CHAPTER-II

REVIEW OF RELATED LITERATURE

Review of related literature literally means reviewing already acquired knowledge in a detailed and completely connected way. It is a summary in which, various truths intensively studied are seen as an organized whole, accurately related and well unified. Researcher takes the advantage of the knowledge which has accumulated in the past as a result of constant human endeavour. Research can never be undertaken in isolation of the work that has already been done on the problems which are directly or indirectly related to a study proposed by a researcher. One of the important steps in the planning of any research study is a careful review of the research journals, books, dissertations, theses and other sources of information on the problem to be investigated. It enables the researcher to define the limits of his field and to avoid unfruitful and useless problem areas. The knowledge of related literature makes the researcher up-to-date on the work which others have done and help him to avoid unintentional duplication of well established findings. The review of related literature gives the researcher an understanding of the research methodology, tools and instruments, which have proved to be useful and promising in the previous studies and provides an insight into the statistical methods through which validity of results is to be established. In the words of Best, “A familiarity with the literature in any problem area helps the students to discover what is already known, what others have attempted to find out, what methods have been promising and disappointing and what problems remain to be solved.”

In view of the importance of the review of related research, an attempt was made to analyze the related researches on nutritional status of children and Mid Day Meal Scheme. These studies have been systematically presented in the following section.
2.1 STUDIES RELATED TO MID DAY MEAL SCHEME AND NUTRITIONAL STATUS

Chandrasekaran (1968) observed that supplementation with a school lunch for a period of five months did not show any appreciable improvement in height or weight in the fed children as compared to the non-fed but there was significant improvement in clinical and biochemical status.

Sail (1970) investigated that children in rural areas were physically stunned and their diets were deficient in calories, protein, vitamin A, calcium and riboflavin. A school lunch providing cereal, legume and liberal amount of leafy vegetables could correct the basic deficiencies in the diet of school children.

CARE-INDIA (1977) examined the impact of school feeding on enrolment and attendance in Karnataka and found that the mean percentage of attendance increased. Absenteeism not only decreased but the Mid Day Meal Scheme also produced stability in attendance and increased the enrolment rate by 4%.

Yeli (1979) reported that most of the pre-primary schools in Karnataka did not have their own buildings and the situation was even more acute in the rural schools and those in hill stations. Almost all the schools did not possess playground, garden and modern amenities necessary for any pre-primary school. Many schools did not have proper facilities for indoor activities and library facility for teachers. Mid day meals were provided for children in the schools while the provision of milk existed in the schools in hill stations and in the urban schools.

NCERT (1981-82) conducted a study on 13 States implementing CARE supported Mid Day Meal Programme to access the impact of Mid Day Meal Scheme in terms of increase in school enrolment and reduction in drop-out and repetition rates of the children. The study came out with conclusions that the policy on coverage of Mid Day Meal Programme
(CMDM) varied from State to State. This variation had important bearing on the relationship between total enrolment rate/ line enrolment rate and percentage of beneficiaries. Some States had their own Mid Day Meal Programmes, apart from CARE supported programme. There was evidence that Mid Day Meal Programme helped in bringing more children to schools. Retention of girls and SC/ST children at the primary stage was lower than total retention. Retention rates were more strongly related to socio-economic variables than educational variables. Impact of Mid Day Meal Programme on Retention Rates of SC/ST (RRS) was not evidenced. However, RRS means in Karnataka had higher values for higher intensity of Mid Day Meal Programme.

Rao (1983) found overall significant improvement in attendance and deterioration in academic standards after the introduction of Mid Day Meal Programme.

Verma (1986) pointed out that the factors like illiteracy and poverty of parent’s, inadequate teaching staff, single teacher schools and lack of accommodation were responsible for low enrolment of students at elementary stage in the tribal areas of Himachal Pradesh. The study suggested that there should be provisions of co-curricular activities in every district, scholarships, free text books and mid day meals which would lead to high enrolment at elementary stage.

Sharma (1989) in his study on problems of educational administration in Himachal Pradesh with special reference to primary education revealed that due to financial problems it is impossible to provide the students free text-books, writing materials, free uniform and free school lunch or mid day meals.

Pollitt (1990) has recorded the following conclusions based on review of studies on the relationship between nutrition and education.

- Nutrition is an important determinant of educational performance and potent resource to decrease educational wastage.
• The school feeding programmes in developing countries resulted in an increased attendance among recipients. This increase may have significant educational benefits in the long run as it ensures the exposure of the students to the materials taught in school.

• There is no information regarding the cognitive effects that may result, among undernourished children from going to school without having had a meal after an overnight fast.

