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Effect of Price war on the revenue of MTNL during 21st century: A case study to analyze the market share of MTNL

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ABSTRACT

The mobile service in India is fastest growing market in world. It is now having the second largest number of mobile connections in the world after China. Mumbai financial capital and Delhi political capital of India are two metropolitan cities where mobile user is at larger number. There are more than five operators in Mumbai and Navi Mumbai including Thane it is becoming difficult for MTNL to retain their market share. MTNL and other operator are all making possible efforts to increase their market share. The mobile services provided by all of them are having almost same features. The MTNL is making all possible efforts to increase their market share. MTNL have tied up with software firms to provide content and niche services. They are adopting competitive strategy to differentiate their services from others. In order to penetrate the market they are offering the lowest call tariffs in the Delhi and Mumbai. The only way to earn profit is by the economy of scales. MTNL has

positioned Trump and Dolphin its prepaid brand and postpaid brand as the most affordable mobile service in the market by providing Price Leadership in voice and data services. This has raised problem to MTNL which was one of the Navratna Company of Government before 2000. The objective of this research is to find how price war deficit the revenue of MTNL. A case study is to analyze the market share of MTNL.

1. MTNL AT A GLANCE:

MTNL was set up on 1st April, 1986 by the Government of India to upgrade the quality of telecom services, to expand the telecom network, and introduce various new services and to raise revenue for telecom development needs of India's key metros - Delhi, the political capital and Mumbai, the financial capital of India. In the past 25 years, the company has taken rapid strides to emerge as India's leading and one of Asia's largest telecom operating companies. Besides having a strong financial & economic base, MTNL has achieved a subscriber base of total 5.92 million as on 31st March 2014.

The company has also been in the forefront of technology induction by converting 100% of its telephone exchange network into the digital modestate-of-the-art. The Government of India currently holds 56.25% total stake in the MTNL.

Mission

The mission of MTNL is to be continued to be remain market leader in providing IT related and world class telecom services at very low and affordable rates and to become a world player.

Vision

Become a total solution provider company and to provide world class telecom services at affordable prices. Become a global telecom company and to find a place in the world 'Fortune 500' companies. Become one of the largest providers of leased lines and private networks. Entry into other areas in India and out of India on the strength of our core competency.

Corporate Objectives

1. To expand customer base and services.
2. To provide latest technology and services to the customers, at very low and affordable cost.
3. To achieve the highest level of customer satisfaction and delight.
4. To diversify in other areas for providing telecom services at national and international levels.
5. To provide convergence of I T, Telecom and other related services.
6. To improve productivity by training and redeployment of manpower.
7. To work for social benefits.

Corporate Governance MTNL has been following the principles of Corporate Governance. As it is understood, the principles and Corporate Governance deals with implicit rules, practices, procedures and laws and that determine a company's ability to take informed managerial decisions via its stake holders, in particular its employees the state, shareholders, customers and creditors.

Considering the tremendous growth of opportunities and private sector that have become available, availability of employment in telecom & IT sectors and retention of suitable manpower is one of the a biggest challenge for MTNL

Main Services Offered by MTNL:

MTNL is offering complete bouquet of Telecom services to meet the needs of Government bodies, Corporates, Companies, individuals etc. MTNL offers the following mains Telecom Service:

1. Basic and Limited Mobile Telephone Services
2. Cellular Mobile Telephone Services
3. Limited Mobile Telephone Services - Garuda
4. Internet Services
5. Intelligent Network Based Telecom Services
6. Broadband Services
7. IPTV Service
8. Voice over Internet Protocol
9. Wi-Fi

10. ISDN
11. Leased Circuits
12. Digital Certificates
13. MPLS / VPN
14. PCO
15. Value Added Services

Human resource development at MTNL

The Company attachés the highest priority to the quality of intellectual capital at its disposal and believes that knowledge and skill level of its employees are the key to achievements of its corporate mission. MTNL has a sound recruitment policy and comprehensive training system. During the past one year, MTNL has laid greater emphasis on HRD & faculty development. MTNL have been devoting substantial resources on building a skilled workforce that has an innate capability to counter threats posed by ever changing business environment and to take advantages of opportunities presented to serve ever increasing customer base. MTNL has been conducting various training and development activities, reorienting the employees towards the greater organizational purpose and are also focusing on eliminating skill gap and technical obsolescence. The management's view of MTNL for training is one of the biggest development of employees' overall personality and enabling them in becoming a vital productive resource.

2. OBJECTIVES OF THE STUDY

The objectives of following research are as follows:

1. Reason for Huge Loss in GSM Sector.
2. MTNL Mangle to Become Immaterial
3. Market share of Telecomm Companies
4. Risk Involved by MTNL on Revenue Loss
5. Government Perception
6. MTNL Survival Strategies

As a reliable service provider, Mahanagar Telephone Nigam Limited (MTNL) had the commitment of bringing the latest technologies in the field of telecommunications within the reach of the common man. Towards this end, MTNL ventured into Global System for Mobile Communication (GSM) to launch Cellular Mobile Telephone Services (CMTS) in Delhi and Mumbai. MTNL obtained the license from the Department of Telecommunications (DoT) for operation of CMTS in Delhi and Mumbai in October 1997 and for adjoining areas of these cities in January 2001. Thereafter, MTNL started its CMTS by launching post-paid mobile service (Dolphin) in February 2001 and pre-paid mobile service (Trump) in January 2002. Some of the multi-service facilities provided by the GSM are roaming, high speed data (HSD) transmissions, tele services, bearer services, supply services, voice mail service (VMS), intelligent network (IN)

services, short message service (SMS) and broadcast services.

A. Reason for Huge Loss in GSM Sector

1. MTNL failed to capitalize the growing mobile market for its delayed action
2. Delay in providing services in areas adjoining Delhi and Mumbai.
3. Failure of MTNL to procure system of pre-paid service in time led to loss of subscriber base for pre-paid service in favor of private operators.
4. Procurement of equipment for CMTS (Cellular Mobile telephone Services)
5. Failed to Procure of mediation device, billing and customer care equipment etc.
6. Billing Problem seriously affected the services
7. The entire project for installation and commissioning of CMTS was badly delayed and was yet to be completed
8. MTNL Delhi constructed BTS sites without prior approval of Municipal authorities.
9. Mumbai unit failed to recover LD for delay in integration of BTS sites
10. Subscribers base of Delhi and Mumbai unit showed negative growth

B.MTNL Manages to Become Immaterial

Competition is never kind to incumbents. The entry of new private operators, there hungry for growth, changes the rules of the game. As the time changes MTNL should ready themselves for the new game and they should try to accompany with time.

