfaction level has the positive relationship. Higher age group has recorded the higher satisfaction level compare to the low age group of the students.

Class of the study

H0: There is no significant difference in mean score of opinion of student regarding MDM for difference class of the study

H1: There is significant difference in mean score of opinion of students regarding MDM for difference class of the study

Average score of variables namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on the five point Likert scale inserted as the dependent variables and study class of the students inserted as the independent variable in the one-way analysis of variance.

Table 4.32 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Quality of Food	Between Groups	13.725	3	4.575	5.770	.001
	Within Groups	1027.633	1296	.793		
	Total	1041.358	1299			
Social benefit	Between Groups	26.888	3	8.963	8.225	.000
	Within Groups	1412.289	1296	1.090		
	Total	1439.177	1299			
Health and Hygiene	Between Groups	50.558	3	16.853	12.592	.000
	Within Groups	1734.480	1296	1.338		
	Total	1785.038	1299			
Support Infrastructure	Between Groups	4.993	3	1.664	1.278	.281
	Within Groups	1688.199	1296	1.303		
	Total	1693.191	1299			
Overall satisfaction towards MDM	Between Groups	16.227	3	5.409	10.755	.000
	Within Groups	651.800	1296	.503		
	Total	668.028	1299			

Above table provides the ANOVA result for all the four variables and overall satisfaction towards MDM for the different study class of the students. P value of all the factors is 0.000 except Support infrastructure. Support infrastructure has the P value 0.281. All the factors except support infrastructure are statistically significant at 5 percent level of significant. It can be inferring that different study class has the different mean score for all the factors except Support Infrastructure as well overall satisfaction level towards the MDM.

Table 4.33 Descriptives

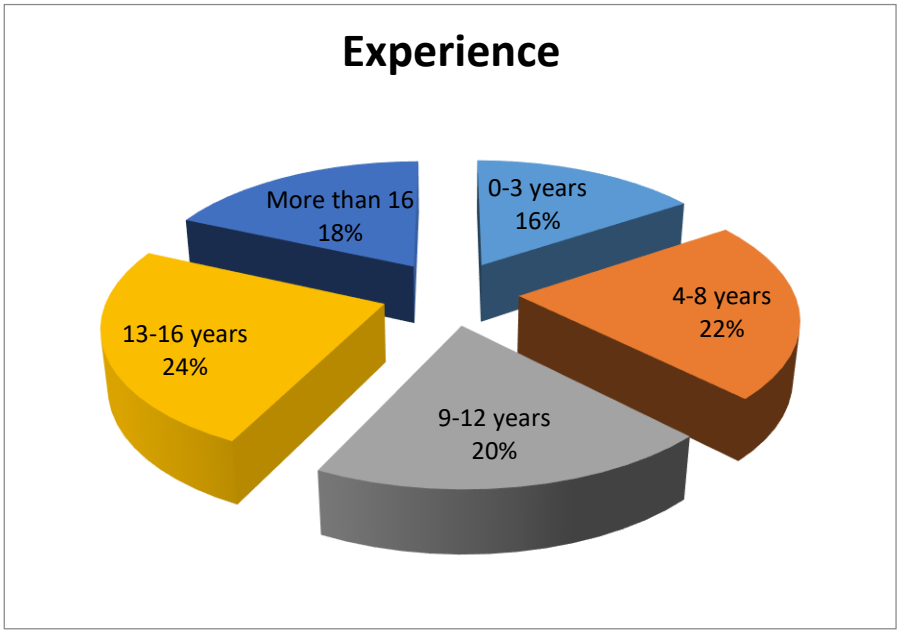
		N	Mean	Std. Deviation	Std. Error
Quality of Food	up to 2	229	3.1900	.96941	.06406
	3 to 5	296	3.1357	.94852	.05513
	6 to 7	391	3.3986	.84281	.04262
	more than 7	384	3.2174	.84106	.04292
	Total	1300	3.2485	.89536	.02483
Social benefit	up to 2	229	2.9607	1.03774	.06858
	3 to 5	296	3.0619	.99240	.05768
	6 to 7	391	3.3444	1.09318	.05528
	more than 7	384	3.0790	1.03485	.05281
	Total	1300	3.1341	1.05257	.02919
Health and Hygiene	up to 2	229	2.8024	1.21935	.08058
	3 to 5	296	2.8083	1.17341	.06820
	6 to 7	391	3.2724	1.08426	.05483
	more than 7	384	2.9245	1.17725	.06008
	Total	1300	2.9812	1.17225	.03251
Support Infrastructure	up to 2	229	3.4312	1.00433	.06637
	3 to 5	296	3.5718	1.12376	.06532
	6 to 7	391	3.4066	1.06499	.05386
	more than 7	384	3.4759	1.29605	.06614
	Total	1300	3.4690	1.14169	.03166
Overall satisfaction towards MDM	up to 2	229	2.6332	.72302	.04778
	3 to 5	296	2.6858	.70778	.04114

	6 to 7	391	2.9054	.71522	.03617
	more than 7	384	2.6667	.69563	.03550
	Total	1300	2.7369	.71712	.01989

Table also provides the difference in the mean score of different factors and overall satisfaction regarding MDM with reference to various study class of the students. Support Infrastructure has the almost equal mean across all the study class, where other factors have the different mean across various study class. Class 6-7 has recorded the highest satisfaction level where up to 2 class has recorded the lower satisfaction level.

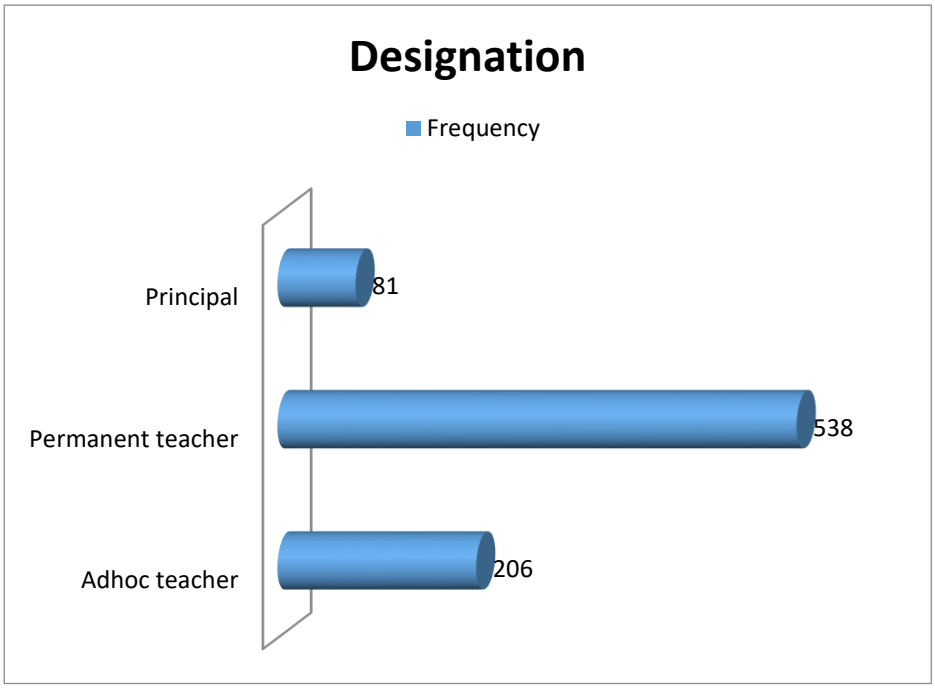
Teacher

Table 4.34 Experience		
	Frequency	Percent
0-3 years	129	15.6
4-8 years	181	21.9
9-12 years	162	19.6
13-16 years	202	24.5
More than 16	151	18.3
Total	825	100.0



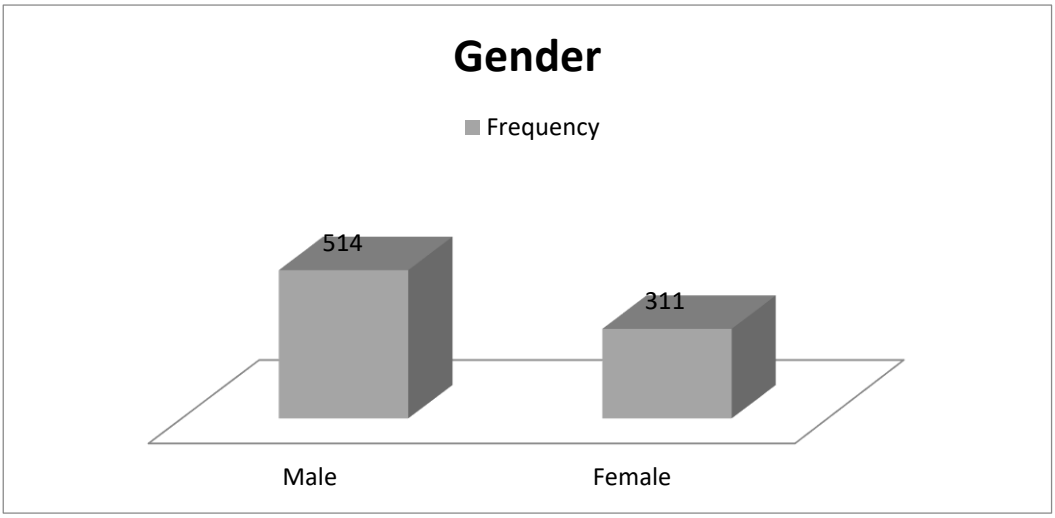
Experience wise distribution of the total teachers are shown in the above table and graph, which indicate that majority of the teachers have 13-16 years of experience (24.5 %) followed by 4-8 year, experience (21.9 %), 9-12 year experience (19.6 %) , more than 16 years of experience (18.3 %) and 0-3 year experience (15.6 %).

Table 4.35 Designation		
	Frequency	Percent
Adhoc teacher	206	25.0
Permanent teacher	538	65.2
Principal	81	9.8
Total	825	100.0



Designation wise distribution of the total teachers are shown in the above table and graph, Which indicate that majority of the respondents are belong to permanent teacher groups 538 (65.2%) followed by Adhoc teacher group 206 (25.0 %) and principal group 81 (9.8 %) .

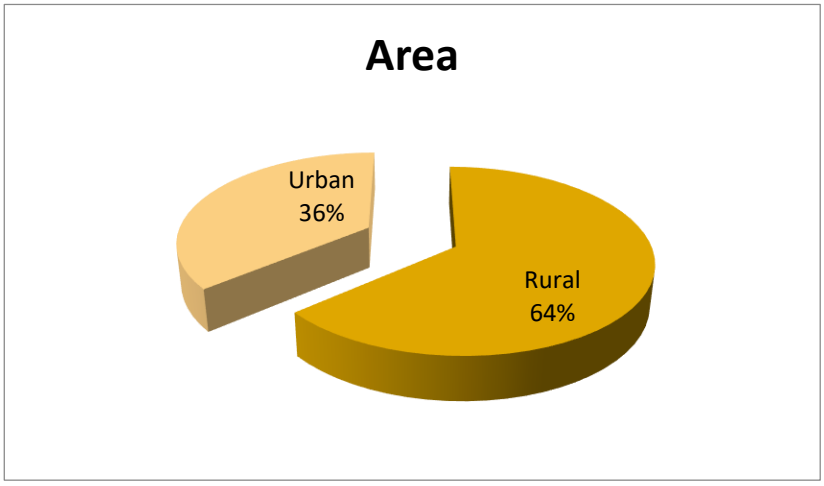
Table 4.36 Gender		
	Frequency	Percent
Male	514	62.3
Female	311	37.7
Total	825	100.0



The classification of teachers by gender is presented in table and graph above. 514 out of the 825 were males and remaining 311 are female respondents. 62.3 % respondents are males where female teachers are 37.7%.

Table 4.37 Area

	Frequency	Percent
Rural	527	63.9
Urban	298	36.1
Total	825	100.0



The classification of respondent by Area is presented in table and graph above. 63.9 % of the respondents are from the rural area where remaining 36.1 % of the teachers are from urban area.

First Exploratory Factor analysis

During multivariate statistics, exploratory factor analysis (EFA) is a statistical procedure used to discover the inherent arrangement of a somewhat large collection of factors. EFA is an approach within variable analysis whose overarching objective is to recognize the

inherent connections between quantified variables. It's widely utilized by researchers after having a scale (a scale can be an assortment of questions used to quantify a certain research issue) and functions to recognize a specific pair of neural constructs inherent a battery of quantified factors. It ought to be utilized once the researcher does not have a priori theory about patterns or factors of quantified factors. Measured factors are some of the features of people which could possibly be detected and quantified. The Opinionnaire of the teachers consist of the 32 items measured on the five point Likert scale. EFA applied and evaluated 32 items. First screen of the EFA founded that one item is crossly loaded which is removed from the further study. In EFA cross loaded item and poorly loaded items should be removed. EFA again run after the removing on one item “I think that Mid-Day Meal Scheme should be continue in the school”.

Final exploratory factor analysis

Further, before conducting factor analysis, we must check the appropriateness of utilizing this multivariate analysis procedure. This can be done using Kaiser-Meyer-Olkin step of sampling adequacy and Barlett's test of sphericity (Nargundkar, 2003). As advocated by Kaiser, values above 0.7 are good where as between 0.5-0.7 also is acceptable. (mentioned by Andy Field, 2005). The KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to move further. If some of variables has a value less than this, look at dropping one of them by the investigation. Even the off-diagonal elements should all be very small (near zero) in a fantastic version. Looking at the table below, the KMO measure is 0.828 hence it is suggested that the sample size is the adequate for the variable analysis.

Table 4.38 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.828
Bartlett's Test of Sphericity	Approx. Chi-Square	43177.719
	df	465
	Sig.	.000

Barlett's test of sphericity examines the null hypothesis that the initial correlation matrix is an identity matrix. For factor analysis, that can be an important starting point because the procedure is advantageous only in case the variables are correlated. Consequently, for the exam to be significant the p value should be greater than 0.05. During this particular data, the Bartlett's test shows the pvalue as 0.000 to get chi square statistic (43277.719) at 465 degrees of freedom and hence the null hypothesis of correlation matrix having an identity matrix has

been reversed. Therefore, it is established from the statistical measures which the factors have some significance and so, factor analysis is appropriate.

Table 4.39 Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.731	34.617	34.617	10.731	34.617	34.617
2	5.061	16.325	50.942	5.061	16.325	50.942
3	3.782	12.201	63.143	3.782	12.201	63.143
4	2.708	8.736	71.878	2.708	8.736	71.878
5	2.201	7.099	78.977	2.201	7.099	78.977
6	.989	3.191	82.168			
7	.822	2.651	84.819			
8	.668	2.155	86.973			
9	.570	1.840	88.813			
10	.548	1.767	90.580			
11	.478	1.541	92.121			
12	.416	1.340	93.461			
13	.355	1.145	94.607			
14	.317	1.022	95.629			
15	.287	.925	96.553			
16	.267	.861	97.414			
17	.233	.751	98.165			
18	.144	.464	98.629			
19	.113	.365	98.994			
20	.059	.189	99.183			
21	.051	.164	99.346			
22	.044	.142	99.488			
23	.034	.109	99.597			
24	.026	.084	99.681			
25	.024	.077	99.758			

26	.019	.061	99.819			
27	.016	.050	99.870			
28	.014	.044	99.914			
29	.013	.041	99.955			
30	.009	.029	99.984			
31	.005	.016	100.000			

The Very First solution was Ascertained Utilizing PCA method. A method widely employed for determining a first group of loadings. This approach seeks values of the loadings that fetch the quote of the entire communality as long as you can to the total of those observed variances.

Table 4.39 lists the Eigen values, Associated with each linear component (factor) before extraction, after extraction and after rotation. All factors with Eigen values higher than 1 are pulled which leaves us with 31 variables reduced to 5 facets. Rotation has the result of optimizing the factor structure and something outcome for all these statistics is that the comparative importance of five factors is equalized. First variable explains approximately 34.617 % of variance and other 4 factors also explain the significantly high variance. Additionally, it shows a cumulative proportion of 78.98percent of the total variance explained by the five facets and departing 21 percent of the variance to be clarified by the other 26 components.