**Lockheed, Vespoor and Associates (1991)** has studied the following aspects of children’s nutritional status and school indicators such as enrolment, grade attainment, absenteeism, achievement test scores, general intelligence and performance on selected cognitive tasks including concentration in classrooms from the extracts of different studies and the reported that:

1. Protein-Energy Malnutrition (PEM) is generally caused by a deficient diet, may be exacerbated by the child’s parasite load, and is almost accompanied by poverty. All nine of the studies reviewed by Pollitt (1990) reported a significant relationship between protein-energy nutritional status and cognitive test scores or school performance in China, Guatemala, India, Kenya, Nepal, the Philippines and Thailand.

2. One study found that Kenyan children who were comparatively well nourished had higher composite scores on tests of verbal comprehension and intelligence than children who were less nourished (Sigman & Others, 1989).

3. Similarly, in the Philippines, pupils with good nutritional status had significantly higher academic performance and mental ability than pupils with poor nutritional status, even when family income, school quality, teacher’s ability, and mental ability were controlled (Florencio, 1988).
4. Children who were temporarily hungry typically as a result of not eating breakfast are generally more easily distracted from their school work than those who have eaten (Pollitt & Others, 1983).

5. Three micronutrients generally affect the school performance: iodine, iron and vitamin-A (Bautista & Others, 1982).

6. Research in Java showed that iodine deficient children over the age of nine performed less on the tests of intelligence, motor skills, concentration, perception, dexterity and response orientation than a matched iodine-replete population (Querido & Others, 1974).

7. Iron deficiency is likely to affect a child’s alertness, which in turn affects attention and learning (Pollitt, 1990). Iron deficiency also impairs the higher cognitive processes, such as conceptual learning of pre-schoolers (Popkin & Ybanez, 1982).

8. Vitamin-A deficiency can impair the academic performance by increasing night blindness and limiting their field of vision (especially peripheral vision). Vitamin-A deficiency has recently been linked to morbidity and mortality caused by diarrheal and respiratory diseases, even in children without clinical signs of the deficiency (Sommer; Katz & Tarwotjo, 1984).


10. Supplementing iron, iodine and Vitamin-A should be given a high priority where deficiencies of these micro-nutrients are prevalent. Regardless of the treatment (fortification, supplementation or de-worming), reducing iodine, iron and Vitamin-A deficiencies is particularly cost-effective because the learning deficits related to them are both serious and reversible (Pollitt, 1990).

**National Institute of Nutrition, Hyderabad (1991)** Summary of comments of study by National Institute of Nutrition, Hyderabad
indicated that analysis of anthropometric and clinical data have shown that nutritional status of the children in schools covered by the Mid Day Meal Programme (MDMP) in most of the States are relatively better when compared to children with non Mid Day Meal schools. The impact of Mid Day Meal Programme on enrolment is difficult to pinpoint. However, comparisons of retention rates and drop-out rates between MDM and non MDM schools showed a favourable status in MDM schools. Impact on scholastic performance though based on crude criteria, suggested positive impact in most of the States. The constraints of the inputs were short supply of food, interruption and inferior quality of food (occasional), lack of transport, inadequate facilities for storing, cooking, low contingent and honorarium amounts. Notwithstanding some of these problems, the results of present study indicated that the programme is not without benefits. The Mid Day Meal Programme has immense potential to improve the nutritional as well as the educational status of the children provided the programme is strengthened by increasing the inputs and removing the bottlenecks observed.

Diwan (1992) observed that in some places the provisions of free textbooks and mid day meals have not drawn expected results.

Levinger (1994) has studied the impact of School Feeding Programmes (SFPs) on school attendance, enrolment and performance. The study revealed that comparison was made between fed and non-fed schools under fifteen programmes in Columbia, Kenya and the Philippines. SFP was found to be “effective on attendance” in three programmes. In ten programmes, SFP was considered “probably effective on attendance” and in the remaining two programmes, SFP was considered “ineffective on attendance”. School Feeding Programmes are more effective in stable, poorer and rural areas. Impact of any School Feeding Programme is a function of the interaction between the environment in which it operates and the features incorporated into its design. SFPs can reach their full potential for stimulating cognitive development only when they are
developed as part of a broader intervention to address developmental lapses or deficiencies in students. Where SFPs can be designed to have an impact on nutritional status, impact on attendance and performance will be achieved. School-aged child’s nutritional status exerts significant influence on his academic performance.