This is what happened to government-owned PSU Mahanagar Telephone Nigam (MTNL) in late 2000, when mobile telephony began to boom in the India. MTNL failed to capitalize on the generation shift and are now on run the risk of becoming irrelevant and irresponsible towards the subscribers. MTNL is struggling with great losses.

In FY14, MTNL reported a loss of Rs 3,575 crore (adjusted for exceptional gains) on net sales of Rs 3,391 crore. The biggest problem for this company is high employee cost and the legacy of their local fixed line businesses. MTNL has today 3 & 1/2 times more employees then the private operators baring most of revenue at their staff salary.

Note that till FY08, MTNL was among India's most cash-rich companies, with combined cash and equivalents of nearly Rs 45,000 crore.

MTNL till now have managed to maintain their leadership in the fixed line and broadband business but have failed to catch consumer attention in fast-growing mobile telephony. This has been proving costly as more and more consumers choose

the convenience of mobile devices over fixed land lines. Experts say the public sector company is certain to lose more market share. Initially, MTNL had seen rapid growth in its mobile services. It failed to consolidate the position and has continuously lost market share since 2008.

Things are getting worse in case of MTNL that has operations in Mumbai and Delhi only. The current mobile user base is less than what it had in March 2007. Since it was late to introduce 2G as compare to other operators, till now it had large amount of loan amount piled upon it. It now accounts for total of 0.4 per cent of the entire sectors users and 1.7 per cent of total gross revenue.

What didn't happen: A Case study on MTNL

Experts say the company failed to build a market and brand equity together. In today's telecom era there is little differentiation between various operators. The various telecom operators is more or less commoditized and this makes branding and promotion key to grab customers attention. MTNL failed to get this right and have nearly lost number subscribers says one of the telecom analysts at Motilal Oswal Securities.

Others say public sector undertakings face structural problems that can't be resolved purely through marketing and branding. The government was not able to infuse new and valued skills in the companies for their staffs, since the industry was rapidly

transforming in the 90s and 20s period. Thus outcome was that their employees were not skilled enough to operate in an environment that required agility over systems and processes ben involved,” says one of expert. The government should have allowed these companies named MTNL & BSNL to partner with a foreign mobile operator, either through joint venture or equity stake. This would have probably brought in work culture and new skills, besides necessary capital and technology and it would have allowed them to compete more effectively with new private sector entrants, most of who started with a strong foreign partner.

Various experts predict a dark future for MTNL, unless the government takes some tough decisions without more delay. With losses mounting on MTNL it is now losing capacity to make further investment in their network and risk of losing more customers and businesses to their competitors. This has raised a question over their survival,” says one of the telecom analysts based on their survey.

Chowdhary says there is way out is to restructure and restore the companies and separate the profitable divisions from loss-making ones. One that it can then be privatized either through listing on stock exchanges or outright sale to foreign orprivate operators. These losses are largely due to local fixed line services, which are saddled with high employee cost and low profit. The mobile telephony and long-distance call over India would still be

profitable. Many investors would be interested in these and they would be spun off from the parent company. One of the alternatives is to wait for slow mourning of these companies, as they are pushed towards the margins and customers are away by hungry and agile private sector companies

C. Market Share of Telecomm Companies:

Private sector players have played an important role in the rapid growth of the wireless segment. These private players totally account for around 89.01% of the total wireless subscriber base. While government owned companies has been instrumental in the development of the wire line service, the growth in wireless subscriber base for these entities has been relatively slower compared to the other private entities. Till now there are more 10 wireless service providers (including 2 PSUs) exist and compete in different states of India.

MTNL along with BSNL, the two PSU operators hold only 10.99% market share. The graphical representations of market shares and all the service providers during the month of January, 2014 are depicted below:

Only 2 private players, Bharti Airtel and Reliance Communications, have all India presence along with government-owned entities, MTNL and BSNL. Many other players have been taking initiatives to

expand operations across the country. The GSM sector is mainly captured by players such as Vodafone, Airtel, Reliance and Idea Cellular etc. while the CDMA sector is dominated by Tata and Reliance. Bharti Airtel is the largest GSM mobile operator in India and has a largest user.

D. Risk involved by MTNL on Revenue Loss

MARKET RISKS

The cities of Delhi and Mumbai are among the most competitive markets for the telecommunication companies. MTNL faces competition from the other mobile operators. Due to this there has been increased pressure on margins due to reducing tariffs and also on the customer retention and acquisition. The Average revenue/user base is also going well down due to many plans introduced by various operators. With various operators coming in Delhi and Mumbai metropolitan regions, competitive pressures are likely to be increase further, putting a further strain on its margins. DOT has issued LOIs to a number of new players which will lead to increased competition in the market share. Since MTNL had been placed only in two cities that is Delhi – political capital and Mumbai – financial capital of India, therefore MTNL is not able to expand its telecom services beyond its area of jurisdiction as per the rules laid.

POLICY AND REGULATORY RISKS

The telecommunications sector in India is one of the highest taxed sectors. The high

level of license fee is a big strain on the economy of the company. This has been paid over and all above other taxes and duties which are levied on all other different businesses aspects. Regulatory policies cannot be fore fold and may at certain time, be such to affect the financials of the companies.

MANPOWER RISKS

There is a large amount workforce and a large amount of revenue is spent on staff salary. In compare to the staff costs of other network operators, it is much high in MTNL and this is one of the biggest risks which the company is facing, now a days it has been little flexible in the matter of no time and may have to continue to carry the cost of employees.

OUTSTANDING DUES

Over the years, the amount owned to MTNL by its customers had been increasing at very high rate. Realisation of dues from subscribers has become even more difficult in the increasing competitive Telecom services as the customers can close the connection and take services of different operators. Efforts are being made to reduce the outstanding and some success has been achieved in bringing down total outstanding in a multi operator environment, this remains risks.