Using Kaiser's standard, the analysis Searched variables with Eigen values greater than or equal to 1. The first four components needed Eigen values greater than or equal to 1 and accounted for 78.98 percentage of their variance, together with component inch accounting for 34.617 percent of the variance, component 2 explained 16.325, component 3 clarified approximately 12.201per fourth component clarified 8.736 and last component clarified approximately 7% variance. Therefore, depending on the entire variance explained investigation, a max of 5 components could be extracted from the combined data set.

Factor loadings of each variable onto each factor. Variable loadings less than 0.4 have not been displayed. As cited by Field (2009), the initial logic behind restraining loadings less than 0.4 is dependant on Stevens' proposal that this cut-off point is appropriate for interpretative purposes (i.e. the loadings more than 0.4 represent significant values)

The rotated component matrix helps to Determine what the factors represent since the factor loadings denote the correlation (coefficients) between the variable and the factor. The goal of the rotation is to ensure all the variables have high loadings only on one factor. While

the researcher has the option of selecting from both rotation techniques: Orthogonal and Oblique; the very first method was selected here so that the rotated factors continue to be uncorrelated. For this purpose, the spinning method used is 'Varimax'.

Bigger loadings on a single variable aid to interpret the underlying element. Gives five factors reduced from 31 variables.

4.40 Rotated Component Matrix[a]

Factor	Items	Factor Loading
Suggestive opinion	I believe that teachers' view should be considered while deciding the Mid-Day Meal menu.	.931
	Mid-Day Meal should be given to the absent students also.	.927
	According to my opinion, Mid-Day Meal Scheme menu needs to be change.	.926
	Students' opinions should be considered to improve Mid-Day Meal Scheme.	.911
	I believe that government should continue Mid-Day Meal Scheme	.902
	There are some negative aspects in MDMS which should be improved.	.756
	Teacher should take Mid-Day Meal with children every- day.	.738
	Mid-Day Meal should be given to other than primary school also.	.723
	Every student should take Mid-Day Meal	.712
Academic changes of student	Mid-Day Meal Scheme has changed the nature of my work at the school.	.906
	I have observed an increase in students' academic performance due to Mid-Day Meal Scheme.	.903
	I have observed an increase in student's attendance since Mid-Day Meal Scheme was started.	.899
	According to my view, Mid-Day Meal Scheme keeps the student free from classroom hunger.	.886
	I believe that due to Mid-Day Meal Scheme pupil enrollment has been increased.	.885

	Sometimes Mid-Day Meal Scheme disrupts my classroom activities (R)	.878
	Mid-Day Meal Scheme is necessity for overall development of the students.	.866

Factor	**Items**	**Factor Loading**
Administration and implementation	Mid-Day Meals are served on time	.882
	There is separate space for taking meal in my school.	.880
	Plates for Mid day meal is provided by administration.	.877
	School children help the cook to prepare the meal.	.876
	Mid-Day Meal Scheme is regularly inspected by government officials	.837
	There is enough staff for effective implementation of Mid-Day Meal Scheme.	.808
	In my school, Mid-Day Meal is being served as per prescribed menu.	.736
Food ,Health and hygiene	Sometimes children falling ill after consuming Mid-Day Meal (R)	.936
	Students like the taste of dishes served in Mid-Day Meal.	.925
	Proper hygiene is being maintained by the Mid-Day Meal Scheme staff	.799
	The grain provided by the administration is of good quality.	.791
Social aspect	Some upper cast parents often objected to their children sharing a meal with children of other casts (R)	.877
	The parents are taking live interest for effective implementation of Mid-Day Meal Scheme.	.865
	Taking Mid-Day Meal together helps to decrease cast discrimination among students.	.865
	Sometimes upper cast children have objected sharing meal with children of other cast (R)	.752
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]		
a. Rotation converged in 6 iterations.		

A varimax with Kaiser Normalization rotation method revealed a five component structure as shown in Table 4.40. The original 31 items in the instrument had been loaded on the five components.

Component one had 9 items loading on it which are shown in the table 4.40. It shows that item "I believe that teachers' view should be considered while deciding the Mid-Day Meal menu" has the highest factor loading (0.931) where item "Every student should take Mid-Day Meal" has the low factor loading (0.712). Close observation of factor loading indicate that it converges in to factor name Suggestive opinion.

Where, component two had 7 items loading on it which are shown in the table 4.40. It shows that item "Mid-Day Meal Scheme has changed the nature of my work at the school." has the highest factor loading (0.906) and item "Mid-Day Meal Scheme is necessity for overall development of the students." has the low factor loading (0.866). These seven items collectively make the factor called Academic changes of student.

Component three had 7 items loading on it which are shown in the table 4.40. It shows that item "Mid-Day Meals are served on time" has the highest factor loading (0.882) where item "In my school, Mid-Day Meal is being served as per prescribed menu." has the low factor loading (0.736). Close observation of factor loading indicate that it converges in to factor name Administration and implementation.

Where, component four had 4 items loading on it which are shown in the table 4.40. It shows that item "Sometimes children falling ill after consuming Mid-Day Meal (R)" has the highest factor loading (0.936) and item "The grain provided by the administration is of good quality" has the low factor loading (0.791). These four items collectively make the factor called Academic changes of student.

Component five had 4 items loading on it which are shown in the table 4.40. It shows that item "Some upper cast parents often objected to their children sharing a meal with children of other casts (R)" has the highest factor loading (0.877) where item "Sometimes upper cast children have objected sharing meal with children of other cast (R)" has the low factor loading (0.752). Close observation of factor loading indicate that it converges in to factor name Social aspect.

Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results. There are several methods for computing test reliability including test-retest reliability, parallel forms reliability, decision consistency, internal consistency, and inter rater reliability. Reliability widely measured through coefficient alpha. Nunnally (1978) states that a coefficient

alpha greater than 0.70 represents a good indication of internal consistency. The study's results reveal that all of the measures exceed this criterion and therefore exhibit internal consistency reliabilities that are within the accepted limits for basic research; however, as the field of research statistics evolved, other researchers have since provided further interpretations of acceptable Cronbach's alpha value ranges. DeVellis (1991) recommends the following guidelines for coefficient alpha values: "below 0.60, unacceptable; between 0.60 and 0.65, undesirable; between 0.65 and 0.70, minimally acceptable; between 0.70 and 0.80, respectable; between 0.80 and 0.90, very good".

Overall Reliability

Table 4.41 Reliability Statistics of teachers Opinionnaire	
Cronbach's Alpha	N of Items
.909	31

Factor Wise

Table 4.42 Reliability Statistics of all factors	
	Cronbach's Alpha
Administration and implementation	.933
Academic changes of student	.979
Food ,Health and hygiene	.899
Social aspect	.875
Suggestive opinion	.963

Table 4.41 indicates the reliability of the Opinionnaire of teachers which conclude that instrument has good reliability as the coefficient alpha of the instrument is 0.909. Table 4.42 shows the factor wise reliability. It also provides the good reliability of the instruments.

Hypothesis testing

Gender

H0: There is no significant difference in mean score of opinion of teacher regarding MDM for different gender.

H1: There is significant difference in mean score of opinion of teacher regarding MDM for different gender.

Opinion of the teacher on the MDM factors namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on a five-point scale. Mean score of all the factors

treated as the dependent variable and Gender, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.43 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	22.319	.000	-4.660	823	.000
	Equal variances not assumed			-4.900	754.809	.000
Academic changes of student	Equal variances assumed	25.994	.000	-16.284	823	.000
	Equal variances not assumed			-16.616	695.886	.000
Food, Health and hygiene	Equal variances assumed	3.917	.048	-2.915	823	.004
	Equal variances not assumed			-2.987	704.225	.003
Social aspect	Equal variances assumed	1.088	.297	-7.627	823	.000
	Equal variances not assumed			-7.499	618.935	.000
Suggestive opinion	Equal variances assumed	8.489	.004	-15.887	823	.000
	Equal variances not assumed			-16.692	753.358	.000

Levene's test for equality of variance for all the variables was applied. Levene's test for social aspect has the p value greater than 0.297 which is not statistically significant so it infers that variances for social aspect is equal for both the groups male and female. All the

others variables have the p value less than 0.05 for the Levene's test which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value less than 0.05 for all the five variables of opinion regarding MDM. All the factors are statistically significant at 5 percent of the level of significance. T test conclude that Male and female have different mean score for all the variables of opinion of teachers regarding MDM.

Table 4.44 Group Statistics

Gender		Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Male	3.3071	1.18466	.05225
	Female	3.6775	.96357	.05464
Academic changes of student	Male	2.5450	1.05155	.04638
	Female	3.7395	.96868	.05493
Food, Health and hygiene	Male	3.2310	1.05571	.04657
	Female	3.4445	.95648	.05424
Social aspect	Male	2.9708	.99272	.04379
	Female	3.5297	1.06375	.06032
Suggestive opinion	Male	2.9501	.82921	.03657
	Female	3.8349	.67674	.03837

Mean score table also indicate the difference in the mean score of all the five factors of teachers Opinionnaire for Male and female. Female has the higher mean score for all the factors compare to the mean of the Males. Difference between both the genders is also founded statistically significant.

Area

H0: There is no significant difference in mean score of opinion of teacher regarding MDM for various area of study

H1: There is significant difference in mean score of opinion of teacher regarding MDM for various area of study

Opinion of the teacher on the MDM factors namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Area of the study, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.45 Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	2.828	.093	4.986	823	.000
	Equal variances not assumed			4.842	564.130	.000
Academic changes of student	Equal variances assumed	7.977	.005	11.564	823	.000
	Equal variances not assumed			12.173	713.497	.000
Food, Health and hygiene	Equal variances assumed	.212	.645	2.080	823	.038
	Equal variances not assumed			2.087	622.424	.037
Social aspect	Equal variances assumed	4.133	.042	5.622	823	.000
	Equal variances not assumed			5.778	668.301	.000
Suggestive opinion	Equal variances assumed	13.805	.000	13.889	823	.000
	Equal variances not assumed			14.400	684.900	.000

Levene's test for equality of variance for all the variables was applied. Levene's test for administration and implementation and food health and hygiene has the p value greater than 0.05 which is not statistically significant it infers that variances for administration and implementation and food health and hygiene is equal for both the groups rural and urban. All

the others variables have the p value less than 0.05 which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value less than 0.05 for all the five variables of opinion regarding MDM. All the factors are statistically significant at 5 percent of the level of significance. T test conclude that which indicate that mean score for rural respondents and urban respondents have different mean score for all the variables of opinion of teachers regarding MDM.

Table 4.46 Group Statistics

Area		Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Rural	3.5909	1.06019	.04618
	Urban	3.1918	1.17894	.06829
Academic changes of student	Rural	3.3250	1.15594	.05035
	Urban	2.4123	.95907	.05556
Food, Health and hygiene	Rural	3.3672	1.02623	.04470
	Urban	3.2131	1.01457	.05877
Social aspect	Rural	3.3340	1.07111	.04666
	Urban	2.9119	.97009	.05620
Suggestive opinion	Rural	3.5737	.83303	.03629
	Urban	2.7707	.73091	.04234

Mean score table also indicate the difference in the mean score of all the variables for rural respondents and urban respondents. Teachers who are from the rural area have recorded more favorable opinion regarding various aspect of the MDM compare to the teachers who has the urban background and difference also founded statistically significant.

Designation

H0: There is no significant difference in mean score of opinion of teacher regarding MDM for difference designation

H1: There is significant difference in mean score of opinion of teacher regarding MDM for difference designation

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and Designation of the teachers inserted as the independent variable in the One way analysis of variance .

Table 4.47 ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	3.857	2	1.929	1.539	.215
	Within Groups	1030.502	822	1.254		
	Total	1034.360	824			
Academic changes of student	Between Groups	23.849	2	11.925	8.825	.000
	Within Groups	1110.765	822	1.351		
	Total	1134.615	824			
Food, Health and hygiene	Between Groups	7.149	2	3.574	3.428	.033
	Within Groups	857.042	822	1.043		
	Total	864.191	824			
Social aspect	Between Groups	27.087	2	13.543	12.512	.000
	Within Groups	889.794	822	1.082		
	Total	916.881	824			
Suggestive opinion	Between Groups	20.422	2	10.211	13.408	.000
	Within Groups	625.997	822	.762		
	Total	646.419	824			

Above table provides the ANOVA result for all the five variables with the different designation groups of factors. P value of factor administration and implementation is 0.215 which is greater than 0.05 so it can conclude that designation wise difference in the mean score of administration and implementation is not statistically significant. P value for all other

variables is founded less than significant level i.e., 5 percent. All the variables except administration and implementation founded statistically significant. ANOVA test conclude that mean score of all the variables except administration and implementation is different for various designation groups of teachers.

Table 4.48 Descriptives

		N	Mean	Std. Deviation	Std. Error
Administration and implementation	Adhoc teacher	206	3.3426	1.14047	.07946
	Permanent teacher	538	3.4668	1.12684	.04858
	Principal	81	3.5785	1.01240	.11249
	Total	825	3.4468	1.12040	.03901
Academic changes of student	Adhoc teacher	206	2.7247	1.15257	.08030
	Permanent teacher	538	3.0552	1.15870	.04996
	Principal	81	3.2857	1.21176	.13464
	Total	825	2.9953	1.17344	.04085
Food, Health and hygiene	Adhoc teacher	206	3.1784	.89034	.06203
	Permanent teacher	538	3.3322	1.07574	.04638
	Principal	81	3.5123	.95599	.10622
	Total	825	3.3115	1.02410	.03565
Social aspect	Adhoc teacher	206	2.9842	.99145	.06908
	Permanent teacher	538	3.1840	1.04377	.04500
	Principal	81	3.6667	1.13606	.12623
	Total	825	3.1815	1.05486	.03673
Suggestive opinion	Adhoc teacher	206	3.0566	.94534	.06587
	Permanent teacher	538	3.3201	.86174	.03715
	Principal	81	3.6187	.74182	.08242
	Total	825	3.2836	.88571	.03084

Table also provides the difference in the mean score of various factors of the opinion regarding MDM with reference to various designation groups. Administration and implementation did not show the major difference in the mean score for various designation groups. With the close observation of the table it can be infer that Adhoc teachers group has the lower mean score and principal group has the higher mean score. It infers that principal of the school has the more positive opinion regarding various factors of MDM compare to the Adhoc teacher group.

Experience

H0: There is no significant difference in mean score of opinion of teacher regarding MDM for difference experience

H1: There is significant difference in mean score of opinion of teacher regarding MDM for difference experience

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and experience inserted as the independent variable in the One-way analysis of variance.

Table 4.49 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	43.593	4	10.898	9.020	.000
	Within Groups	990.767	820	1.208		
	Total	1034.360	824			
Academic changes of student	Between Groups	158.260	4	39.565	33.229	.000
	Within Groups	976.354	820	1.191		
	Total	1134.615	824			
Food, Health and hygiene	Between Groups	25.784	4	6.446	6.304	.000
	Within Groups	838.407	820	1.022		
	Total	864.191	824			
Social aspect	Between Groups	78.814	4	19.703	19.279	.000

	Within Groups	838.067	820	1.022		
	Total	916.881	824			
Suggestive opinion	Between Groups	114.794	4	28.698	44.266	.000
	Within Groups	531.626	820	.648		
	Total	646.419	824			

Above table provides the ANOVA result for all the five variables with the different experience groups. P value of all the five factors is 0.000 which is less than the 0.05. ANOVA test is statistically significant at 5 percent level of significance for all the five factors. It can be inferring that different experience group has the different mean score for all the factors of MDM.