**Tara Consultancy Services (1994)** has provided extracts from evaluation of the ‘Improved Mid Day Meal Programme’ in Gujarat and concluded that nearly 75% of the schoolers in slum Baroda were affected with Protozoal (E. histolytica) infections and/or helminthic (round worm) infections. The former was about 50-55% and the latter 22-55%. The findings clearly indicated that blanket de-worming is a must for these underprivileged schoolers whether or not the State has a Mid Day Meal Programmes.

**Baskran (1995)** in his study entitled, ‘The Impact of Mid Day Meal Programme among SC Students of Primary Schools in Thiruvalur Taluka, Tamil Nadu’ found that introduction of Mid Day Meal Scheme was one of the important factors for improving enrolment of SC students in schools. Number of drop-outs was below 10% and good nutrition helped SC students to learn what the teacher teaches in the classroom.

**National Council of Educational Research and Training (2000)** reported that the noon meal scheme of Tamil Nadu and supply of food grains in Uttar Pradesh have helped to improve the enrolment and retention of girls in schools.

**Benton (2001)** reported that many studies have considered the influence of micro-nutrient supplementation on the intelligence of children. Earlier studies prevented the drawing of conclusions as they did not systematically approach the topic. However, over the last 10 years, a series of studies have compared the impact of supplementation on either verbal or non-verbal measures of intelligence. In 10 out of 13 studies a
positive response has been reported, always with non-verbal measures, in at least a sub-section of the experimental sample.

**Morris & Sarll (2001)** found that low blood sugar level resulting from fasting has been shown to reduce performance on a number of cognitive tasks. It was concluded that missing breakfast does not seriously affect blood sugar levels in healthy young students, but listening span performance which is a good predictor of listening comprehension is improved when fasting individual imbibe a glucose rich drink.

**Centre for Equity (2003)** A study by the Centre for Equity in Chhattisgarh, Rajasthan and Karnataka underlies the positive impact of Mid Day Meal Scheme. The major findings of the study revealed that Mid day meals were in place in all three sampled States. In 76 out of 81 schools, investigators found that the mid day meal was regularly being served. In the 5 problem schools, temporary bottlenecks were observed. However, aside from the stray instances, the programme runs smoothly in all the three States. Facilities available for the programme like cooking sheds, water supply, utensils and so on – vary between different States and districts, and are in many cases, unsatisfactory. However, the meals are usually ready by mid day. In Rajasthan, *ghoogri* is served every day. *Ghoogri* is a gruel made from boiled wheat mixed with *gur* (jaggery). In Chhattisgarh, lunch usually consists of rice and dal or vegetables, with a bit of variation during the week. Karnataka boasts the best menu; apart from rice and *sambhar*, school children enjoy vegetables, *Pongal*, lemon rice and even sweets like *Kshira*. Some poor households described the meal as “festival food”. There is a major improvement on school enrolment during the 1990’s, which was about 2%. A bulk of the increase is likely to a reflection of the impact of mid day meals. There is plenty of informal evidence to suggest that mid day meal improves daily school attendance, not just annual enrolment. Teachers reported that this programme makes it easier to retain children in school after the lunch break, since children who go home for lunch often do not return to
Providing the children mid day meals puts an end to the phenomenon of “classroom hunger” which invariably affects their performance. The experience so far clearly shows that mid day meal programme has much to contribute to the well being and future of Indian children. Financial allocations need to be raised and the infrastructure for Mid Day Meal Programme requires urgent improvement. Mid day meal could disrupt classroom processes when the infrastructure is inadequate for instance, in schools that have no cooking sheds and mid day meals are often cooked close to the classrooms.

Operations Research Group (2003) has evaluated the Mid Day Meal Programme in collaboration with UNICEF, for ten States of India. The study reported that while in Assam, Madhya Pradesh, Uttar Pradesh and West Bengal there has been a boost to enrolment. In Gujarat, Haryana, Jammu & Kashmir, Karnataka, Orissa and Rajasthan the programme has made positive impact on attendance and retention particularly amongst girls.

Upadhay (2003) found that locating anganwadi in primary school was found very effective and enrolment and retention of children in primary classes got a boost with linkage between ECCE and primary education.

Agrahar (2004) conducted a study on the nutritional status of 222 Khasi girls (Meghalaya) within age groups 4 to 6, 7 to 9, and 10 to 12 years and observed that heights of girls ages 7 to 9 years and 10 to 12 years and weights of all girls were significantly ($P < 0.05$) lower than the reference values for height (126.4 and 142.7 cm) and weight (19, 26.9, and 31.5 kg), respectively. The lowest $Z$ scores ($-1.5$ to $-1.0$) and percentiles ($10^{th}$) for body mass index were seen in 12 years old girls. Most girls 7 to 9 years had grade I malnutrition. Girls 10 to 12 years had the highest incidence of moderate malnutrition. Severe stunting was observed in all groups. Average energy consumption was significantly ($P < 0.05$) lower than the recommended dietary allowance in all the age groups. Consumption of protein by children ages 7 to 9 years and 10 to
12 years was also significantly lower than the recommended dietary allowance. Consumption of calcium, iron and carotene in children 10 to 12 years old was significantly ($P < 0.05$) lower than the recommended dietary allowance. Sociologic community factors are required to facilitate implementation of a nutritional package and availability of key nutrients to ensure growth in children.