GOVERNMENT PERCEPTION

The Government said there has been a continuous increase in the mobile subscriber base of state-run telecom firms

of MTNL during the last four financial years to 2011-14. “During the last four years of 2011-12, 2012-13, 2013-14 and 2014-15, MTNL, have achieved a continuous increase in their mobile user base” Till the March end that is the financial year 2014, MTNL had around 5.59 million subscribers in their pocket. The Minister said customers of public sector firms “sometimes face problems” with regard to quality of service (QoS). However, MTNL are in general, meeting the QoS benchmarks prescribed by TRAI (Telecom Regulatory Authority of India).

The Minister said MTNL have initiated a number of steps to increase their subscriber base which includes special consumer retention camps, monitoring of QoS parameters, and improvement in customer care services among others.

E.MTNL: Survival Strategies

Stiff competition from private players, losses on the financial bases, mounting of operational costs, low brand perception, and a dwindling wire line business have stripped government-owned telecom operator MTNL of its earlier monopoly status. From the last few years PSU i.e. MTNL was in the news for being plagued with various issues and for its attempts at revive.

Developments like mobile number portability (MNP), the grant of broadband wireless access (BWA) spectrum and launch of 3G which, have only added to

MTNL’s difficulties but welcomed by private operators. While the payouts for licenses, BWA spectrum and 3G have impacted the company’s total balance sheet, it has little contributed in terms of their user base and revenues of MTNL. MTNL along with its brother concern Bharat Sanchar Nigam Limited (BSNL) has been one of the worst-hit operators in terms of consumer following the launch of MNP. Both the MTNL and government spent last year i.e. 2014 chalking out strategies to work out the damages they have incurred. From restructuring exercises to monetary relief, they left no stone to chalk out the plan. However, still the company’s woes are far from over.

3. KEY ISSUES

One of the biggest issues for MTNL that it’s has low brand value. MTNL serves the metro circles of Delhi and Mumbai, and coverage has never been an issue for them. However, the service quality as well as customer care have not been up to standard and are amongst the major reasons behind the operator losing out on high-end subscribers. That subscribers are not satisfied with its services is evident from the fact that within the first three months of MNP launch, the operator had lost around 20K subscribers. In the same period, only 5K mobile users joined its network.

The operator had a first-mover advantage in 3G and BWA as the government allotted it spectrum a year ahead of the auction held for private players. However, MTNL

failed to capitalize on this opportunity. MTNL took a short-term loan of Rs 70 billion for acquiring BWA spectrum and 3G in Delhi and Mumbai cities. Pensions, steep payouts for employee salaries, high operating costs, retirement benefits and are other expenses are being incurred by the company till date.

The numbers in terms of subscriber market share are not too promising either. This places it fifth in the pecking order in terms of subscriber market share in both the circles. Few basic services like customer care assistance, bill payment and online recharge, which have become important for metro mobile users, are still missing from MTNL's service offering in Delhi and Mumbai. This has become one of the major disadvantages in the metros cities, where internet mobile penetration is very high and people are paying their utility bills online, thanks to internet.

4. Attempts at Revival

MTNL is now literally in damage control mode. MTNL, with the government's assistance, is taking various steps to restore its position in the telecom market.

One of the key areas it is looking at is downsizing its employee strength, which stood at 45K by the end of December 2014. In accordance to that it had asked DoT to clear a voluntary retirement scheme to be offered to 15K staffs. This scheme will require MTNL to make a one-time payment of Rs 20-Rs 30 billion. MTNL has asked DoT to help it financially

to implement the scheme and properly evaluate it.

MTNL also announced an over oiling of its marketing and customer care operations in Delhi and Mumbai in 2013. The marketing department and customer care units(CCU) in Delhi and Mumbai have been asked to focus more on the business segment and target a significant improvement in call completion rates on MTNL's GSM and CDMA networks. For this company aims at a double-digit improvement across its landline and mobile networks in the two metros cities.

Faced with a mounting financial losses and cash crunch, MTNL had decided to go in for revenue sharing arrangements with other private companies to launch new services. For this, it has invited bid of interest for outsourcing its BWA business and has hired global consultancy firm PricewaterhouseCoopers to scout for franchisees for BWA services. Following its brother's company BSNL's footsteps, MTNL have taken a tough decision regarding its employees' performance every year. MTNL under DoT's guidance is planning a performance review of top MTNL officials along with non-officials on a monthly basis to keep a check on their activities. Moreover, the MTNL management team has warned its staff that there could be a cut in pay in future if they fail to improve their overall performance as per the company's guidance. The Government of India has directed MTNL's management to make tough calls and also

advised to make the Mumbai and Delhi circle heads financially strong, viable and accountable. Future budget allocations for these circles would be linked to the revenues achieved.

The management is eyeing on alternative revenue streams to improve the company's financial position. MTNL, which has lot of land resources in the metropolitan region, is chalking planning out the plan to rent out space for commercial and business purpose. Rate of property in these two metro cities that is Delhi and Mumbai are very high and hence this property can generate significant amount of revenues for MTNL in upcoming year.

MTNL has also explored the possibility of entering into roaming arrangements with private entities for 3G services. Since many private operators do not have spectrum and licenses for the two metro circles, this could have been a key revenue source for MTNL. Tata Teleservices Limited, Idea, Uninor and Aircel etc. were operators keen on entering into intra-circle roaming and are making arrangements with MTNL. However, the deals were put on hold by DoT since it is opposing such agreements.

To manage its mounting debt situation, MTNL is in the process of restructuring its Rs 70 billion loans which it took for buying BWA spectrum and 3G services. MTNL has laid down the many plans to convert Rs 30 billion of loans into a long-term debt with many banks and tender is been floated

further. By the end of July 2011, MTNL had invited expressions of interest from various banks for providing long-term loans of Rs 15 billion with a floating interest rate with 7yr tenure. The company had already restructured Rs 35 billion of debt by repaying Rs 5 billion and tying up with two banks for the remaining Rs 30 billion.