Table 4.50 Descriptives

		N	Mean	Std. Deviation	Std. Error
Administration and implementation	0-3 years	129	3.1495	1.04809	.09228
	4-8 years	181	3.2652	1.13660	.08448
	9-12 years	162	3.3624	1.33539	.10492
	13-16 years	202	3.5877	.93392	.06571
	More than 16	151	3.8202	1.01719	.08278
	Total	825	3.4468	1.12040	.03901
Academic changes of student	0-3 years	129	2.4308	1.16167	.10228
	4-8 years	181	2.7908	1.11305	.08273
	9-12 years	162	2.6940	1.03591	.08139
	13-16 years	202	3.2214	1.17077	.08237
	More than 16	151	3.7436	.93929	.07644
	Total	825	2.9953	1.17344	.04085
Food, Health and hygiene	0-3 years	129	3.0969	.84161	.07410
	4-8 years	181	3.3343	1.05909	.07872
	9-12 years	162	3.1049	1.15113	.09044
	13-16 years	202	3.5606	.94847	.06673
	More than 16	151	3.3560	1.00558	.08183
	Total	825	3.3115	1.02410	.03565

Social aspect	0-3 years	129	2.7442	.93147	.08201
	4-8 years	181	3.0801	1.03236	.07673
	9-12 years	162	2.9923	.96701	.07598
	13-16 years	202	3.3020	1.11124	.07819
	More than 16	151	3.7185	.95364	.07761
	Total	825	3.1815	1.05486	.03673
Suggestive opinion	0-3 years	129	2.9845	1.04414	.09193
	4-8 years	181	3.0141	.77699	.05775
	9-12 years	162	2.9280	.71329	.05604
	13-16 years	202	3.5484	.78755	.05541
	More than 16	151	3.8896	.71567	.05824
	Total	825	3.2836	.88571	.03084

Table also provides the difference in the mean score of various factors of the opinion regarding MDM with reference to various experience groups. With the close observation of the table it can be infer that lower experience group has the lower mean score and highest experience group has the higher mean score. Experience group and mean score of the various factor has the positive relationship which indicate that teacher with the higher experience has the more positive opinion regarding various factors of MDM compare to the lower experience group.

Satisfaction EFA

Satisfaction of the teachers towards the various factor of the Mid Day Meal measured on the five point Likert scale. There were 17 items which entirely cover all the aspect of MDM. Exploratory factor analysis was applied to extract the import factors.

Table 4.51 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	16692.232
	df	136
	Sig.	.000

Further, before conducting factor analysis, we must check the appropriateness of using this multivariate analysis technique. This can be done using Kaiser-Meyer-Olkin measure of sampling adequacy and Barlett’s test of sphericity (Nargundkar, 2003). As recommended by Kaiser, values above 0.7 are good whereas between 0.5-0.7 also is acceptable. (cited by Andy Field, 2005). The KMO measures the sampling adequacy which should be greater than 0.5 for

a satisfactory factor analysis to proceed further. If any pair of variables has a value less than this, consider dropping one of them from the analysis. The off-diagonal elements should all be very small (close to zero) in a good model. Looking at the table below, the KMO measure is 0.830 hence it is inferred that the sample size is the adequate for the factor analysis.

Barlett's test of sphericity tests the null hypothesis that the original correlation matrix is an identity matrix. For factor analysis, this is an important starting point since the technique is useful only if the variables are correlated. Therefore, for the test to be significant the p-value should be less than 0.05. In this data, the Bartlett's test shows the p-value as 0.000 for chi-square statistic (16692.232) at 136 degrees of freedom and hence the null hypothesis of correlation matrix being an identity matrix is rejected. Therefore, it is established from the statistical measures that the variables have some correlation and therefore, factor analysis is appropriate.

Table 4.52 Total Variance Explained

	Initial Eigen values			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.748	39.696	39.696	6.748	39.696	39.696
2	2.999	17.644	57.340	2.999	17.644	57.340
3	2.080	12.233	69.572	2.080	12.233	69.572
4	1.730	10.176	79.748	1.730	10.176	79.748
5	.800	4.706	84.454			
6	.541	3.182	87.636			
7	.439	2.585	90.222			
8	.412	2.426	92.647			
9	.324	1.906	94.554			
10	.253	1.491	96.044			
11	.248	1.459	97.503			
12	.203	1.196	98.700			
13	.096	.565	99.265			
14	.046	.271	99.535			
15	.038	.226	99.762			
16	.029	.170	99.931			
17	.012	.069	100.000			

The initial solution was determined using PCA method. A method widely used for determining a first set of loadings. This method seeks values of the loadings that bring the estimate of the total communality as close as possible to the total of the observed variances.

Table 4.52 lists the Eigen values, associated with each linear component (factor) before extraction, after extraction and after rotation. All factors with Eigen values greater than 1 are extracted which leaves us with 17 variables reduced to 4 factors. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of four factors is equalized. First factor explains approximately 39.696 % of variance and other three factors also explain the significantly high variance. Also, it shows a cumulative percentage of 79.75% of the total variance explained by the four factors and leaving 20% of the variance to be explained by the other 13 components.

Using Kaiser's criterion, the study sought variables with Eigen values greater than or equal to 1. The first four components had Eigen values greater than or equal to 1 and accounted for 79.75 percent of the variance, with component 1 accounting for 39.396 percent of the variance, component 2 explained 17.64, component 3 explained approximately 12.23 and last component explained approximately 10.18 % variance. Therefore, based on the total variance explained analysis, a maximum of 4 components could be extracted from the combined data set.

The rotated component matrix shows the factor loadings of each variable onto each factor. Factor loadings less than 0.4 have not been displayed. As cited by Field (2009), the original logic behind suppressing loadings less than 0.4 is based on Stevens' suggestion that this cut-off point is appropriate for interpretative purposes (i.e. the loadings greater than 0.4 represent substantive values.)

The rotated component matrix helps to determine what the factors represent as the factor loadings denote the correlation (coefficients) between the variable and the factor. The object of the rotation is to ensure that all the variables have high loadings only on one factor. While the researcher has the option of selecting from the two rotation methods: Orthogonal and Oblique; the first method has been selected here so that the rotated factors remain uncorrelated. For this purpose, the rotation method used is 'Varimax'.

Larger loadings on a single factor help to interpret the underlying factor. Finally, the factor analysis procedure gives four factors reduced from 17 variables.

Table 4.53 Rotated Component Matrix[a]				
	Component			
	Quality of Food	Health and Hygiene	Support Infrastructure	Social benefit
Hot and fresh food	.907			
Quality of food	.904			
Availability of food	.881			
Quantity of food	.815			
Taste of food	.815			
Cleanliness of food	.706			
Cleanliness of food serving utensils		.918		
Cleanliness of person serving the food		.908		
Place of eating the food		.894		
Availability of weighing machine/height recorder for health monitoring		.871		
Facility of drinking water			.886	
Availability of sufficient utensil for serving food			.867	
Sitting arrangement in school			.855	
Availability of hand washing facility			.804	
Increase in affinity among children				.887
Increase in parents attention for sending their children to school				.882
Regular presence in school				.800
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]				
a. Rotation converged in 5 iterations.				

A varimax with Kaiser Normalization rotation method revealed a four component structure as shown in Table 4.53. The original 17 items in the instrument had been loaded on the four components.

Component one had 6 items loading on it which are shown in the table 4.53. It shows that item "Hot and fresh food" has the highest factor loading (0.907) where item "Cleanliness of food" has the low factor loading (0.706). Close observation of factor loading indicate that it converges in to factor name Quality of Food.

Where, component two had 4 items loading on it which are shown in the table 4.53. It shows that item "Cleanliness of food serving utensils" has the highest factor loading (0.918) and item "Availability of weighing machine/height recorder for health monitoring" has the low factor loading (0.871). These four items collectively make the factor called Health and Hygiene.

Component three had 4 items loading on it which are shown in the table 4.53. It shows that item "Facility of drinking water" has the highest factor loading (0.886) where item "Availability of hand washing facility" has the low factor loading (0.804). Close observation of factor loading indicate that it converges in to factor name Support Infrastructure.

Where, component four had 3 items loading on it which are shown in the table 4.53. It shows that item "Increase in affinity among children" has the highest factor loading (0.887) and item "Regular presence in school" has the low factor loading (0.800). These three items collectively make the factor called Social benefit.

Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results. There are several methods for computing test reliability including test-retest reliability, parallel forms reliability, decision consistency, internal consistency, and inter rater reliability. Reliability widely measured through coefficient alpha. Nunnally (1978) states that a coefficient alpha greater than 0.70 represents a good indication of internal consistency. The study's results reveal that all of the measures exceed this criterion and therefore exhibit internal consistency reliabilities that are within the accepted limits for basic research; however, as the field of research statistics evolved, other researchers have since provided further interpretations of acceptable Cronbach's alpha value ranges. DeVellis (1991) recommends the following guidelines for coefficient alpha values: "below 0.60, unacceptable; between 0.60 and 0.65, undesirable; between 0.65 and 0.70, minimally acceptable; between 0.70 and 0.80, respectable; between 0.80 and 0.90, very good".

Reliability

Table 4.54 Reliability Statistics	
Cronbach's Alpha	N of Items
.869	17

Factor Wise

Table 4.55 Reliability Statistics of all factors	
	Cronbach's Alpha
Quality of Food	.939
Health and Hygiene	.967
Support Infrastructure	.878
Social benefit	.825

Table 4.54 indicates the reliability of the satisfaction of teachers which conclude that instrument has good reliability as the coefficient alpha of the instrument is 0.869. Table 4.55 shows the factor wise reliability. It also provides the good reliability of the instruments.

Regression

The impact of the import factors related to the MDM on the overall satisfaction towards MDM was examined using OLS method of estimation in multiple linear regressions. In the Multiple Regressions Average score of the overall satisfaction towards MDM inserted as the dependent variable and Average score of explored four factor inserted as the independent variables.

Table 4.56 ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	346.909	4	86.727	1023.993	.000[b]
	Residual	69.450	820	.085		
	Total	416.359	824			
a. Dependent Variable: Overall satisfaction towards MDM						
b. Predictors: (Constant), Support Infrastructure, Social benefit, Health and Hygiene, Quality of Food						

The ANOVA is used to assess the overall significance of the regression model. In Table, the F-value (1023.993) and the p-value is 0.000. This meant that model significant is significant as p-values less than 0.05 at $\alpha = 0.05$ level, so it provides enough evidence for the significant of the model.

Table 4.57 Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.913[a]	.833	.832	.29102
a. Predictors: (Constant), Support Infrastructure, Social benefit, Health and Hygiene, Quality of Food				

The model summary of regression model is given in model summary Table and it shows the coefficient of determination (R^2) under model is 0.833, which meant that four factors explain 83.3 percent of the variations in overall satisfaction towards MDM.

Table 4.58 Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.518	.053		9.742	.000
	Quality of Food	.225	.014	.286	16.344	.000
	Social benefit	.248	.010	.369	25.066	.000
	Health and Hygiene	.236	.010	.397	22.696	.000
	Support Infrastructure	.263	.009	.421	29.074	.000
a. Dependent Variable: Overall satisfaction towards MDM						

Further Table provides the coefficients of the model. According to the coefficient table it can be said that all four factors of MDM has the statistical significant impact on the overall satisfaction level. All four factors have the p value 0.000 which is less than 0.05. All four factors are statistically significant at 5 percent level of significant. All the four factors have the positive impact on the overall satisfaction level. Support infrastructure has the highest impact with the beta weight of 0.421 followed by the health and hygiene with the beta weight of 0.397, social benefit with the beta weight of 0.369 and quality of food has the lowest impact with the beta weight of 0.286.

Hypothesis testing

Gender

H0: There is no significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for different gender.

H1: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for different gender.

Satisfaction of the teacher on the various aspect of MDM factors namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Gender, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.59 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Quality of Food	Equal variances assumed	5.691	.017	-15.287	823	.000
	Equal variances not assumed			-15.892	733.356	.000
Social benefit	Equal variances assumed	1.452	.229	-7.723	823	.000
	Equal variances not assumed			-7.595	619.445	.000
Health and Hygiene	Equal variances assumed	21.339	.000	-16.412	823	.000
	Equal variances not assumed			-16.701	690.154	.000
Support Infrastructure	Equal variances assumed	18.994	.000	-4.580	823	.000

	Equal variances not assumed			-4.790	745.159	.000
Overall satisfaction towards MDM	Equal variances assumed	122.948	.000	-16.927	823	.000
	Equal variances not assumed			-18.340	800.905	.000

Levene's test for equality of variance for all the variables was applied. Levene's test for social benefit has the p value greater than 0.297 which is not statistically significant so it infers that variances for social benefit is equal for both the groups male and female. All the others variables have the p value less than 0.05 for the Levene's test which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value less than 0.05 for all the four variables as well as overall satisfaction towards MDM. All the factors are statistically significant at 5 percent of the level of significance. T test conclude that that mean score for Male and female are different. It infers that satisfaction level is different for different gender.

Table 4.60 Group Statistics

Gender		Mean	Std. Deviation	Std. Error Mean
Quality of Food	Male	2.9040	.84272	.03717
	Female	3.7808	.71899	.04077
Social benefit	Male	2.9604	.99291	.04380
	Female	3.5263	1.06287	.06027
Health and Hygiene	Male	2.5156	1.06490	.04697
	Female	3.7395	.99215	.05626
Support Infrastructure	Male	3.2933	1.19594	.05275
	Female	3.6632	.99439	.05639
Overall satisfaction towards MDM	Male	3.3580	.67845	.02993
	Female	4.1029	.48429	.02746

Mean score table also indicate the difference in the mean score of all the four factors and overall all satisfaction towards MDM for Male and female. Female has the higher mean score for all the factors compare to the mean of the Males. Difference between both the genders is also founded statistically significant. It concludes that female are more satisfied compare to male.

Area

H0: There is no significant difference in mean score of explored satisfaction factors of teacher regarding MDM on overall satisfaction for various area of study.

H1: There is significant difference in mean score of explored satisfaction factors of teacher regarding MDM on overall satisfaction for various area of study.

Satisfaction of the teacher on the various aspect of MDM factors namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Area of the respondent, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.61 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Quality of Food	Equal variances assumed	19.256	.000	12.712	823	.000
	Equal variances not assumed			13.284	699.808	.000
Social benefit	Equal variances assumed	6.402	.012	5.120	823	.000
	Equal variances not assumed			5.264	669.168	.000
Health and Hygiene	Equal variances assumed	11.026	.001	11.349	823	.000
	Equal variances not assumed			12.005	722.420	.000
Support Infrastructure	Equal variances assumed	.694	.405	4.113	823	.000
	Equal variances not assumed			4.032	580.839	.000

Overall satisfaction towards MDM	Equal variances assumed	.003	.957	13.430	823	.000
	Equal variances not assumed			14.069	704.437	.000

Levene's test for equality of variance for all the variables was applied. Levene's test for Support Infrastructure has the p value greater than 0.05 which is not statistically significant it infers that variances for Support Infrastructure is equal for both the groups rural and urban. All the others variables have the p value less than 0.05 which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value less than 0.05 for all the four variables as well as overall satisfaction level towards MDM. All the factors are statistically significant at 5 percent of the level of significance. Two independent t test further conclude that mean score for all four factors and overall satisfaction have the different for rural area and urban area.

Table 4.62 Group Statistics

Area		Mean	Std. Deviation	Std. Error Mean
Quality of Food	Rural	3.5098	.87117	.03795
	Urban	2.7478	.74262	.04302
Social benefit	Rural	3.3131	1.07572	.04686
	Urban	2.9273	.97266	.05634
Health and Hygiene	Rural	3.3074	1.18637	.05168
	Urban	2.3926	.96673	.05600
Support Infrastructure	Rural	3.5541	1.09708	.04779
	Urban	3.2181	1.17808	.06824
Overall satisfaction towards MDM	Rural	3.8653	.68030	.02963
	Urban	3.2383	.57467	.03329

Mean score table also indicate the difference in the mean score of all the variables for rural respondents and urban respondents. Teachers who are from the rural area have recorded more satisfaction regarding various aspect of the MDM compare to the teachers who has the urban background and difference also founded statistically significant.

Designation

H0: There is no significant difference in mean score of explored satisfaction factors of teacher regarding MDM on overall satisfaction for difference designation.

H1: There is significant difference in mean score of explored satisfaction factors of teacher regarding MDM on overall satisfaction for difference designation.