Grewal et al. (2004) in their research paper entitled, ‘Nutritional Status of Rural Punjabi Children’ found that the nutritional status of boys and girls was comparable in all the zones except in Sub Mountain Region where girls were observed taller than boys in both low and middle socio-economic levels. In the category of low socio-economic level, the percentage for nutritionally normal boys and girls was lower than percentage for mild and moderate malnutrition. None of the child from low and middle socio-economic level was found severely malnourished.

Misra and Behera (2004) conducted a study entitled, ‘Child nutrition and primary education: a comparative study of Mid Day Meal Programme in Orissa and Tamil Nadu’ and reported that between pre-MDM period (1989-90 to 1994-95) and post-MDM period (1995-96 to 1998-99), there was an improvement in average annual growth rate of enrolment, percentage point increase in attendance and retention rate, and percentage point decline in drop-out rate in post-MDM period in Orissa as compared to Tamil Nadu, where all the parametric functions of education were on the favourable side due to long existence of the programme (since 1956). Inspite of the educational development realized through Mid Day Meal Programme, several socio-cultural, administrative, managerial and financial factors affected the Scheme’s effectiveness in both States. It is widely accepted that it would be unwise to scrap the national programme altogether as suggested by certain sectors. However, downsizing the programme through appropriate organizational and operational measures is being considered. There is also a strong belief that though different preschool nutritional programmes can be merged
among themselves, there is very little room for merging them with Mid Day Meal Programme. The preschool and primary school nutritional programmes are to continue as separate programmes for the benefit of the children.

**Parikh and Yasmeen (2004)** reported that free mid day meals for school students were first introduced in a Japanese private school in the late 1800s, in Brazil in the year 1938 and in the United States in the year 1946. Seeing the experiences of countries like Brazil, the United States and Japan, the Mid Day Meal Scheme should not be discarded by the government in India.

**Thorat and Lee (2004)** conducted a study at Indian Institute of Dalit Studies (IIDS), New Delhi and found that Uttar Pradesh and Bihar, where one third of India’s dalits live, deny dalit and other poor children access to their legislated entitlements from the very beginning, by simply refusing to implement the shared, cooked Mid Day Meal Scheme. The distribution of dry grain to government school children under the Mid Day Meal Scheme takes place in dominant caste localities and employment of dalit cooks is problematic in Rajasthan and Andhra Pradesh.

**Afridi (2005)** studied the institutional and financial organization of the Mid Day Meal Scheme in Karnataka and Madhya Pradesh. In the context of Madhya Pradesh, the report argued that the implementation of the programme is improving, but there is a lot that needs to be done, especially regarding quality of food. The new initiative of ‘Suruchi Bhojan Programme’ is more attractive and nutritious as it provides higher calories in comparison to the earlier ‘Daliya’ Programme. Parents are more satisfied with ‘Suruchi Bhojan Programme’ as compared to Daliya programme. Only 30% parents preferred distribution of dry ration to the Suruchi Bhojan programme. Parent Teacher Associations needed to be strengthened. In the context of Karnataka, the report argued that Akshara Dasoha, the Mid Day Meal Programme has been more planned
& better managed. Iron and folic tablets as well as de-worming tablets have been regularly provided. Good community participation and School Development & Managing Committees are functioning well. Meals are provided regularly and quality of meal is satisfactory.

**Blue (2005)** assessed the impact of mid day meal on tribal communities and subsistence farmers in rural Udaipur and revealed that cooked mid day meal had become a permanent part of the daily routine of rural primary schools in Udaipur. There were efforts in introducing variety of menus. Mid Day Meal Scheme is helping to improve the nutritional needs of poor children. Enrolment and attendance had increased.