5. The Way Forward

Going forward, broadband will be a key thrust area for MTNL since it provides maximum revenue. Despite the fact that the MTNL provides broadband services in only two metropolitan circles Delhi and Mumbai, it had been the third largest broadband service provider in India, with around 2.47 million broadband subscribers and it has trust on its broad band services only till now. By the end of year 2014, the MTNL is likely to float a tender, worth around Rs 20 crore, for there expansion of its 2G and 3G network services at very low and affordable cost. Furthermore, MTNL is looking to offer broadband services, 3G and 2G at competitive and affordable prices. The going, no doubt, is tough for MTNL but they can try for growth and remove financial crunches. With several measures being taken to resolve the various issues, MTNL is hopeful of positive outcomes in the future.

6. CONCLUSION

The scenario of cut throat competition and reaching saturation point of subscribers is evident all over the world and India is not

the exception for the same. Many mobile operators in India is about to reach saturation points in consumer penetration. Indian telecom companies have a fear of hitting a growth wall. Almost all the telecom companies are facing competition, declining average revenue per user and continuous rising costs. This scenario is hitting the profitability of the telecom companies.

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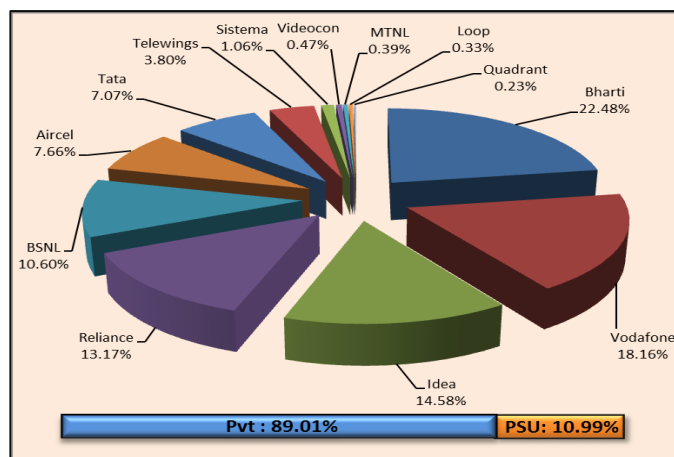


Fig 1: Market shared Of Telecom Companies

Effect of Mid-day Meal Scheme on Academic Performance related to EARD of Students in Odisha

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ABSTRACT

This paper attempts to analyze the nature and effect of mid-day meal Scheme on academic performance of students in some selected upper primary level schools of different district in Odisha. The study covers 81 students, 25 teachers, 50 parents and 13 cooks both in urban and rural areas encompassing below Poverty Line (BPL) and above Poverty Line (APL). The results of Chi-square-test revealed that mid-day meal Scheme has had a significant positive impact in academic achievement of students. A multiple regression model has been used to determine the extent of relationship between mid-day meal Scheme (via the factors- attendance, enrolment, retention and drop out) and academic performance of students. Again, students- t test has been used to examine the assumed hypothesis whether any variation of effect of mid-day meal among economic status of students (i.e., among BPL and APL) or area (i.e., among village and town) and enrolment, attendance, retention or dropout among rural and urban students exists or not.

Keywords: Education, mid-day meal, multiple regression, BPL and APL

1. INTRODUCTION

The Midday Meal Scheme is the well-known name for school meal programme in India which started in the 1960s. It includes provision of lunch free of cost to

school-children on all working days. According to current statistics, 42.5% of the children under 5 are underweight (Livemint.com, 2012). This is due to simple reasons such as not using iodized

salt. "India is home to the world's largest food insecure population, with more than 200 million people who are hungry," India State Hunger Index (ISHI) said, adding that the country's poor performance is motivated by its high levels of child under-nutrition and poor calorie count. It is further noted that "The child malnutrition of India is higher than most countries in Sub-Saharan Africa" (World Bank, 2003. A report released as part of the 2009 Global hunger Index ranks India at 65 out of 84 countries. The 2008 report says that India has more people suffering hunger – a figure above 200 million – than any other country in the world, it says. The report also says "improving child nutrition is of utmost urgency in most Indian states" (UNDP, 1999). So, mid-day meal program (MDP) is a right solution in this respect. 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 and addressing malnutrition.

Taking into account the food availability and food accessibility in the state, Orissa has been put in the category of 'severely food insecure' regions. It has been pointed out that severe food insecurity in Orissa is primarily due to the presence of a vulnerable rural population with poor livelihood access or livelihood susceptible to natural disasters. Lack of safe drinking water, proper health infrastructure, poor rural infrastructure, and low female

literacy are also the predominant features, due to which the state is facing severe food insecure. Therefore, the government of Orissa has intervened to ensure food and nutrition security through: (a) subsidized distribution of food grains, (b) nutrition provisioning through Anganwadi (ICDS: *Integrated Child Development Services*) and primary schools (MDM), and (c) Food for Work programmes. In addition, grain banks have also emerged as people's interventions to cope with food insecurity. Though many programmes have been undertaken by the state government, the present study concentrated on food and nutrition intervention through MDM. The MDM aimed at improving the physical and economic access to nutritious food and thereby to provide direct nutritional support targeting towards certain sections of the population i.e. children, who are vulnerable to nutritional insecurity and prone to childhood deprivation.

MDM introduced on 1st July 1995 as a nutrition intervention programme, after ICDS, with an intention to universalize primary education and providing nutrition supplementation to the primary school going children up to the age of 11 years. The MDM aims at universalizing the primary education by increasing enrolment, and enhancing nutrition level of the school going children who have been deprived of adequate and proper diet at home. Therefore, with a view to increase attendance in the primary school, MDM was introduced and it was decided to

provide a cooked noon meal in all government and government aided schools between classes I to V for 210 working days in a year. The scheme aims to achieve varied pursuits like increasing the enrolment and reducing the school drop outs while emphasizing the improvement of nutritional standard of the children.