Average score of variables namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on the five point Likert scale inserted as the dependent variables and Designation of the teachers inserted as the independent variable in the One-way analysis of variance.

Table 4.63 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Quality of Food	Between Groups	17.682	2	8.841	11.081	.000
	Within Groups	655.850	822	.798		
	Total	673.532	824			
Social benefit	Between Groups	26.525	2	13.263	12.229	.000
	Within Groups	891.461	822	1.085		
	Total	917.987	824			
Health and Hygiene	Between Groups	23.601	2	11.800	8.408	.000
	Within Groups	1153.587	822	1.403		
	Total	1177.187	824			
Support Infrastructure	Between Groups	2.650	2	1.325	1.024	.360
	Within Groups	1064.116	822	1.295		
	Total	1066.766	824			
Overall satisfaction towards MDM	Between Groups	12.503	2	6.251	12.724	.000
	Within Groups	403.856	822	.491		
	Total	416.359	824			

Above table provides the ANOVA result for all the five variables with the different designation groups of factors. P value of factor Support Infrastructure is 0.360 which is greater than 0.05 so it can conclude that designation wise difference in the mean score of Support Infrastructure is not statistically significant. P value for all other variables is founded less than significant level i.e., 5 percent. All the variables except Support Infrastructure founded

statistically significant. ANOVA test conclude that mean score of all the variables except Support Infrastructure is different for various designation groups of teachers.

Table 4.64 Descriptives

		N	Mean	Std. Deviation	Std. Error
Quality of Food	Adhoc teacher	206	3.0129	.95514	.06655
	Permanent teacher	538	3.2763	.87895	.03789
	Principal	81	3.5206	.82132	.09126
	Total	825	3.2345	.90410	.03148
Social benefit	Adhoc teacher	206	2.9790	.99978	.06966
	Permanent teacher	538	3.1760	1.04622	.04511
	Principal	81	3.6543	1.11111	.12346
	Total	825	3.1737	1.05549	.03675
Health and Hygiene	Adhoc teacher	206	2.7015	1.19044	.08294
	Permanent teacher	538	3.0428	1.16764	.05034
	Principal	81	3.2407	1.27931	.14215
	Total	825	2.9770	1.19525	.04161
Support Infrastructure	Adhoc teacher	206	3.3386	1.16989	.08151
	Permanent teacher	538	3.4568	1.13973	.04914
	Principal	81	3.5123	1.03675	.11519
	Total	825	3.4327	1.13781	.03961
Overall satisfaction towards MDM	Adhoc teacher	206	3.4515	.62084	.04326
	Permanent teacher	538	3.6747	.70918	.03057
	Principal	81	3.8765	.82739	.09193
	Total	825	3.6388	.71084	.02475

Table also provides the difference in the mean score of various factors of the opinion regarding MDM with reference to various designation groups. Support Infrastructure did not show the major difference in the mean score for various designation groups. With the close observation of the table it can be infer that Adhoc teachers group has the lower mean score and principal group has the higher mean score. It infers that principal of the school are more satisfied followed by the permanent teacher Adhoc teacher, which has the lowest satisfaction among three groups.

Experience

H0: There is no significant difference in mean score of opinion of teacher regarding MDM for difference experience

H1: There is significant difference in mean score of opinion of teacher regarding MDM for difference experience

Average score of variables namely Quality of food, social benefit, health and hygiene, support infrastructure and overall satisfaction which are measured on the five point Likert scale inserted as the dependent variables and experience inserted as the independent variable in the One-way analysis of variance.

Table 4.65 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Quality of Food	Between Groups	123.185	4	30.796	45.885	.000
	Within Groups	550.348	820	.671		
	Total	673.532	824			
Social benefit	Between Groups	90.560	4	22.640	22.437	.000
	Within Groups	827.427	820	1.009		
	Total	917.987	824			
Health and Hygiene	Between Groups	166.079	4	41.520	33.672	.000
	Within Groups	1011.109	820	1.233		
	Total	1177.187	824			
Support Infrastructure	Between Groups	45.702	4	11.425	9.176	.000
	Within Groups	1021.065	820	1.245		
	Total	1066.766	824			
	Between Groups	108.212	4	27.053	71.990	.000
	Within Groups	308.146	820	.376		

Overall satisfaction towards MDM	Total	416.359	824			

Above table provides the ANOVA result for all the four variables and overall satisfaction towards MDM for the different experience groups. P value of all the five factors is 0.000 which is less than the 0.05. ANOVA test is statistically significant at 5 percent level of significance for all the five factors. It can be inferring that different experience group has the different mean score for all the factors as well overall satisfaction level towards the MDM.

Table 4.66 Descriptives

		N	Mean	Std. Deviation	Std. Error
Quality of Food	0-3 years	129	2.9599	1.03262	.09092
	4-8 years	181	2.9328	.82098	.06102
	9-12 years	162	2.8580	.73843	.05802
	13-16 years	202	3.5215	.78462	.05521
	More than 16	151	3.8510	.73489	.05980
	Total	825	3.2345	.90410	.03148
Social benefit	0-3 years	129	2.7674	.92572	.08150
	4-8 years	181	2.9963	1.03159	.07668
	9-12 years	162	2.9650	.94982	.07462
	13-16 years	202	3.3201	1.10120	.07748
	More than 16	151	3.7616	.95636	.07783
	Total	825	3.1737	1.05549	.03675
Health and Hygiene	0-3 years	129	2.4109	1.22147	.10754
	4-8 years	181	2.7652	1.11029	.08253
	9-12 years	162	2.6605	1.03195	.08108
	13-16 years	202	3.2054	1.19670	.08420
	More than 16	151	3.7483	.96242	.07832
	Total	825	2.9770	1.19525	.04161
Support Infrastructure	0-3 years	129	3.1822	1.07609	.09474
	4-8 years	181	3.1865	1.16939	.08692
	9-12 years	162	3.3827	1.36282	.10707

	13-16 years	202	3.5631	.93210	.06558
	More than 16	151	3.8212	1.01011	.08220
	Total	825	3.4327	1.13781	.03961
Overall satisfaction towards MDM	0-3 years	129	3.2326	.53781	.04735
	4-8 years	181	3.4144	.63212	.04698
	9-12 years	162	3.3765	.67810	.05328
	13-16 years	202	3.8465	.69197	.04869
	More than 16	151	4.2583	.43914	.03574
	Total	825	3.6388	.71084	.02475

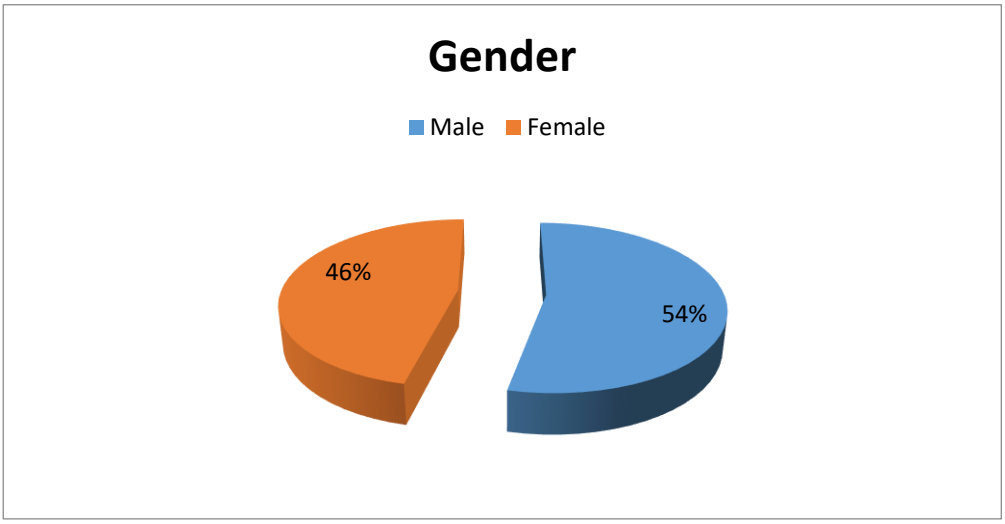
Table also provides the difference in the mean score of different factors and overall satisfaction regarding MDM with reference to various experience groups. With the close observation of the table it can be infer that lower experience group has the low satisfaction level and highest experience group has the higher satisfaction level. Experience group and satisfaction level has the positive relationship which indicate that teacher with the higher experience has the high satisfaction level regarding various factors of MDM compare to the lower experience group.

Parents

Demographic

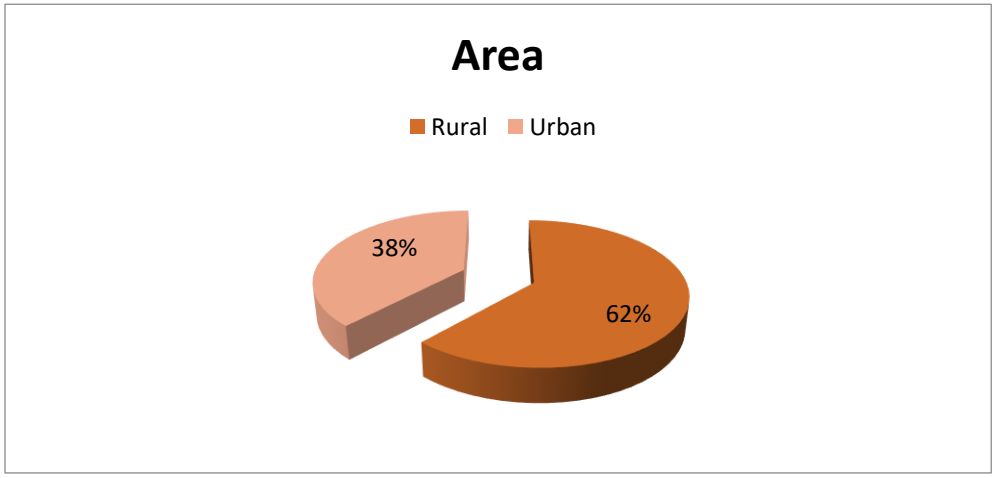
Table 4.67 Gender

	Frequency	Percent
Male	284	53.6
Female	246	46.4
Total	530	100.0



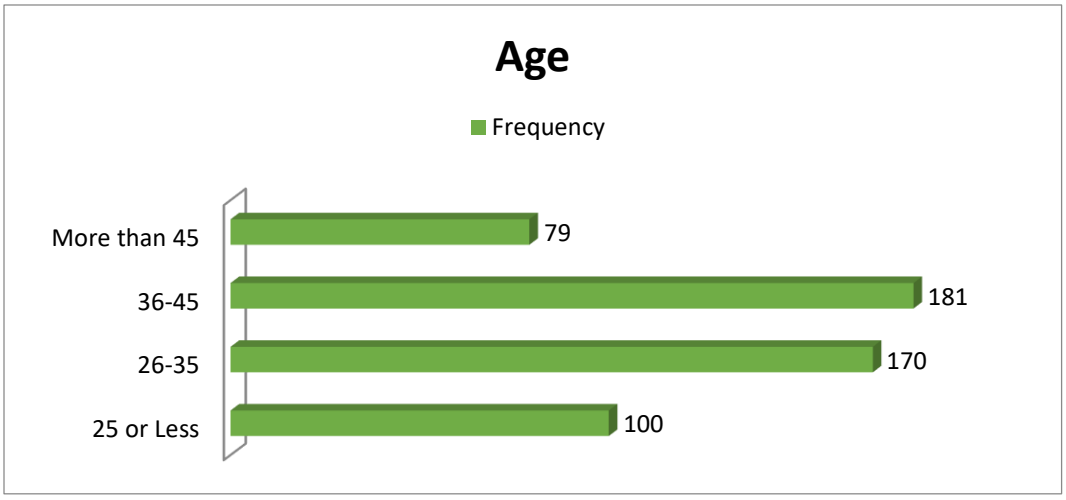
The classification of parent respondents by gender is presented in table and graph above. 284 out of the 530 were males and remaining 246 are female respondents. 53.6 % respondents are males where female parent are 46.4%.

Table 4.68 Area		
	Frequency	Percent
Rural	328	61.9
Urban	202	38.1
Total	530	100.0



Area wise distributions of the samples indicate that 61.9 % of the respondents are from the rural area where remaining 38.1 % of the parents are from urban area.

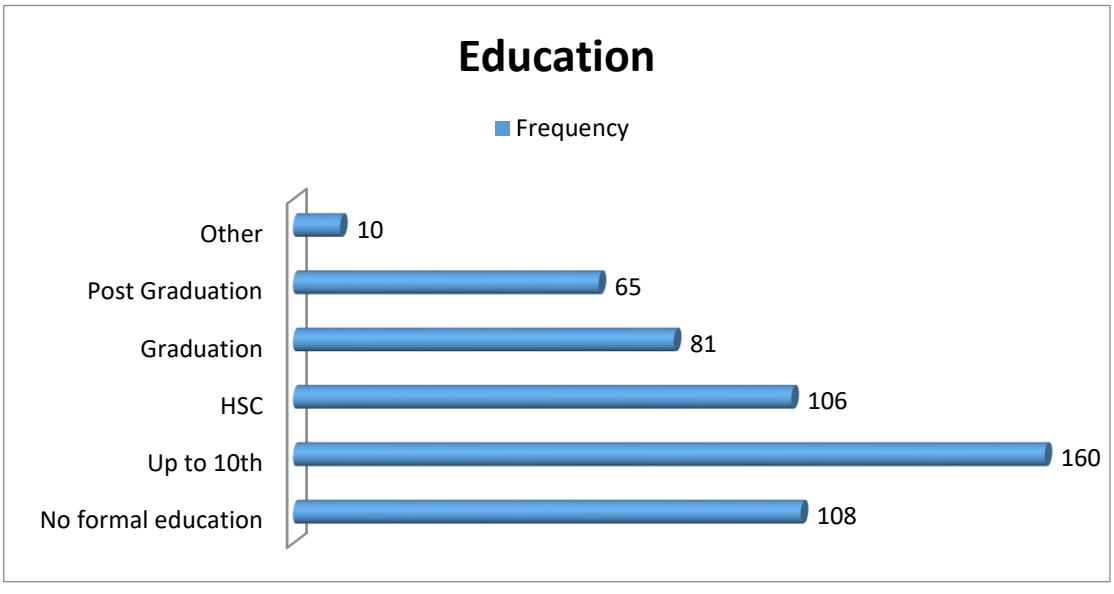
Table 4.69 Age		
	Frequency	Percent
25 or Less	100	18.9
26-35	170	32.1
36-45	181	34.2
More than 45	79	14.9
Total	530	100.0



Age wise distribution of the total are shown in the above table and graph, which indicate that majority of the parent have 36-45 age (34.2 %) followed by 26-35 years (32.1 %), 25 or less year (18.9 %) and more than 45 year age (14.9 %).