In order to achieve these objectives, MDM is provided to primary school children between 6 to 11 years of age for 210 days in a year. The food supplement which consists of 300 calories of energy and 8-10 grams of protein per child per day is expected to meet one-thirds of the calorie and the protein requirement of the targeted children. It is important for the government that the meal should contain apart from cereals, a good quantity of vegetables particularly dark green leafy vegetables as these are important to combat micro-nutrient deficiencies. So school feeding is a direct approach to improve the nutritional status of children, who are in the stage of rapid development, having special nutritional development.

This article tries to investigate the impact of factors allied with mid-day meal scheme in achieving academic performance of students and its associated linkages to teaching-learning process in different district in the Odisha.

2. KEY OBJECTIVES OF THE STUDY

- To examine the relative effect of mid-day meal among the students

belongs to high and low economic status (i.e., APL & BPL).

- To find out the nature of relationship between mid-day meal programme and academic achievement of students selected factors (i.e., enrolment, attendance, retention and drop out of students) associated with academic achievement of students in urban and rural areas.
- To estimate the extent or magnitude of effect of factors associated with MDM programme on academic achievement of students.

3. HYPOTHESIS TO BE TESTED:

The null hypotheses are the following -

H01: There is no significant association between mid-day meal program and students' academic performance in school?

H02: There is no significant difference exists between MDP and enrolment of students in urban and rural schools.

H03: There is no significant difference exists between MDP and attendance of students in urban and rural schools.

H04: There is no significant difference exists between MDP and retention of students in urban and rural schools.

H05: There is no significant difference exists between MDP and dropout of students in urban and rural schools.

Corresponding alternative hypotheses are:

H11: There is significant association between mid-day meal Program and students' academic performance in school.

H12: Rural students are more benefited than urban students in terms of effect of MDP on enhancement of enrolment of students.

H13: Rural students are more benefited than urban students in terms of effect of MDP on enhancement of attendance of students.

H14: Rural students are more benefited than urban students in terms of effect of MDP on diminishing retention of students.

H15: Rural students are more benefited than urban students in terms of effect of MDP on diminishing drop out of students.

4. DATA SOURCE AND METHODOLOGY:

The primary data has been collected during January 2015 from 81 students and 50 guardians/parents, 25 teachers and 13 cook

in lower/upper primary level schools both in urban and in rural areas indifferent district in Odisha. A self-made structured questionnaire was used by considering different concern dimension like economic background, educational background, nature of curriculum and teaching strategy. Chi-square test has been used to examine the relationship between mid-day meal and academic achievement of students. Again, student's t-test has been used to test the selected hypotheses. The following factors have been selected to analyze the effect of mid-day meal (MDP) programme on academic performance of students. Enrolment of students (E), Attendance(A), Retention (R), Reduction in Drop out (D) Again, multiple regression models have been used in order to analyze the effect of the above selected factors on academic achievement of the students. For the present study we covered 25 schools consisting of govt., and govt. aided belong to both urban and rural area as shown with the table as follows.

Types of School

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	govt.	10	40.0	40.0	40.0
	govt. aided	15	60.0	60.0	100.0
	Total	25	100.0	100.0	

Source: field survey

Type of area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	urban	12	48.0	48.0	48.0
	rural	13	52.0	52.0	100.0
	Total	25	100.0	100.0	

Source: field survey

MDMS at the School Level:

At the school level; the school teachers are given overall responsibility to implement the scheme. The members of the Parent Teacher Association, the head master and one of the teachers of the school supervise the functions of cooking, serving and maintaining hygiene. The head master is assisted by a cook and a helper. The cook and the helpers are appointed from the local area and preference is given to the poorer women and widows. For each school, there is a Village Food Committee, which helps in the smooth running of the

scheme in the school. The headmaster sometimes teacher in charge of MDM receives the food grains, undertakes the storage of food items, maintains the records of the use of food items, and also maintains the records of the expenses made for purchasing of firewood, vegetables, etc. Many a time due to the heavy irregularity of the cooks and helpers it is seen during the field visit that teachers have to cook meals and distribute it to the children in time. This resulted in the gross violation of the teaching process of the school. Even for deciding the menu, teachers don't have anything as they have

to follow the district authorities' instructions on MDM menus.

Secondly, coming to the infrastructural issues, all the schools the researcher visited had no separate kitchen shed and storage room. So food grains were stored in headmaster's room. Thirdly, though there were no separate kitchen for MDM, food was cooked in the classroom premises creating smoke as well as disturbances in the teaching processes. And sometime it is also found that children are involved in cooking process like cleaning utensils, fetching water, helping the teachers and cutting vegetable and making sitting arrangement during lunch hour. When asked to the school teachers regarding their difficulty, they viewed that due to MDM, neither can they concentrate for teaching nor are they able to concentrate for the scheme. Moreover, they viewed that they have to manage the scheme without proper co-operation from the officials concerned and without minimum infrastructural facilities. Even they want the scheme to continue, but they want a systematic procedure to be followed by the government of Orissa. Teachers express their great concern for the children who do not eat while coming to school but feel that for making this scheme more effective and fruitful there should be official as well as public participation which is lacking in the state.

5. RESULTS & DISCUSSION:

Children's Response:

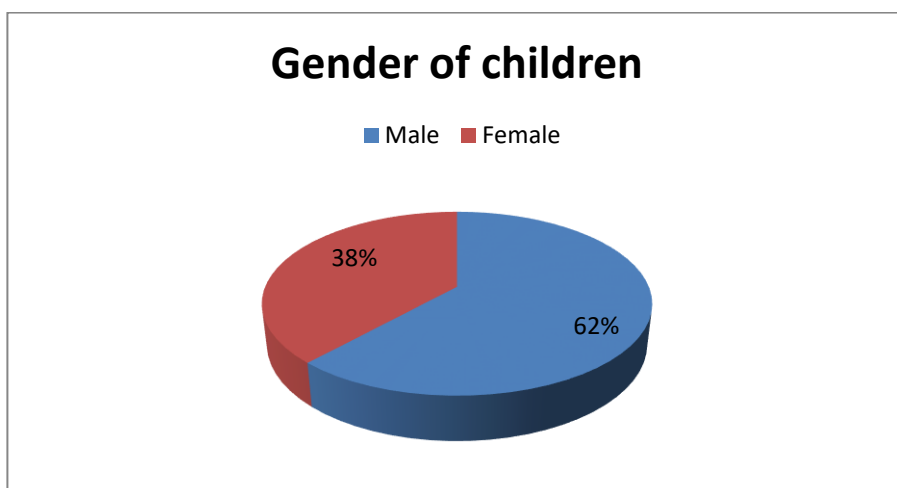
All most all of children consisting of 62% of male and 38% of female children are having mid-day meal of the total respondents during the survey, it was found that 81 children out of 81 are having MDM in the school. All the children of different castes (i.e., 3.7%-SC, 25.9%-ST, 44.4%-OBC and rest General) and standard (i.e., 44.4%-2nd, 27.2%-3rd standard) sit together while having meal. It was found that there is no caste differentiation while food is served to the children at the school level. None of the respondents reported that there is objection from parents or otherwise for sitting together during MDM. It is also revealed that all the children (100 per cent) bring their own plates (some children get banana leaves) from home for having MDM

When asked about what are the things that the children like the most in their school, apart from other things like study and teachers all the children had MDM as a component? This implies the need and importance of MDM for the school going children in Orissa. It was found that children are participating while cooking the MDM. While 31 per cent of the children said they are helping in cooking process, 17 per cent children help sometimes. At least 20 per cent of the children in cleaning the place of sitting for having meals.

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	50	61.7	61.7	61.7
	female	31	38.3	38.3	100.0
	Total	81	100.0	100.0	

Source: field survey



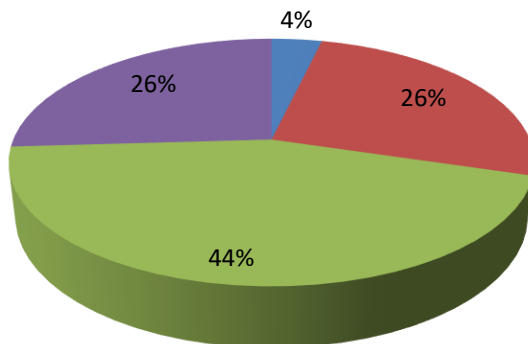
Caste

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SC	3	3.7	3.7	3.7
	ST	21	25.9	25.9	29.6
	OBC	36	44.4	44.4	74.1
	General	21	25.9	25.9	100.0
	Total	81	100.0	100.0	

Source: field survey

Caste of children

■ SC ■ ST ■ OBC ■ General



Which class you are

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	9.9	9.9	9.9
	2	36	44.4	44.4	54.3
	3	22	27.2	27.2	81.5
	4	10	12.3	12.3	93.8
	5	5	6.2	6.2	100.0
	Total	81	100.0	100.0	

Source: field survey

Question for Children	Yes	No	Can't Say	Total
Do you eat MDM at school premises?	81(100%)	0	0	81
Do you participate in cooking MDM?	25(31%)	42(52%)	14(17%)	81
Do you sit together while eating MDM?	81(100%)	0	0	81
Do your parents asked not to eat MDM in the school?	0	81(100%)	0	81
Do you like to eat MDM daily in the school?	50(62%)	22(27%)	9(11%)	81
Do you have drinking water facility in the school?	81(100%)	0	0	81
Have you ever checked up by the health department?	0	81(100%)	0	81

Source: field survey

None of the children said there is objection from their parents when they eat food at the school. However, there was unhappiness among the children regarding what they get as MDM daily. While 62 per cent respondents (children) said they like to have MDM daily in the school, 27 per cent said they like to have sometimes and 11 per cent do not like to have it. Since same food is provided daily, the children lose interest to have meals at the school. None of the children reported to be receiving any other health services like vaccines, vitamin tablets, etc., from the school.

Parents Response:

Majority of the respondents (58 per cent) have a regular employment either in the government or private sector, the rest 42 per cent of the respondents are self-employed and also daily casual labourer. All the respondents said their children get cooked MDM in the school most of the days in a week. The children are happy with whatever they are getting. On the other hand, there is a big fear among all the parents that hygiene is not maintained while cooking or serving the food.

The major concern among the parents is that sometimes food is stored near the unhygienic place since there is no adequate place to store food. They suggest that, the cooking vessels should be cleaned

properly before cooking and also keep the kitchen and the place of serving food should be properly cleaned. All the respondents (parents) know that, the children of all castes are served MDM together. The respondents felt that, the children of all castes should take meal together and they do not have any objection for such an arrangement.

None of the parents reported that, their children were ever discriminated at school

while MDM is served. None of the parents made any complaint that their children developed any kind of health problem after eating MDM, neither they feel there is any improvement in the children's health status. However, all the 50 respondents (100 per cent) agreed that, MDMS has encouraged people to send their children to school, thereby reducing the dropout rate while simultaneously reducing the child labour in the area.

Question for Parents	Yes	No	Total
Did your child develop any health problem after eating MDM?	0	50(100%)	50
Is there any health improvement in the child after eating MDM?	0	50(100%)	50
Has MDM encouraged people to send their children to school?	50(100%)	0	50
Has MDM reduced dropout rate	50(100%)	0	50
Is there decline in child labour in the area?	50(100%)	0	50
Do you feel that, your children are able to get adequate food through MDM?	34(68%)	16(32%)	50
Have you been enlisted in BPL category	20(40%)	30(60%)	50

Source: Field survey

All the respondents know that there is a Parent-Teacher Association (PTA) to look after the MDM programme, but the parents feel, PTA performs no role. The parents do not refer to concerned officials in case if there is any irregularity in the MDM programme, as they feel it is fruitless. On

the other hand, none of the parents have any knowledge of concerned officials visiting the programme implementation.

Teacher's Response:

Total 25 teachers were interviewed in order to stimulate information regarding the quality of food providing, the official

co-operation that they receive, problems they face during the implementation, and the effect of MDM on teaching. Starting with the menu for MDM, the District Social Welfare Officer (DSWO) is delegated to decide the menu but it is same type of food on all the days food is provided to the children.

It was also revealed that all the teacher respondents' teachers were involved in the

MDM process. All the teachers reported to have been assisting both in supervising as well as cooking. The major reasons cited was, since the cook and helper are under paid, (Rs. 200/- and Rs. 100/- respectively), generally they do not come for cooking the food regularly, and therefore the teachers have to take up the responsibility.