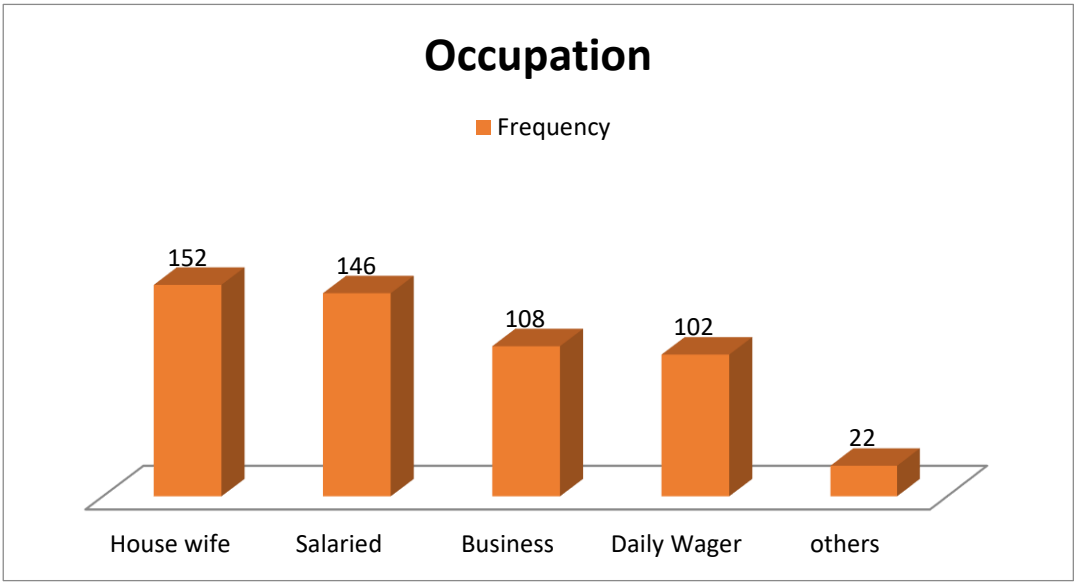
Table 4.70 Education

	Frequency	Percent
No formal education	108	20.4
Up to 10th	160	30.2
HSC	106	20.0
Graduation	81	15.3
Post Graduation	65	12.3
Other	10	1.9
Total	530	100.0



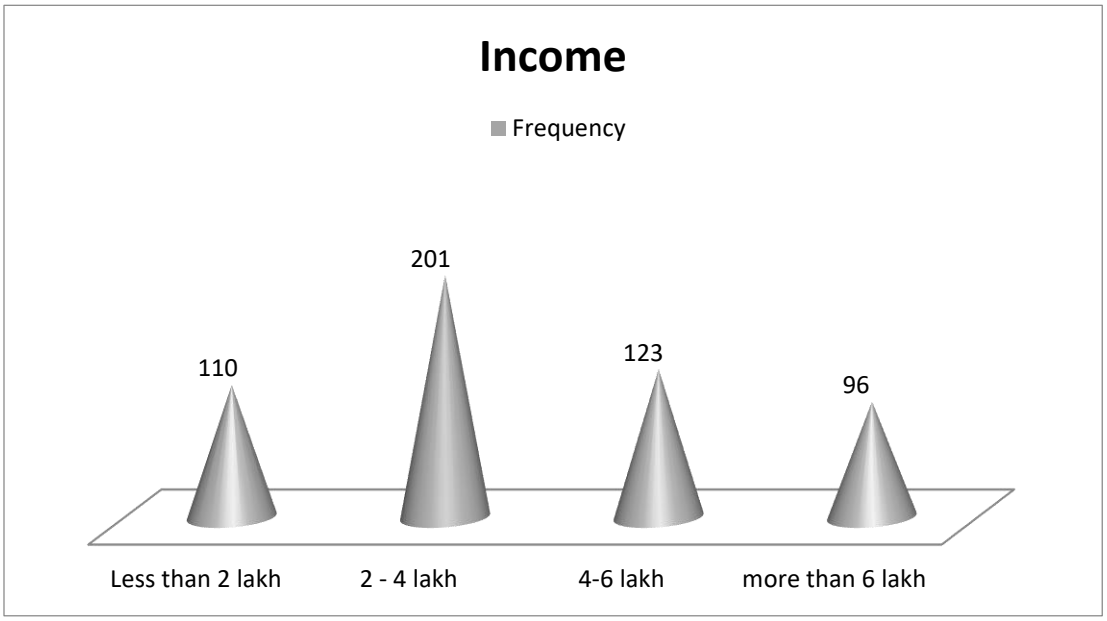
Education wise distribution of the total parent are shown in the above table and graph, which indicate that majority of the respondents have education up to 10th standard (160) followed by no formal education (108), HSC (106), graduation (81) and post graduation (65).

Table 4.71 Occupation		
	Frequency	Percent
House wife	152	28.7
Salaried	146	27.5
Business	108	20.4
Daily Wager	102	19.2
others	22	4.2
Total	530	100.0



Occupation wise distribution of the total parent are shown in the above table and graph, which indicate that majority of the parent are House wife (28.7 %) followed by salaried (27.5 %), business (20.4%), daily wagers (19.2) and others (4.2 %).

Table 4.72 Income		
	Frequency	Percent
Less than 2 lakh	110	20.8
2 - 4 lakh	201	37.9
4-6 lakh	123	23.2
more than 6 lakh	96	18.1
Total	530	100.0



Income wise distribution of the total parent are shown in the above table and graph, which indicate that majority of the respondents have income 2-4 lakh (37.9 %) followed by 4-6 lakh (23.2), less than 2 lakhs (20.8 %) and more than 6 lakhs (18.1 %).

Factor analysis

Opinion of the parent recorded through the 26 items measured on the five point Likert scale. These 26 items covered all the aspects of the MDM. Factor analysis was applied to reduced the dimensionality. Further, before conducting factor analysis, we must check the appropriateness of utilizing this multivariate analysis technique. This can be achieved using Kaiser-Meyer-Olkin step of sampling adequacy and Barlett's test of sphericity (Nargundkar, 2003). As recommended by Kaiser, values above 0.7 are good where as between 0.5-0.7 also is okay. (mentioned by Andy Field, 2005). The KMO measures the sampling adequacy which should be greater than 0.5 for a decent factor analysis to proceed further. If some of variables has a value less than this, look at dropping them by the investigation. The off-diagonal elements should be really small (close to zero) in a great model. Looking at the table below, the KMO step is 0.828 ergo it's inferred that the sample size is the sufficient for the factor analysis.

Table 4.73 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.820
Bartlett's Test of Sphericity	Approx. Chi-Square	21903.768
	df	325
	Sig.	.000

Barlett's test of sphericity examines the null hypothesis that the first correlation matrix is the identity matrix. For factor analysis, that really is a significant starting place considering that this procedure is of use only as long as the factors are connected. For that reason, for that evaluation to become significant the p value ought to be greater than 0.05. During this particular data, the Bartlett's test indicates the p value as 0.000 to get chi square statistic (21903.768) in 325 degrees of freedom and thus the null hypothesis of correlation matrix having an identity matrix continues to be reversed. Because of this, it's created by the statistical measures which the factors have some significance and so, factor analysis is acceptable.

Table 4.74 Total Variance Explained

	Initial Eigen values			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.007	34.641	34.641	9.007	34.641	34.641
2	4.376	16.831	51.472	4.376	16.831	51.472
3	3.483	13.396	64.868	3.483	13.396	64.868
4	2.361	9.081	73.948	2.361	9.081	73.948
5	1.809	6.958	80.907	1.809	6.958	80.907
6	.822	3.161	84.068			
7	.622	2.394	86.461			
8	.513	1.974	88.435			
9	.446	1.716	90.151			
10	.435	1.674	91.825			
11	.403	1.550	93.375			
12	.345	1.327	94.702			
13	.301	1.158	95.860			
14	.272	1.047	96.908			
15	.262	1.006	97.913			
16	.222	.855	98.769			
17	.119	.459	99.228			
18	.048	.185	99.413			
19	.038	.145	99.557			
20	.027	.105	99.663			

21	.024	.090	99.753			
22	.020	.078	99.831			
23	.017	.065	99.896			
24	.013	.050	99.946			
25	.010	.039	99.985			
26	.004	.015	100.000			
Extraction Method: Principal Component Analysis.						

The very first solution was ascertained using PCA process. A method widely employed for determining a primary pair of loadings. This procedure repeats worth of their loadings that fetch the quote of this whole communality as close as you can to the amount of those observed variances.

All facets with Eigen values higher than 1 are pulled which leaves us with 26 variables reduced to 5 facets. Rotation has the result of optimizing the variable arrangement and something result for these data is that the relative importance of five factors is equalized. First factor explains approximately 34.64 % of variance and other 4 factors also explain the somewhat significant variance. In addition, it shows a cumulative percentage of 80.907% of the total variance explained by the five factors and departing 19% of their variance to be explained by one other 2 1 components.

Using Kaiser's standard, the study sought variables with Eigen values greater than or equal to 1. The first four components needed Eigen values greater than or equal to 1 and accounted for 80.91 percentage of the variance, together with component 1 accounting for 34.64 percentage of the variance, component 2 explained 16.83, component 3 explained approximately 13.40per fourth component explained 9.08 and last component clarified approximately 7% variance. Therefore, depending on the total variance explained analysis, a max of 5 components could possibly be extracted from the joint data collection.

The rotated component matrix shows the factor loadings of each variable on each factor. Factor loadings less than 0.4 have not been displayed. According to Field (2009), the initial logic behind suppressing loadings less than 0.4 is based on Stevens' suggestion this cut off point is acceptable for interpretative purposes (i.e. the loadings more than 0.4 represent substantive values.)

The rotated component matrix helps to ascertain what the facets represent since the variable loadings denote the correlation (coefficients) between the variable and the variable. The aim of the spinning is to be certain that all the factors have high loadings only on one

factor. As the research has the choice of selecting from the two rotation methods: Orthogonal and Oblique; the very first method has been selected here to ensure the rotated factors continue to be uncorrelated. For this function, the spinning procedure used is'Varimax'.

Bigger loadings on a single factor help to interpret the inherent element. Last, the factor analysis procedure gives five facets reduced from 26 factors.

Table 4.75 Rotated Component Matrix[a]

Factor	Items	Factor Loading
Administration and implementation	Mid-Day Meal Scheme is regularly inspected by government officials	0.95
	Cooked meal is being served every day in the school.	0.95
	In school Mid-Day Meal is being served as per prescribed menu.	0.949
	Mid-day meal menu has been displayed at the school	0.936
	There is separate space for taking meal in the school.	0.93
	Plates for Mid day meal is provided by administration.	0.775
	Sometimes school children help the cook to prepare the meal.	0.745
	Mid-Day Meals are served on time	0.742
Social aspect	Taking Mid-Day Meal together helps to decrease caste discrimination among students.	0.929
	There is separate water arrangements for the students of different caste (R)	0.922
	The parents are taking interest for effective implementation of Mid-Day Meal Scheme.	0.918
	The upper caste children sometimes expressed un happiness about sharing a meal with children of lower caste. (R)	0.854
	Some upper caste parents often objected to their children sharing a meal with children of other castes. (R)	0.832

Factor	Items	Factor Loading
Suggestive opinion	I think that Mid-Day Meal Scheme should be continued in the school.	0.916
	Mid-Day Meal Scheme is only a tool to waste government money. (R)	0.909
	I believe that parents' view should be considered while deciding the Mid-Day Meal menu.	0.854
	According to my opinion, Mid-Day Meal Scheme menu need to be change.	0.833
	Mid-Day Meal should be given to the absent students also.	0.827
	Every student should take Mid-Day Meal.	0.764
Academic changes of student	I have enrolled my child in government school because of Mid-day meal scheme.	0.942
	Mid-Day Meal Scheme is necessity for overall development of the students.	0.935
	According to my view, Mid-Day Meal Scheme keeps the student free from classroom hunger.	0.805
	I have observed an increase in students' academic performance due to Mid-Day Meal Scheme.	0.804
Food ,Health and hygiene	The students are told to wash their hands with shop before & after taking Mid-day meal.	0.877
	Sometimes children fell ill after consuming Mid-Day Meal. (R)	0.871
	Proper hygiene is being maintained by the Mid-Day Meal Scheme staff.	0.791
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.[a]		
a. Rotation converged in 6 iterations.		

A varimax with Kaiser Normalization rotation method revealed a five component structure as shown in Table 4.75. The original 26 items in the instrument had been loaded on the five components.

Component one had 8 items loading on it which are shown in the table 4.75. It shows that item "Mid-Day Meal Scheme is regularly inspected by government officials" has the highest factor loading (0.950) where item "Mid-Day Meals are served on time" has the low factor loading (0.742). Close observation of factor loading indicate that it converges in to factor name Administration and implementation.

Where, component two had 5 items loading on it which are shown in the table 4.75. It shows that item "Taking Mid-Day Meal together helps to decrease caste discrimination among students." has the highest factor loading (0.929) and item "Some upper caste parents often objected to their children sharing a meal with children of other castes. (R)" has the low factor loading (0.832). These seven items collectively make the factor called Social aspect.

Component three had 6 items loading on it which are shown in the table 4.75. It shows that item "I think that Mid-Day Meal Scheme should be continued in the school." has the highest factor loading (0.916) where item "Every student should take Mid-Day Meal." has the low factor loading (0.764). Close observation of factor loading indicate that it converges in to factor name Suggestive opinion.

Where, component four had 4 items loading on it which are shown in the table 4.75. It shows that item "I have enrolled my child in government school because of Mid-day meal scheme." has the highest factor loading (0.942) and item "I have observed an increase in students' academic performance due to Mid-Day Meal Scheme." has the low factor loading (0.804). These four items collectively make the factor called Academic changes of student.

Component five had 3 items loading on it which are shown in the table 4.75. It shows that item "The students are told to wash their hands with shop before & after taking Mid-day meal." has the highest factor loading (0.877) where item "Proper hygiene is being maintained by the Mid-Day Meal Scheme staff." has the low factor loading (0.791). Close observation of factor loading indicate that it converges in to factor name Food, Health and hygiene.

Reliability

Reliability is the degree to which an appraisal tool produces consistent and stable outcomes. There are lots of procedures for calculating test reliability involving test-retest reliability, parallel forms reliability, decision consistency, internal consistency, along with rater reliability. Reliability widely quantified through coefficient alpha. Nunnally (1978) claims a coefficient alpha more than 0.70 represents a great sign of internal consistency. The research's

results show that each one the steps surpass this standard and so exhibit internal consistency reliabilities which are contained in the accepted constraints for research; yet as the area of research statistics evolved, other researchers have provided further interpretations of acceptable Cronbach's alpha value standards. DeVellis (1991) advocates these recommendations for coefficient alpha worth:"below 0.60, improper; between 0.60 and 0.65, unwanted; between 0.65 and 0.70, minimally okay; between 0.70 and 0.80, commendable; between 0.80 and 0.90, great".

Overall reliability

Table 4.76 Reliability Statistics of teachers Opinionnaire	
Cronbach's Alpha	N of Items
.892	26

Factor Wise

Table 4.77 Reliability Statistics of all factors	
	Cronbach's Alpha
Administration and implementation	.968
Academic changes of student	.905
Food ,Health and hygiene	.823
Social aspect	.973
Suggestive opinion	.924

Table 4.76 indicates the reliability of the Opinionnaire of parents which conclude that instrument has good reliability as the coefficient alpha of the instrument is 0.892. Table 4.77 shows the factor wise reliability. It also provides the good reliability of the instruments.

Hypothesis testing

H0: There is no significant difference in mean score of opinion of parents regarding MDM for different gender.

H1: There is significant difference in mean score of opinion of parents regarding MDM for different gender.

Opinion of the parents on the MDM factors namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Gender, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.78 Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	30.864	.000	.062	528	.950
	Equal variances not assumed			.061	444.325	.951
Academic changes of student	Equal variances assumed	.767	.381	.795	528	.427
	Equal variances not assumed			.798	523.389	.425

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Food, Health and hygiene	Equal variances assumed	4.662	.031	.803	528	.422
	Equal variances not assumed			.797	496.473	.426
Social aspect	Equal variances assumed	97.394	.000	5.441	528	.000

	Equal variances not assumed			5.302	424.435	.000
Suggestive opinion	Equal variances assumed	15.973	.000	-.481	528	.631
	Equal variances not assumed			-.474	479.024	.635

Levene's test for equality of variance for all the variables was applied. Levene's test for Academic change for students has the p value greater than 0.381 which is not statistically significant so it infers that variances for academic change for students is equal for both the groups male and female. All the others variables have the p value less than 0.05 for the Levene's test which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value greater than 0.05 for all the five variables of opinion regarding MDM except social aspect. All the factors other than social aspect are not statistically significant at 5 percent of the level of significance. T test conclude that that Male and female have different mean score for social aspect where all other variables have equal mean.