Question for Teacher	Yes	No	Can't Say	Total
Are you involved in MDM process in the school level?	25	0	0	25
Do you decide the menu for MDM?	25	0	0	25
Do you cook for MDM?	17	8	0	25
Do you feel MDM disrupts teaching process?	25	0	0	25
Are you satisfied with the infrastructural facility in your school?	0	25	0	25
Do you have idea that when MDM started in your state?	25	0	0	25
Do you receive all support in time?	25	0	0	25
Do officials monitor the scheme regularly?	17	8	0	25
Do you feel that MDM has increased enrolment?	20	2	3	25
Do you feel that MDM can fulfill child right to food?	25	0	0	25
Has MDM reduced dropout rate?	20	4	1	25
Has MDM increase attendance of the students?	21	3	1	25
Has MDM increase retention level of the students?	21	3	1	25
Do you feel MDM enrich the achievement of the students?	20	3	2	25

Source: Field survey

Regarding the quality of food grain received for MDM, the teachers are divided in their opinion between average (50 per cent) and poor (50 per cent) quality of food. But certainly, they feel that the food grain received is not of good quality. None of the school has a separate kitchen and all of them cook food in open spaces in the school compound. Further, none of the schools have separate store room or enough space for keeping provisions for MDM. Therefore, for the safe upkeep of the food grains classrooms are used. All the respondents are unanimous in their response as the cook is being appointed by the Gram Panchayat in consultation with the Head Master of the concerned school. The most important observation is that all the teachers felt that MDM grossly disrupts teaching and learning process. Nearly all the teachers agree that there is increase in enrolment and decrease in dropout rate due to the scheme. The reasoning behind is poor quality of food, irregularity in distribution of meals, inadequate amount, etc. All the respondents (100 per cent) felt that MDM

is good and it can provide the children with a basic nutritious meal. They also reveal that there is no opposition from anybody to the MDMS. The Teachers reported that the officials of the Education department inspect the school education regularly and also inspect the MDM programme implementation at the school level.

Cook's Response:

In this category a total of eight (13) respondents (one from each school) were interviewed. In all the study schools none of the school has a separate kitchen or separate storage facility. All the schools use firewood for cooking, which they don't get in time creating inconvenience for cooking food. The cooks follow the headmaster and the governments' instruction regarding the specific menu for the day. It is reported that food is left over most of the days which is thrown away. In all the cases, the cooks are having one helper to assist in cooking and serving of MDM (but the cooks said that helpers usually do not come to the schools due to less remuneration).

Question for Cooks	Yes	No	Can't Say	Total
Do you belong to reserved cast?	13(100%)	0	0	13
Do you have separate kitchen for the school?	0	13(100%)	0	13
Do you get assistance from the school teachers?	13(100%)	0	0	13

Are you happy with the staffs for MDM?	0	13(100%)	0	13
Do you feel that MDM can fulfill child right to food?	13(100%)	0	0	13
Do you get co-operation from the official when demand?	6(46%)	4(31%)	3(23%)	13

Source: Field Survey

Mid-day Meal Programme and Academic Achievement of Students: A Non-Parametric Analysis

The present study has attempted to make an assessment of perceptions of the teachers and school authorities about the role of mid-day meal program in academic performance of upper primary level school's students in terms of non-parametric Chi-square analysis. The opinions of the respondents collected from the field survey can be expressed in the following table.

Type of area * do you feel MDM enrich the achievement of the students? Cross tabulation

			Do you feel MDM enrich the achievement of the students?			Total
			YES	NO	Can't Say	
type of area	urban	Count	12	0	0	12
		% within type of area	100.0%	.0%	.0%	100.0%
	rural	Count	11	1	1	13
		% within type of area	84.6%	7.7%	7.7%	100.0%
Total		Count	23	1	1	25
		% within type of area	92.0%	4.0%	4.0%	100.0%

Source: field survey

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.007	2	.036
Likelihood Ratio	2.776	2	.250
Linear-by-Linear Association	1.719	1	.190
N of Valid Cases	25		

It should be noted that the observed value of Chi-square (χ^2) i.e., 2.007 is more significance, therefore the null hypothesis is rejected. So, we can conclude that there exists no doubt about significant association between mid-day meal

program and academic performance of students. This view is similar to the study of Dreze & Goyal (2003) which indicate that there is strong association between mid-day meal program and academic achievement of students

Mid-day Meal Programme and School's enrolment of Students: Students t-test Analysis:

Group Statistics

	type of area	N	Mean	Std. Deviation	Std. Error Mean
Do you feel that MDM has increased enrollment?	urban	12	1.00	.000	.000
	rural	13	1.85	.689	.191

Source: field survey

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Do you feel that MDM has increased enrollment ?	Equal variances assumed	17.95	.000	-4.249	23	.000	-.846	.199	-1.258	-.434
	Equal variances not assumed			-4.430	12.0	.001	-.846	.191	-1.262	-.430

The above table indicates that although there exists little variation regarding mean and S.D. of urban and rural students, but in respect of t-test the calculated value of t (i.e., 4.43) is highly significance because p-value is 0.001 which is less than 0.05.

Therefore, the rural students have been benefitted more than the urban students in terms of effect of MDP on enrolment taken into consideration all the surveyed upper/lower primary schools in different district in Odisha

Mid-day Meal Programme and Daily School's attendance of Students: Students t-test Analysis:

Group Statistics

	type of area	N	Mean	Std. Deviation	Std. Error Mean
Has MDM increase	urban	12	1.42	.669	.193
	rural	13	1.00	.000	.000

attendance of the students?					
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Source: field survey

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Has MDM increase attendance of the students?	Equal variances assumed	36.52	.00	2.251	23	.034	.417	.185	.034	.800
	Equal variances not assumed			2.159	11.0	.045	.417	.193	-.008	.841

The above table indicates that although there exist a little variation regarding mean and S.D. of urban and rural, but in respect of t test the calculated value of t (i.e., 2.159) is still larger than the tabulated value at 5 % and 1% level of significance. Therefore, the incremental benefit of mid-day meal scheme in terms of daily attendance is more in case of rural students than urban students of the surveyed upper/lower primary schools in different district in Odisha.

Mid-day Meal Programme and Retention of Students: Students t-test Analysis:

The students at every stage of education are expected to pass the examination after finishing the whole course. But it has been found that in general practice many students are not able to pass the examinations in one class or in more than one class within the prescribed period. Thus, they fail and remain in the same class. These failed students repeat the same class and course whereas their other

colleagues pass that class and study in the next upper class. This process has been called the **process of retention**. Thus by retention or stagnation it is meant the stay of students in a particular class for more than one year on account of his unsatisfactory progress. According to the Hartog Committee reports, "*By stagnation*

we mean the retention in a lower class of a child for a period of more than one year. Of course stagnation always means wastage". Let us now examine the effect of MDM program on stagnation or retention of students in the same class for more than one year.

Group Statistics

	type of area	N	Mean	Std. Deviation	Std. Error Mean
Has MDM increase retention level of the students?	urban	12	1.50	.798	.230
	rural	13	1.08	.277	.077

Source: field survey

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper

Has MDM increase retention level of the students ?	Equal variances assumed	16.97 3	.00	1.80	23	.085	.423	.235	-.063	.909
	Equal variance s not assumed			1.74 3	13.4 3	.014	.423	.243	-.100	.946

The above table indicates that there is no significant difference of average values of retention i.e., mean and S.D. of urban and rural students, but in respect of t test the calculated value of t (i.e., 1.74) is still larger than the tabulated value at 5 % level of significance. Therefore, the urban students have less benefitted than rural students in terms of diminishing retention in the studied schools of Different district in Odisha.

Mid-day Meal Programme and Drop out of Students: Students t-test Analysis:

Drop out plays a crucial role in hampering the whole education system in India. It actually indicates wastage in time, money and effort in learner and country as a whole. While clarifying the

meaning of the word in education Hartog Committee remarked the following: "*By wastage we mean premature withdrawal of children from schools at any stage before completion of the primary courses*". This statement does not mean there is no wastage in the Secondary Course and Higher Course. Any student, who receives education at any stage, is expected to complete his education with the prescribed period. If one withdraws from the course before completion, then that individual or individuals are deemed to be wastage to the course. MDM program has an important role to play in reducing the dropout rate in the school. The following table explains the attitude of students on drop out as beneficiaries of MDM program.

Group Statistics

	type of area	N	Mean	Std. Deviation	Std. Error Mean
Has MDM reduced dropout rate?	urban	12	1.67	.778	.225
	rural	13	1.15	.376	.104

Source: field survey

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Has MDM reduced dropout rate?	Equal variances assumed	11.04	.003	2.125	23	.035	.513	.241	.014	1.012
	Equal variances not assumed			2.070	15.57	.042	.513	.248	-.013	1.039

Table 6 depicts the calculated values of mean, S.D. and t-values of drop out of urban and rural students. This means that although there exists little variation regarding mean and S.D. of urban and rural girls, but in respect of t value (i.e., 2.07), the estimated value is larger than the tabular values both at 5 % and 1% level of significance. Therefore, there is no doubt to say that rural students is benefited more :

in case of diminishing drop out by MDM, taken into consideration all the surveyed schools in Different district in Odisha.

Mid-day Meal Programme and Academic Achievement of Students: Multiple Regression Analysis:

The regression result of academic achievement of students depending on selected variables is shown in table below

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.627	.745		.842	.410
	Has MDM reduced drop out rate?	.344	.217	.318	1.583	.129
	Has MDM increase retention level of the students?	-.048	.217	-.048	-.221	.827
	Do you feel that MDM has increased enrolment?	.289	.204	.306	1.412	.173
	Has MDM increase attendance of the students?	.141	.257	.115	.548	.590

Dependent Variable: do you feel MDM enrich the achievement of the students?

It is clear from table that the coefficients of enrolment, attendance of students and reduction in dropout are found to be positively associated while the other coefficient i.e., retention of students is negatively correlated to the academic achievement of students due to MDP. That means that the more the success of MDP, greater would be enrolment, reduction in dropout of student and attendance potentiality and lower will be the retention of students which again leads to greater achievement of students in upper/lower primary level of schools and so on. The latter is due to the increase of attentiveness of students of study in the classrooms

which affects their performance. On the other hand, the availability of cooked food for students is found to exert positive influence on their academic achievements. This is so because, most of the poor students come school in almost empty stomach as their parents goes out for work in the morning and mid-day meal helps as strong substitute for want of home food for children and they can actively do their lessons in the schools (Dreze et al, 2001).

6. CONCLUSION:

The MDM in Orissa is plagued with some critical implementation problems. The complex logistical arrangements and

multi-activity, multi-level co-ordination required to implement the programme lead to frequent delays in delivery of the food grains. In Orissa, the quantity of food grains received by students is below the central guidelines and very low in its quality and far from officially designated amount. In addition, inadequate infrastructure (storage and cooking facilities) and weak monitoring and evaluation contribute to physical losses, illegal diversion of supplies, open corruption and unhygienic cooking practices. It is also observed that food grains are stored in classrooms taking the space for teaching and frequently disturbing the class room processes. Weak monitoring system facilitate, false increase in attendance, not providing either cooked meal or dry ration in the school to the beneficiaries and open theft.

Thus we can conclude that mid-day meal programme (MDM) has had a positive impact in some selective cases (e.g., enhancing enrolment, attendance and lowering retention and drop out of students) which are essential for achieving the higher level of academic performance of students particularly belongs to BPL level students residing in the rural areas of upper primary schools of different district in the state of Odisha. The result of chi-square test revealed a significant association between mid-day meal program and academic achievement of students. The results of multiple regression model further indicated that there has been

significant positive influence on academic achievement of students by taking into consideration the factors – enrolment, attendance, retention and drop out of students. Furthermore, mid-day meal program has some other benefits like removal of classroom hunger, social and gender equality and formation of good habits of students (like washing their own hands and utensils before meal) other than academic achievement in school. But in order to get satisfactory outcomes, mid-day meal program should be incorporated with the ongoing health awareness programs of Government.

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