Table 4.79 Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Male	284	3.3209	.75028	.04452
	Female	246	3.3161	1.01893	.06496
Academic changes of student	Male	284	3.4040	1.02908	.06106
	Female	246	3.3343	.97873	.06240
Food, Health and hygiene	Male	284	3.2312	1.00262	.05949
	Female	246	3.1572	1.11865	.07132
Social aspect	Male	284	3.1979	.95325	.05657
	Female	246	2.6407	1.38940	.08858
Suggestive opinion	Male	284	3.3973	1.04225	.06185
	Female	246	3.4451	1.24823	.07958

Mean score table also indicate the equality in the mean score of all factors of parent Opinionnaire for Male and female. Only social aspect has recorded the difference in the mean

score. Male have the higher mean score compare to female in social aspect. Further it can be concluding that male has the more positive opinion regarding social aspect compare to female.

Area

H0: There is no significant difference in mean score of opinion of parents regarding MDM for various area of study.

H1: There is significant difference in mean score of opinion of parents regarding MDM for various area of study.

Opinion of the parent on the MDM factors namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Area of the study, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.80 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	20.063	.000	7.772	528	.000
	Equal variances not assumed			8.026	468.829	.000
Academic changes of student	Equal variances assumed	.934	.334	2.284	528	.023
	Equal variances not assumed			2.260	411.135	.024
Food, Health and hygiene	Equal variances assumed	3.310	.069	2.846	528	.005
	Equal variances not assumed			2.907	454.501	.004

Social aspect	Equal variances assumed	13.794	.000	5.392	528	.000
	Equal variances not assumed			5.633	483.343	.000
Suggestive opinion	Equal variances assumed	8.470	.004	1.207	528	.228
	Equal variances not assumed			1.165	377.281	.245

Levene's test for equality of variance for all the variables was applied. Levene's test for Academic changes of student and Food, Health and hygiene has the p value greater than 0.05 which is not statistically significant it infers that variances for administration and implementation and food health and hygiene is equal for both the groups rural and urban. All the others variables have the p value less than 0.05 which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value less than 0.05 for all the variables except Suggestive opinion. All the factors except Suggestive opinion are statistically significant at 5 percent of the level of significance. T test conclude that mean score for rural respondents and urban respondents have different mean score for all the variables except Suggestive opinion.

Table 4.81 Group Statistics

Area		N	Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Rural	328	3.5408	.87917	.04854
	Urban	202	2.9579	.76768	.05401
Academic changes of student	Rural	328	3.4497	.98447	.05436
	Urban	202	3.2450	1.02910	.07241
Food, Health and hygiene	Rural	328	3.2988	1.08498	.05991
	Urban	202	3.0314	.99229	.06982
Social aspect	Rural	328	3.1555	1.25280	.06917
	Urban	202	2.5881	1.04041	.07320
Suggestive opinion	Rural	328	3.4665	1.07099	.05914
	Urban	202	3.3432	1.24685	.08773

Mean score table also indicate the difference in the mean score of all the variables for rural respondents and urban respondents. parents who are from the rural area have recorded more favorable opinion regarding various aspect of the MDM compare to the parents who has the urban background and difference also founded statistically significant for all the variables except Suggestive opinion.

Age

H0: There is no significant difference in mean score of opinion of parents regarding MDM for difference age group.

H1: There is significant difference in mean score of opinion of parents regarding MDM for difference age group.

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and age of parents inserted as the independent variable in the one-way analysis of variance.

Table 4.82 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	5.441	3	1.814	2.337	.073
	Within Groups	408.235	526	.776		
	Total	413.675	529			
Academic changes of student	Between Groups	31.919	3	10.640	11.124	.000
	Within Groups	503.107	526	.956		
	Total	535.025	529			
Food, Health and hygiene	Between Groups	7.985	3	2.662	2.398	.067
	Within Groups	583.810	526	1.110		
	Total	591.795	529			
Social aspect	Between Groups	16.072	3	5.357	3.732	.011
	Within Groups	754.972	526	1.435		
	Total	771.044	529			
Suggestive opinion	Between Groups	2.396	3	.799	.611	.608
	Within Groups	687.059	526	1.306		
	Total	689.454	529			

P value of Academic changes of student and Social aspect is founded less than 0.05. Hence ANOVA test for Academic changes of student and Social aspect is statistically significant at 5 percent level of significance. Where variables namely Administration and implementation, Food, Health and hygiene and Suggestive opinion are not statistically significant as p value for these variables are greater than 0.05.

Table 4.83 Descriptives

		N	Mean	Std. Deviation	Std. Error
Administration and implementation	25 or Less	100	3.1413	1.02796	.10280
	26-35	170	3.4257	.80672	.06187
	36-45	181	3.2928	.82215	.06111
	More than 45	79	3.3718	.96056	.10807
	Total	530	3.3186	.88430	.03841
Academic changes of student	25 or Less	100	2.9500	.96792	.09679
	26-35	170	3.6574	.89369	.06854
	36-45	181	3.3605	1.12464	.08359
	More than 45	79	3.3165	.78212	.08800
	Total	530	3.3717	1.00568	.04368
Food, Health and hygiene	25 or Less	100	3.0133	.99597	.09960
	26-35	170	3.3353	1.06926	.08201
	36-45	181	3.2228	1.08016	.08029
	More than 45	79	3.0717	1.02764	.11562
	Total	530	3.1969	1.05769	.04594
Social aspect	25 or Less	100	2.6940	1.17772	.11777
	26-35	170	3.1694	1.15866	.08887
	36-45	181	2.9028	1.19417	.08876
	More than 45	79	2.8380	1.31113	.14751
	Total	530	2.9392	1.20729	.05244
Suggestive opinion	25 or Less	100	3.5283	1.09202	.10920
	26-35	170	3.4010	1.01152	.07758
	36-45	181	3.4291	1.32894	.09878

	More than 45	79	3.2996	1.00120	.11264
	Total	530	3.4195	1.14163	.04959

Table indicate the age wise mean score regarding opinion of parents regarding various aspect of the MDM. Table conclude that 26-35 has the higher mean score compare to the other age groups. 25 or less age group has recorded almost low mean score for the variables. Difference between age group has seen significant for variables Academic changes of student and Social aspect only.

Occupation

H0: There is no significant difference in mean score of opinion of parents regarding MDM for difference occupation group.

H1: There is significant difference in mean score of opinion of parents regarding MDM for difference occupation group.

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and occupation of parents inserted as the independent variable in the one way analysis of variance.

Table 4.84 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	92.979	4	23.245	38.053	.000
	Within Groups	320.696	525	.611		
	Total	413.675	529			
Academic changes of student	Between Groups	3.315	4	.829	.818	.514
	Within Groups	531.710	525	1.013		
	Total	535.025	529			
Food, Health and hygiene	Between Groups	8.711	4	2.178	1.961	.099
	Within Groups	583.084	525	1.111		
	Total	591.795	529			
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Social aspect	Between Groups	436.749	4	109.187	171.476	.000
	Within Groups	334.294	525	.637		
	Total	771.044	529			

Suggestive opinion	Between Groups	61.544	4	15.386	12.864	.000
	Within Groups	627.910	525	1.196		
	Total	689.454	529			

P value of Academic changes of student and Food, Health and hygiene is founded greater than 0.05. Hence ANOVA test for Academic changes of student and Food, Health and hygiene is not statistically significant at 5 percent level of significance. Where variables namely Administration and implementation, social aspect and Suggestive opinion are statistically significant as p value for these variables are less than 0.05.

Table 4.85 Descriptives

		N	Mean	Std. Deviation	Std. Error
Administration and implementation	House wife	152	2.9235	1.00661	.08165
	Salaried	146	3.3151	.73552	.06087
	Business	108	3.2037	.59608	.05736
	Daily Wager	102	4.1152	.64909	.06427
	others	22	2.9432	.64287	.13706
	Total	530	3.3186	.88430	.03841
Academic changes of student	House wife	152	3.2862	.97460	.07905
	Salaried	146	3.4692	.98212	.08128
	Business	108	3.3032	1.06892	.10286
	Daily Wager	102	3.4240	1.01400	.10040
	others	22	3.4091	1.03091	.21979
	Total	530	3.3717	1.00568	.04368

		N	Mean	Std. Deviation	Std. Error
Food, Health and hygiene	House wife	152	3.0526	1.07559	.08724
	Salaried	146	3.1941	.96748	.08007
	Business	108	3.1636	.94884	.09130
	Daily Wager	102	3.4020	1.25104	.12387
	others	22	3.4242	.93255	.19882
	Total	530	3.1969	1.05769	.04594
Social aspect	House wife	152	1.7224	.78968	.06405
	Salaried	146	3.0877	.99321	.08220
	Business	108	3.1556	.74349	.07154
	Daily Wager	102	4.3490	.46389	.04593
	others	22	2.7636	.87861	.18732
	Total	530	2.9392	1.20729	.05244
Suggestive opinion	House wife	152	3.1096	1.32477	.10745
	Salaried	146	3.3493	1.16384	.09632
	Business	108	3.3565	.94321	.09076
	Daily Wager	102	4.0850	.69997	.06931
	others	22	3.2500	1.01932	.21732
	Total	530	3.4195	1.14163	.04959

Table indicate the occupation wise mean score regarding opinion of parents regarding various aspect of the MDM. Table conclude that Daily wager has the higher mean score regarding all the variables. It can be concluding that daily wager has the more positive opinion regarding MDM. Difference between occupation groups has seen significant for variables Administration and implementation, social aspect and Suggestive opinion.

Income

H0: There is no significant difference in mean score of opinion of parents regarding MDM for difference income group.

H1: There is significant difference in mean score of opinion of parents regarding MDM for difference income group.

Average score of variables namely Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and income of parents inserted as the independent variable in the one-way analysis of variance.

Table 4.86 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	17.452	3	5.817	7.723	.000
	Within Groups	396.223	526	.753		
	Total	413.675	529			
Academic changes of student	Between Groups	16.778	3	5.593	5.676	.001
	Within Groups	518.248	526	.985		
	Total	535.025	529			
Food, Health and hygiene	Between Groups	5.483	3	1.828	1.640	.179
	Within Groups	586.312	526	1.115		
	Total	591.795	529			
Social aspect	Between Groups	4.533	3	1.511	1.037	.376
	Within Groups	766.511	526	1.457		
	Total	771.044	529			
Suggestive opinion	Between Groups	6.169	3	2.056	1.583	.193
	Within Groups	683.285	526	1.299		
	Total	689.454	529			

P value of Academic changes of student and Administration and implementation is founded less than 0.05. Hence ANOVA test for Academic changes of student and Administration and implementation is statistically significant at 5 percent level of significance. Where variables namely Food, Health and hygiene, social aspect and Suggestive opinion are not statistically significant as p value for these variables are greater than 0.05.

Table 4.87 Descriptives					
		N	Mean	Std. Deviation	Std. Error
Administration and implementation	Less than 2 lakh	110	3.5750	.98443	.09386
	2 - 4 lakh	201	3.1841	.93257	.06578
	4-6 lakh	123	3.4665	.69469	.06264
	more than 6 lakh	96	3.1172	.77985	.07959
	Total	530	3.3186	.88430	.03841
Academic changes of student	Less than 2 lakh	110	3.2818	.95489	.09105
	2 - 4 lakh	201	3.2463	1.06668	.07524
	4-6 lakh	123	3.6911	.84086	.07582
	more than 6 lakh	96	3.3281	1.05151	.10732
	Total	530	3.3717	1.00568	.04368
Food, Health and hygiene	Less than 2 lakh	110	3.3576	1.07583	.10258
	2 - 4 lakh	201	3.0896	1.05922	.07471
	4-6 lakh	123	3.1843	1.11228	.10029
	more than 6 lakh	96	3.2535	.94497	.09645
	Total	530	3.1969	1.05769	.04594
Social aspect	Less than 2 lakh	110	2.8818	1.43311	.13664
	2 - 4 lakh	201	2.9841	1.18514	.08359
	4-6 lakh	123	3.0423	1.17131	.10561
	more than 6 lakh	96	2.7792	.99662	.10172
	Total	530	2.9392	1.20729	.05244
Suggestive opinion	Less than 2 lakh	110	3.4227	1.18103	.11261
	2 - 4 lakh	201	3.5323	1.15226	.08127
	4-6 lakh	123	3.2493	1.17336	.10580
	more than 6 lakh	96	3.3976	1.01433	.10352
	Total	530	3.4195	1.14163	.04959

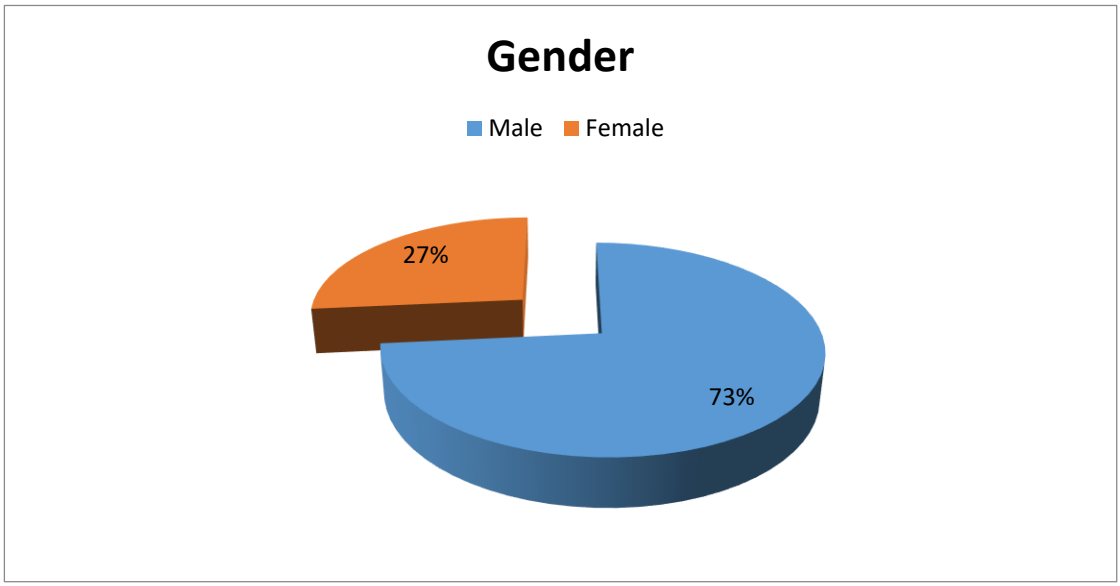
Table indicate the income wise mean score regarding opinion of parents regarding various aspect of the MDM. Table conclude that low income group respondents has recorded the higher mean score for an all the variables. It can be concluding that low income group has

the more positive opinion regarding MDM. Difference between income groups has seen significant for variables Academic changes of student and Administration and implementation.

Organizer

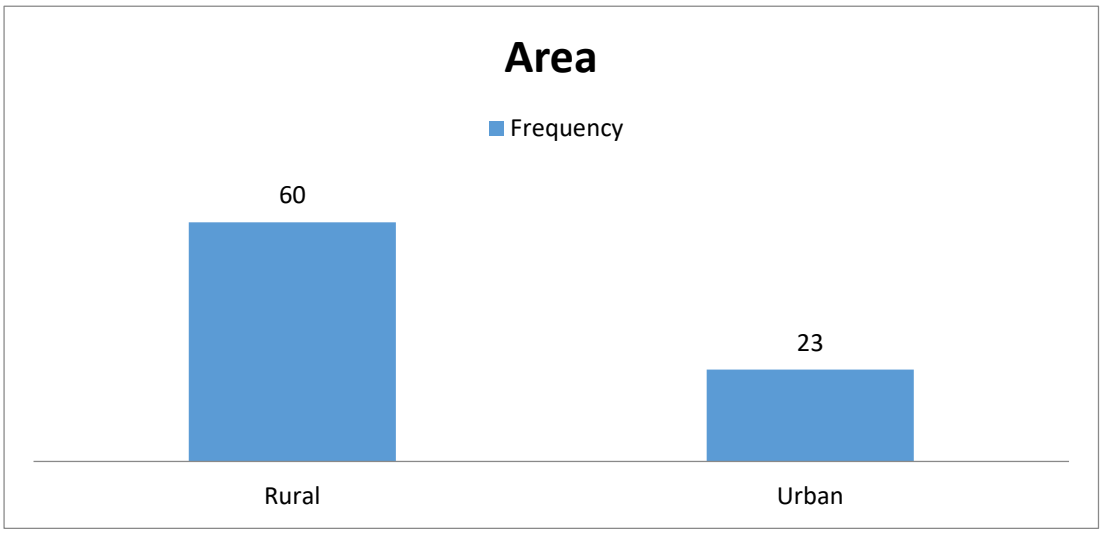
Demographic

Table 4.88 Gender		
	Frequency	Percent
Male	61	73.5
Female	22	26.5
Total	83	100.0



The classification of organizer respondents by gender is presented in table and graph above. 61 out of the 83 were males and remaining 22 are female respondents. 73.5 % respondents are males where female organizer are 26.5%.

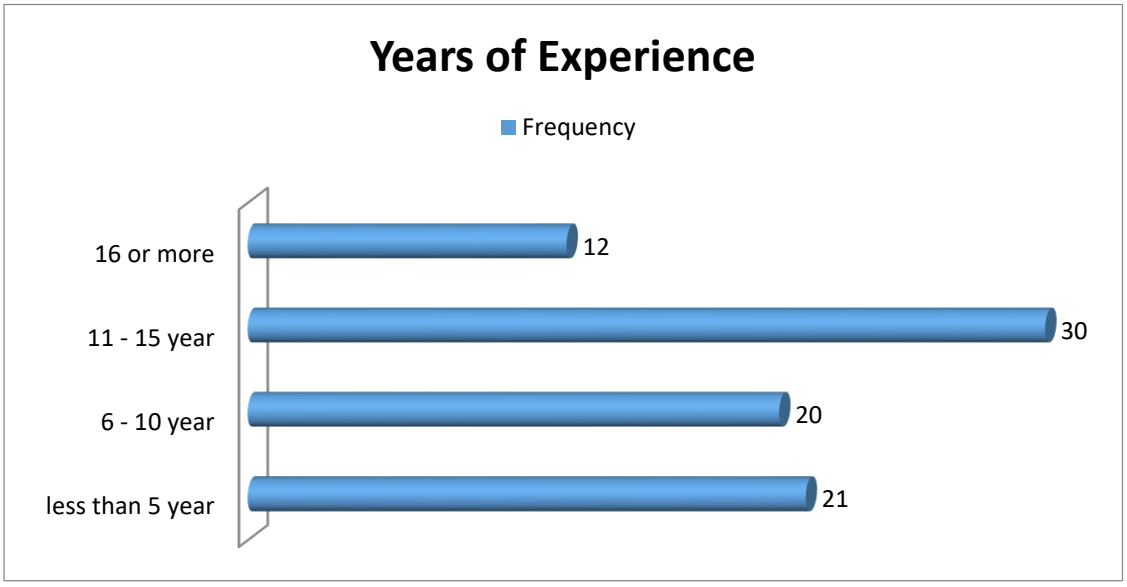
Table 4.89 Area		
	Frequency	Percent
Rural	60	72.3
Urban	23	27.7
Total	83	100.0



Area wise distributions of the samples indicate that 72.3 % of the respondents are from the rural area where remaining 27.7 % of the organizer are from urban area.

Table 4.90 Years of Experience

	Frequency	Percent
less than 5 year	21	25.3
6 - 10 year	20	24.1
11 - 15 year	30	36.1
16 or more	12	14.5
Total	83	100.0



Experience wise distribution of the total respondents are shown in the above table and graph, which indicate that majority of the organizer have 11-15 year of experience (36.1 %) followed by less than 5 years of experience (25.3 %), 6-10 years of experience (24.1 %) and 16 or more year of experience (14.5 %).

Factor analysis

Opinion of organizers recorded through 26 items which are related to MDM. Factor analysis was run for dimension reduction but due to low sample size (83) KMO and Bartlett's Test of Sphericity was generated for factor analysis. Due to limitation of the quantitative techniques 26 items divided in to five factors on basis of other group of Opinionnaire and qualitative methods. Five explored factors are Administration and implementation, Infrastructure and Resources, Food Health and hygiene, Social aspect and Suggestive opinion. These factors are considered for further analysis.

Hypothesis testing

H0: There is significant difference in mean score of opinion of organizer regarding MDM for different gender.

H1: There is significant difference in mean score of opinion of organizer regarding MDM for different gender.

Opinion of the organizer on the MDM factors namely Administration and implementation, Infrastructure and Resources, Food Health and hygiene, Social aspect and Suggestive opinion are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Gender, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.91 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	2.007	.160	-3.629	81	.000
	Equal variances not assumed			-3.981	44.937	.000

Infrastructure and Resources	Equal variances assumed	2.342	.130	-4.091	81	.000
	Equal variances not assumed			-3.742	31.969	.001
Food, Health and hygiene	Equal variances assumed	3.937	.051	-1.905	81	.060
	Equal variances not assumed			-2.101	45.510	.041
Social aspect	Equal variances assumed	.009	.926	.534	81	.595
	Equal variances not assumed			.520	35.479	.606
Suggestive opinion	Equal variances assumed	3.800	.055	-4.331	81	.000
	Equal variances not assumed			-3.961	31.978	.000

Levene's test for equality of variance for all the variables was applied. P values for the variable are greater than 0.05 so it can be concluding that all the variables are statistically significant at 5 percent level of significance. Levene's test concludes that male and female have the equal variance for all the variables.

Two independent sample t test have the p value less than 0.05 for all the five variables of opinion regarding MDM except social aspect. All the factors other than social aspect are statistically significant at 5 percent of the level of significance. T test conclude that that Male and female have different mean score for all factors except social aspect.

Table 4.92 Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Male	61	2.8314	.68388	.08756
	Female	22	3.4221	.56196	.11981
Infrastructure and Resources	Male	61	2.9399	.57657	.07382
	Female	22	3.5606	.69683	.14856
Food, Health and hygiene	Male	61	3.5191	.89551	.11466

	Female	22	3.9242	.72690	.15497
Social aspect	Male	61	3.8730	.91244	.11683
	Female	22	3.7500	.96362	.20545
Suggestive opinion	Male	61	3.2596	.58335	.07469
	Female	22	3.9242	.70472	.15025

Mean score table also indicate the difference in the mean score of all factors of organizer Opinionnaire for Male and female. Only social aspect has not recorded the difference in the mean score. Female have the higher mean score compare to male. Further it can be concluding that female has the more positive opinion regarding all the factors of MDM compare to male.

Area

H0: There is no significant difference in mean score of opinion of organizer regarding MDM for various area of study.

H1: There is significant difference in mean score of opinion of organizer regarding MDM for various area of study.

Opinion of the organizer on the MDM factors namely Administration and implementation, Infrastructure and Resources, Food Health and hygiene, Social aspect and Suggestive opinion are measured on a five-point scale. Mean score of all the factors treated as the dependent variable and Area of the study, which was categorical variable, was inserted as independent variables in the two independent sample t test.

Table 4.93 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Administration and implementation	Equal variances assumed	.356	.552	.251	81	.802
	Equal variances not assumed			.256	41.343	.799
Infrastructure and Resources	Equal variances assumed	4.414	.039	1.961	81	.053

	Equal variances not assumed			2.322	58.846	.024
Food, Health and hygiene	Equal variances assumed	.015	.904	.396	81	.693
	Equal variances not assumed			.406	42.043	.687
Social aspect	Equal variances assumed	.358	.551	.219	81	.827
	Equal variances not assumed			.214	38.290	.831
Suggestive opinion	Equal variances assumed	.931	.337	2.755	81	.007
	Equal variances not assumed			2.787	40.874	.008

Levene's test for equality of variance for all the variables was applied. Levene's test for Infrastructure and Resources has the p value greater than 0.05 which is not statistically significant it infers that variances for Infrastructure and Resources is equal for both the groups rural and urban. All the others variables have the p value less than 0.05 which indicate the equality of the various for these variables are not there.

Two independent sample t test have the p value less than 0.05 for Suggestive opinion hence it is statistically significant at 5 percent level of significant. All other variables have value greater than 0.05 so they are not statically significant. T test conclude that mean score for rural respondents and urban respondents have different mean score for Suggestive opinion.

Table 4.94 Group Statistics

Area		N	Mean	Std. Deviation	Std. Error Mean
Administration and implementation	Rural	60	3.0000	.71259	.09199
	Urban	23	2.9565	.68571	.14298
Infrastructure and Resources	Rural	60	3.1917	.70899	.09153
	Urban	23	2.8768	.47994	.10008
Food, Health and hygiene	Rural	60	3.6500	.88602	.11438
	Urban	23	3.5652	.83747	.17463

Social aspect	Rural	60	3.8542	.91514	.11814
	Urban	23	3.8043	.95927	.20002
Suggestive opinion	Rural	60	3.5583	.65944	.08513
	Urban	23	3.1159	.64243	.13396

Mean score table also indicate the difference in the mean score of suggestive opinion for rural respondents and urban respondents. Organizers who are from the rural area have recorded more favorable opinion regarding various suggestive opinion compare to the organizer who has the urban background.

Experience

H0: There is no significant difference in mean score of opinion of organizer regarding MDM for different experience group.

H1: There is significant difference in mean score of opinion of organizer regarding MDM for different experience group.

Average score of variables namely Administration and implementation, Infrastructure and Resources, Food Health and hygiene, Social aspect and Suggestive opinion which are measured on the five point Likert scale inserted as the dependent variables and experience of organizer inserted as the independent variable in the one-way analysis of variance.

Table 4.95 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Administration and implementation	Between Groups	3.095	3	1.032	2.188	.096
	Within Groups	37.240	79	.471		
	Total	40.335	82			
Infrastructure and Resources	Between Groups	1.036	3	.345	.772	.513
	Within Groups	35.337	79	.447		
	Total	36.373	82			
Food,Health and hygiene	Between Groups	.704	3	.235	.303	.823

	Within Groups	61.162	79	.774		
	Total	61.866	82			
Socia aspect	Between Groups	1.349	3	.450	.520	.670
	Within Groups	68.349	79	.865		
	Total	69.697	82			
Suggestive opinion	Between Groups	1.031	3	.344	.735	.534
	Within Groups	36.959	79	.468		
	Total	37.991	82			

P value of all the factors is greater than 0.05 so none of the factor is statistically significant at 5 percent level of significant. ANOVA test further conclude that experience wise mean score are almost same for all groups.

Table 4.96 Descriptives

		N	Mean	Std. Deviation	Std. Error
Administration and implementation	less than 5 year	21	2.8299	.82638	.18033
	6 - 10 year	20	3.2857	.73137	.16354
	11 - 15 year	30	2.8476	.52110	.09514
	16 or more	12	3.1190	.70994	.20494
	Total	83	2.9880	.70135	.07698
Infrastructure and Resources	less than 5 year	21	3.0159	.63880	.13940
	6 - 10 year	20	3.2583	.79559	.17790
	11 - 15 year	30	3.0167	.60387	.11025
	16 or more	12	3.2222	.64484	.18615
	Total	83	3.1044	.66601	.07310
Food, Health and hygiene	less than 5 year	21	3.5238	.85356	.18626
	6 - 10 year	20	3.7333	.93408	.20887
	11 - 15 year	30	3.5778	.91782	.16757

	16 or more	12	3.7500	.71244	.20566
	Total	83	3.6265	.86860	.09534
Social aspect	less than 5 year	21	3.6429	1.02033	.22265
	6 - 10 year	20	3.8375	.67021	.14986
	11 - 15 year	30	3.9083	.95701	.17473
	16 or more	12	4.0208	1.06311	.30689
	Total	83	3.8404	.92194	.10120
Suggestive opinion	less than 5 year	21	3.4762	.75881	.16559
	6 - 10 year	20	3.4167	.67213	.15029
	11 - 15 year	30	3.3278	.57815	.10556
	16 or more	12	3.6667	.80716	.23301
	Total	83	3.4357	.68066	.07471

Table indicates the experience wise mean score regarding opinion of organizer regarding various aspect of the MDM. Table also indicate that different experience group has not significant difference in the mean score.

Summary

Opinionnaire of student, teacher, parents and organizer prepared through this study. All most all the Opinionnaire has the five detentions. Opinionnaire possess the adequate amount of reliability. This study has proved many hypotheses which are below.

Hypothesis (Alternative)	**Test**	**Conclusion**	**Remarks**
H1: There is significant difference in mean score of opinion of students regarding MDM for different gender	Independent sample T test	Ho Rejected	All five factor significant
H2: There is significant difference in mean score of explored factors opinion of students regarding MDM for various area of study	Independent sample T test	Ho Rejected	All five factor significant
H3: There is significant difference in mean score of explored factors opinion of students regarding MDM for difference age group.	One Way ANOVA test	Ho Rejected	All five factor significant

Hypothesis (Alternative)	Test	Conclusion	Remarks
H4: There is significant difference in mean score of explored factors opinion of students regarding MDM for difference class of student.	One Way ANOVA test	Ho Rejected	All factor significant except Suggestive opinion
H5 There is significant impact of explored satisfactory factor of MDM on overall satisfaction of students	Multiple regression	Ho Rejected	All factor have positive impact
H6: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for different gender	Independent sample T test	Ho Rejected	All factor and overall satisfaction significant
H7: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for various area of study	Independent sample T test	Ho Rejected	All factor and overall satisfaction significant
H8: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for difference age group of student	One Way ANOVA test	Ho Rejected	All factor and overall satisfaction significant
H9: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for difference class of student	One Way ANOVA test	Ho Rejected	All factor and overall satisfaction significant except Support infrastructure
H10: There is significant difference in mean score of opinion of teacher regarding MDM for different gender	Independent sample T test	Ho Rejected	All five factor significant
H11: There is significant difference in mean score of opinion of teacher regarding MDM for various area of study	Independent sample T test	Ho Rejected	All five factor significant

Hypothesis (Alternative)	Test	Conclusion	Remarks
H12: There is significant difference in mean score of opinion of teacher regarding MDM for difference designation	One Way ANOVA test	Ho Rejected	All five factor significant except Administration and implementation
H13: There is significant difference in mean score of opinion of teacher regarding MDM for difference experience.	One Way ANOVA test	Ho Rejected	All factor significant
H14 There is significant impact of explored satisfactory factor of MDM on overall satisfaction of teachers	Multiple regression	Ho Rejected	All factor have positive impact
H15: There is significant difference in mean score of explored satisfaction factors of MDM on overall satisfaction for different gender.	Independent sample T test	Ho Rejected	All factor and overall satisfaction significant
H16: There is significant difference in mean score of explored satisfaction factors of teacher regarding MDM on overall satisfaction for various area of study.	Independent sample T test	Ho Rejected	All factor and overall satisfaction significant
H17: There is significant difference in mean score of explored satisfaction factors of teacher regarding MDM on overall satisfaction for difference designation.	One Way ANOVA test	Ho Rejected	All factor and overall satisfaction significant except Support infrastructure
H18: There is significant difference in mean score of explored satisfaction factors of teachers regarding MDM on overall satisfaction for difference experience.	One Way ANOVA test	Ho Rejected	All factor and overall satisfaction significant

Hypothesis (Alternative)	Test	Conclusion	Remarks
H19: There is significant difference in mean score of opinion of parents regarding MDM for different gender.	Independent sample T test	Ho not Rejected	Only Social aspect significant
H20: There is significant difference in mean score of opinion of parents regarding MDM for various area of study.	Independent sample T test	Ho Rejected	All five factor significant except Suggestive opinion
H21: There is significant difference in mean score of opinion of parents regarding MDM for difference age group.	One Way ANOVA test	Ho not Rejected	Only Social aspect and academic changes of students significant
H22: There is significant difference in mean score of opinion of parents regarding MDM for difference occupation group.	One Way ANOVA test	Ho Rejected	All five factor significant except academic changes of students and food, health and hygiene
H23: There is significant difference in mean score of opinion of parents regarding MDM for difference income group.	One Way ANOVA test	Ho not Rejected	Only administration and implementation and academic changes of students significant
H24: There is significant difference in mean score of opinion of organizer regarding MDM for different gender.	Independent sample T test	Ho Rejected	All five factor significant except Social aspect
H25: There is significant difference in mean score of opinion of organizer regarding MDM for various area of study.	Independent sample T test	Ho not Rejected	only Suggestive opinion significant
H26: There is significant difference in mean score of opinion of organizer regarding MDM for different experience group.	One Way ANOVA test	Ho not Rejected	No factor significant

CHAPTER-5

FINDING OF THE STUDY

Students

- 690 out of the 1300 were male's students and remaining 610 are female respondents.
- 60.3 percent of the students are from the rural area where remaining 39.7 percent of the students are from urban area.
- majority of the students have age more than 14 (33.7 %) followed by 11-14 years (30.8 %), 8-10 years (20.7 %) and less than 7 years of age (14.8 %)
- majority of the students are studying in more 6 to 7 standard (392 students) followed by more than 7 standards (384 students), 3 to 5 standard (296 students) and up to 2 standards (229 students)
- In factor analysis, KMO measure is 0.814 hence it is inferred that the sample size is the adequate for the factor analysis.
- Factor analysis produced five factors which explained 81.24% of the total variance.
- Explored factors are Administration and implementation, Academic changes of student, Food Health and hygiene, Social aspect and Suggestive opinion.
- Reliability of the Opinionnaire of students concludes that instrument has good reliability as the coefficient alpha of the instrument is 0.909.
- T test with gender finds that Male and female have different mean score for all the variables of opinion of students regarding MDM. This study also find that Female has the higher mean score for all the factors compare to the mean of the Males.
- T test between area and opinion factor found that mean score for rural respondents and urban respondents are different for all the variables of opinion of students regarding MDM. Students who are from the rural area have recorded more favorable opinion regarding various aspect of the MDM compare to the students who has the urban background
- ANOVA test between age and opinion factor found that age has the significant impact on the opinion of the students regarding various aspect of MDM. Higher age students have recorded the higher mean score compare to low age group students.
- ANOVA test between class of study and opinion factor reveal that different class of study has the different mean score for the factors of MDM except Suggestive opinion. Higher study classes students have recorded the higher mean score compare to low study class group students.

- Factor analysis related to satisfaction generated KMO value 0.824 hence it is inferred that the sample size is the adequate for the factor analysis.
- 4 important factors explored through EFA regarding the satisfaction level of students towards the MDM and these our factors explain 79.52 total variance.
- Reliability of the Satisfaction of students concludes that instrument has good reliability as the coefficient alpha of the instrument is 0.864.
- Regression analysis finds that Support Infrastructure, Social benefit, Quality of Food, Health and Hygiene has the positive and significant impact on overall satisfaction level. These factors explain 82.7 percent of the variance in overall satisfaction level.
- T test between satisfaction and gender reported that mean score for Male and female are different. Female has the higher mean score for all the factors compare to the mean of the Males.
- T test between satisfaction and area found that mean score for all four factors and overall satisfaction have the different for rural area and urban area. Students who are from the rural area have recorded more satisfaction regarding various aspect of the MDM compare to the students who has the urban background.
- ANOVA test between age and satisfaction level found that mean score of all the variables is different for various age groups of students. Age and satisfaction level has the positive relationship.
- ANOVA test between satisfaction and study class conclude that different study class has the different mean score for all the factors except Support Infrastructure as well overall satisfaction level towards the MDM. Class 6-7 has recorded the highest satisfaction level where up to 2 class has recorded the lower satisfaction level.

Teachers

- Majority of the teachers have 13-16 years of experience (24.5 %) followed by 4-8 year, experience (21.9 %), 9-12-year experience (19.6 %), more than 16 years of experience (18.3 %) and 0-3-year experience (15.6 %).
- Majority of the respondents are belonging to permanent teacher groups 538 (65.2%) followed by Adhoc teacher group 206 (25.0 %) and principal group 81 (9.8 %).
- 514 out of the 825 were males and remaining 311 are female respondents. 62.3 % respondents are males where female teachers are 37.7%.
- 63.9 % of the respondents are from the rural area where remaining 36.1 % of the teachers are from urban area.

- Exploratory factor analysis of Opinionnaire KMO measure is 0.828 hence it is suggested that the sample size is the adequate for the variable analysis.
- Total five factors are explored from the factor analysis which explained total 78.98 percent of the variance.
- Reliability of the Opinionnaire of teachers concludes that instrument has good reliability as the coefficient alpha of the instrument is 0.909.
- T test between gender and opinion of teacher found that Male and female have different mean score for all the variables of opinion of teachers regarding MDM. Female has the higher mean score for all the factors compare to the mean of the Males.
- T test between area and opinion of teacher found that mean score for rural respondents and urban respondents have different mean score for all the variables of opinion of teachers regarding MDM. Teachers who are from the rural area have recorded more favorable opinion regarding various aspect of the MDM compares to the teachers who have the urban background.
- ANOVA test between designation and opinion of teacher reported that mean score of all the variables except administration and implementation is different for various designation groups of teachers.
- ANOVA test between experience level and opinion of teacher infer that different experience group has the different mean score for all the factors of MDM.
- 4 important factors explored through EFA regarding the satisfaction level of teacher towards the MDM and these four factors explain 79.75 total variance.
- Reliability of the satisfaction of teachers conclude that instrument has good reliability as the coefficient alpha of the instrument is 0.869
- Regression analysis finds that Support Infrastructure, Social benefit, Quality of Food, Health and Hygiene has the positive and significant impact on overall satisfaction level of teachers. These factors explain 83.3 percent of the variance in overall satisfaction level.
- T test between gender and satisfaction level found that mean score for Male and female are different. Female has the higher mean score for all the factors compare to the mean of the Males.
- T test between area and satisfaction level found that mean score for all four factors and overall satisfaction have the different for rural area and urban area. Teachers who are

from the rural area have recorded more satisfaction regarding various aspect of the MDM compare to the teachers who has the urban background.

- ANOVA test between designation and satisfaction level conclude that mean score of all the variables except Support Infrastructure is different for various designation groups of teachers. Adhoc teachers group has the lower mean score and principal group has the higher mean score.
- ANOVA test between experience and satisfaction level report that different experience group has the different mean score for all the factors as well overall satisfaction level towards the MDM. lower experience group has the low satisfaction level and highest experience group has the higher satisfaction level.

Parents

- 284 out of the 530 were males and remaining 246 are female respondents. 53.6 % respondents are males where female parent are 46.4%.
- 61.9 % of the respondents are from the rural area where remaining 38.1 % of the parents are from urban area.
- Majority of the parent have 36-45 age (34.2 %) followed by 26-35 years (32.1 %), 25 or less year (18.9 %) and more than 45-year age (14.9 %).
- Majority of the respondents have education up to 10^{th} standard (160) followed by no formal education (108), HSC (106), graduation (81) and post graduation (65).
- Majority of the parent are House wife (28.7 %) followed by salaried (27.5 %), business (20.4%), daily wagers (19.2) and others (4.2 %).
- Majority of the respondents have income 2-4 lakh (37.9 %) followed by 4-6 lakh (23.2), less than 2 lakhs (20.8 %) and more than 6 lakhs (18.1 %).
- Exploratory factor analysis of Opinionnaire KMO measure is 0.820 hence it is suggested that the sample size is the adequate for the variable analysis.
- Total five factors are explored from the factor analysis which explained total 80.91 percent of the variance.
- Reliability of the Opinionnaire of parent concludes that instrument has good reliability as the coefficient alpha of the instrument is 0.892.
- T test between gender and opinion of parent found that Male and female have different mean score for social aspect where all other variables have equal mean.

- T test between are and opinion of the parents found that mean score for rural respondents and urban respondents have different mean score for all the variables except Suggestive opinion.
- ANOVA test between age and opinion of parents conclude that 26-35 has the higher mean score compare to the other age groups. 25 or less age group has recorded almost low mean score for the variables.
- ANOVA test between occupation and opinion of parent's revel that Daily wager has the higher mean score regarding all the variables. It can be concluding that daily wager has the more positive opinion regarding MDM.
- ANOVA test between income level and opinion of parents conclude that low income group has the more positive opinion regarding MDM. Difference between income groups has seen significant for variables Academic changes of student and Administration and implementation.

Organizer

- 61 out of the 83 were males and remaining 22 are female respondents. 73.5 % respondents are males where female organizers are 26.5%.
- 72.3 % of the respondents are from the rural area where remaining 27.7 % of the organizers are from urban area.
- majority of the organizer have 11-15 year of experience (36.1 %) followed by less than 5 years of experience (25.3 %), 6-10 years of experience (24.1 %) and 16 or more year of experience (14.5 %).
- Five factors are extracted through qualitative analysis having names Administration and implementation, Infrastructure and Resources, Food Health and hygiene, Social aspect and Suggestive opinion respectively.
- T test between gender and opinion of organizer found that Male and female have different mean score for all factors except social aspect. Female have the higher mean score compare to male. Further it can be concluding that female has the more positive opinion regarding all the factors of MDM compare to male.
- T test between area and opinion of organizer found that mean score for rural respondents and urban respondents have different mean score for Suggestive opinion.
- ANOVA test between experience and opinion of organizer revealed that experience wise mean score is almost same for all groups.

Conclusion and Suggestion

Demographic profile of the students concludes that 53.1 percent of are male and approximately 61 percent of the students live in the rural area. Majority of the students are above 11 years and studying 5th standard or higher. Exploratory factor analysis was run to explore the important factors regarding the opinion of students toward the MDM. Before that KMO and Bartlett's test analyzed which conclude that EFA can be run for the collected sample data. EFA provided five factors out of the total 24 items. These five factors explain approximately 81.23 percent of the variance in the opinion of the students regarding the MDM. First set of seven items converge in the factor name Administration and implementation. Second set of seven items converge in to the factor name suggestive opinion. Next four items make the factor called food health and hygiene. Second last and last three items make the factors known as social aspect and academic changes of students respectively.

Reliability test for the Opinionnaire of students and explored factors measured through Cronbach's alpha in SPSS software. Cronbach's alpha is 0.879 for the Opinionnaire of students which greater that threshold level 0.7 so it can be conclude that Opinionnaire of students possess the adequate reliability. Cronbach's alpha for all the individual five explored factors are also above than threshold level 0.7.

Gender wise, area wise and age wise difference clearly recorded in the opinion regarding MDM explored all factors. Class wise difference in the suggestive opinion is not recorded apart from that all factors have the difference of opinion with reference to their class. Female has the higher score compare to male regarding all the factors. Where, rural area students have the positive opinion towards the MDM compare to the urban student. Age has the positive relationship with mean score of the opinion regarding MDM.

Satisfaction regarding the various parameter of MDM also measured from students. EFA was applied to find out the important factor which contributes the maximum satisfaction level of students. KMO and Bartlett's Test was concluding that EFA can be run on the satisfaction level data. Four factor has the Eigen value greater than 1 which contribute the approximately 79 percent of the variation of the satisfaction level of the students. Explored four factors are quality of food, social benefit, health & hygiene and support infrastructure. Regression concludes that four factors can explain approximately 82.7 percent of the variation the overall satisfaction level. Out of four factors, Support infrastructure has the higher impact on overall satisfaction followed by health and hygiene, social benefit and quality of food. Gender wise, area wise and age wise difference clearly observed in the various factors of

satisfaction as well as overall satisfaction of the student. Class wise difference in the support infrastructure is not recorded apart from that all factors have the difference of satisfaction with reference to their class. Female and students from the rural area are more satisfaction with all the aspect of the MDM. Age has the positive relationship with mean score of the satisfaction regarding MDM. It can be suggesting to the policy maker that students have the positive opinion and satisfaction level towards the MDM. Policy maker has to consider gender, area and age while formulating MDM policy as these are main contributing factor for positive opinion and satisfaction towards MDM.

Demographic profile of the teachers concludes that 62.3 percent of are male and approximately 63.9 percent of the teachers live in the rural area. Majority of the teachers, 538 out of 825 are permanent teachers and good amount of teaching experience. EFA provided five factors out of the total 31 items. These five factors explain approximately 78.97 percent of the variance in the opinion of the teachers regarding the MDM. First set of nine items converge in the factor name suggestive opinion. Second set of seven items converge in to the factor name academic changes of students. Next seven items make the factor called Administration and implementation. Four items converge in to the factor known as food health and hygiene, and last three items measure the social aspect opinion of teacher. Reliability test for the Opinionnaire of teacher and explored factors measured through Cronbach's alpha in SPSS software. Cronbach's alpha is 0.909 for the Opinionnaire of teachers which greater that threshold level 0.7 so it can be conclude that Opinionnaire of teachers possess the adequate reliability.

Two independent sample t test indicate that gender and area has the significant impact on the opinion of teachers related all the variables. Female and teachers from the rural area has founded statistically significant higher mean compare to the male and teachers who lived in urban. Experience has the positive relation with the opinion of teacher regarding MDM, higher experience teachers have the higher mean compare to fresher teacher. Designations of teacher also make impact on opinion regarding all the factors except administration and implementation. Principal has the higher mean score regarding opinion regarding MDM compare to other teachers.

Satisfaction regarding the various parameter of MDM also measured from teachers also. EFA was applied to find out the important factor which contributes the maximum satisfaction level of teachers. KMO and Bartlett's Test was concluding that EFA can be run on the satisfaction level data. Four factor has the Eigen value greater than 1 which contribute the

approximately 80 percent of the variation of the satisfaction level of the teachers. Explored four factors are quality of food, social benefit, health & hygiene and support infrastructure.

Regression concludes that four factors can explain approximately 83.3 percent of the variation the overall satisfaction level. Out of four factors, Support infrastructure has the higher impact on overall satisfaction followed by health and hygiene, social benefit and quality of food.

Two independent sample t test indicate that gender and area has the significant impact on the satisfaction level of teachers related all the variables. Female and teachers from the rural area has founded statistically significant higher mean compare to the male and teachers who lived in urban regarding satisfaction level. Experience has the positive relation with the satisfaction level of teacher regarding MDM, higher experience teachers have the higher mean compare to fresher teacher. Designations of teacher also make impact on satisfaction level regarding all the factors except Support infrastructure. Principal has the higher mean score regarding satisfaction level regarding MDM compare to other teachers. Through opinion of teacher it can be suggested that while formulating MDM program opinion of the teacher must be considered. Gender, are, designation and experience are the influencing factors so it should be considering while taking the opinion from the teacher.

Demographic profile of the parents concludes that 53.6 percent of are male and approximately 61.9 percent of the parents live in the rural area. Majority of the parents have low education as well as low income. Two independent sample t test indicate that gender has not much significant impact on the opinion regarding the MDM. opinion regarding social aspect recorded gender wise difference only. Area wise difference was observed in all the factors except suggestive opinion. Rural area parents have the higher mean compare to the urban area parents. Age wise difference in the opinion regarding MDM was founded in the two factors out of five factors only. Occupation wise difference in the opinion regarding MDM was founded in the three factors out of five factors only. Income wise difference in the opinion regarding MDM was founded in the two factors out of five factors only.

Demographic profile of the organizer concludes that 73.5 percent of are male and approximately 72.3 percent of the organizers live in the rural area. Majority of the organizer have the experience more than 6 years. Two independent sample t test indicate that gender has significant impact on the opinion regarding the MDM except social aspect. Area wise difference was not observed in all the factors except suggestive opinion. Experience is not founded statistical significant impact on the opinion of the organizer.

In summary, this study finds that opinion of students, teacher, parents and organizer towards MDM is positive. This study proposed the opinionnaire of all the four stakeholders which founded reliable through statistical techniques. Five dimension of opinion toward MDM founded for all the four stakeholder's opinionnaire. This study concludes that almost in all groups female founded more positive towards MDM compare to male, further this study also conclude that rural area respondents have the more positive opinion compare to the urban area respondent. Satisfaction level of teachers and students are adequate towards MDM. Support infrastructure and health hygiene are the major influencing factors on the overall satisfaction level towards MDM. This study suggest that policy maker have to focus on the infrastructural support and hygiene factor as these factor contribute major in the satisfaction level.

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