**De et al. (2005)** in a study of Mid Day Meal Scheme (MDMS) in Delhi found that MDMS was officially implemented on 1st July, 2003 in only 410 Municipal Corporation of Delhi (MCD) schools. In the next phase, starting from September 2003, more schools were brought under the Scheme, and all schools were covered since April, 2004. Municipal Corporation of Delhi began with as many as 72 suppliers, which was whittled down to 56, then to 32 and presently consists of only 11 NGOs (non-government organizations), running 13 kitchens. The quality of rajma and vegetable pulao has not been upto the mark. Parents were never allowed to taste the meal distributed and hygiene was seldom maintained in the case of MDMS. Some teachers preferred dry food instead of cooked meal and most of the schools lack adequate infrastructure (including toilet facilities) for the successful implementation of MDMS. Serving of mid day meal by various contractors under the disguise of NGOs has become a business venture. A few school children found the food very unattractive and some said that eating the food made them ill. Some parents felt that the food served was not sufficient for growing children.

**Jain and Shah (2005)** carried out a survey in 70 most backward villages of Madhya Pradesh and found that 90% of the teachers and cooks said that the meal is provided regularly. 96% of the parents felt
that the Scheme should continue. They also felt that it had ended classroom hunger. 63% of the parents felt that meal has positively affected the learning abilities of school children and 74% of the teachers said that it has positively affected the students. Overall there was a 15% increase in enrolment. Moreover the increase was marked in the case of SC and ST children (43%). The rise in the enrolment of girls was 38%, out of this the increase in enrolment of SC and ST girls was 41%. While 60% of the parents felt that the meal was good or very good, only 10% felt that the meal was not satisfactory. However there were inter-regional variations. In Tikamgarh, 45% of the parents felt that meal was bad. The report also indicated that there is huge improvement in the quality of meal.

Kumar (2005) in his study ‘Effectiveness of National Programme of Nutritional Support to Primary Education (MDM Scheme) in District Hamirpur of Himachal Pradesh: An Evaluative Study’ concluded that minimum enrolment of students from classes I-V was found in session 2005-2006 in these selected government primary schools relative to the previous three sessions. Neither cooked nor uncooked meal has given positive indication in this direction. There is no help received on the part of local people regarding the implementation of Mid Day Meal Scheme. The State sponsored menu of Kichri and vegetable pulao combination for Mid Day Meal Scheme was totally neglected by the teachers due to heavy wastage of the meal.

Mathur (2005) in her study entitled ‘Situation Analysis of Mid Day Meal Programme in Rajasthan’ revealed that introduction of menu based Mid Day Meal Programme has positively impacted enrolment and daily attendance of children. Cooked mid day meal has reduced classroom hunger especially those belonging to underprivileged sections. Cooked mid day meal has also contributed to the cause of social equity as children from different social groups sit together to share a common
meal. 67% of the parents interviewed, felt that the quality of mid day meal is satisfactory. 85% parents felt that the Scheme should continue.

**Naik (2005)** in the report entitled ‘Report on Akshara Dasoha Scheme of Karnataka’ found sharp rise in enrolment particularly in the rural areas. The programme has made positive impact on teacher absenteeism. Mid day meal is served regularly and schools supplied de-worming tablets, vitamins and iron tablets. No discrimination was found with respect to serving and eating of food on the basis of caste etc. 72% of the parents felt that their children had gained weight because of Mid Day Meal Programme and 59% of the parents felt that their children suffered less from common ailments like cold and cough. More than 90% of parents were satisfied with the scheme. 95.5% of the children felt that the food was tasty and 90% said that drinking water was available. 95% of the children felt that their concentration had improved.

**NCERT (2005)** inferred that children covered under Mid Day Meal Programme have higher achievement level than those who were not covered under it. It is further stated that Mid Day Meal Programme is a better managed programme than many other schemes.

**Noronha and Samson (2005)** in a survey of 12 Mid Day Meal schools undertaken in Delhi found that school children in all the schools are getting cooked food. 53% of the parents said that they were happy with the quality of meal. Impact on attendance is likely to be more on girls who come without breakfast. Availability of drinking water is a problem and some children leave the school to drink water at home and do not return back. There is an urgent need to disseminate information about Mid Day Meal Programme among parents, especially its nutritional value and the ill effects of poor nutrition and health status.

**Pratichi Trust (2005)** conducted a study in West Bengal and found that the Mid Day Meal Scheme (MDMS) was started in some 1,100 primary schools in five districts (Murshidabad, Birbhum, Bankura, Paschim Midnapore, and Jalpaiguri) and extended to some other
districts. A total of 5,200 primary schools were covered under the programme till March 31, 2004. Only a few of the richer households, mainly of caste Hindu background, were against the continuation of the MDMS. There were a handful of upper caste children, who in unison with their parents’ inhibition towards the meal showed their disliking towards the cooked meal. Some children highlighted the need for a change in the monotonous menu of khichuri (made of boiled rice, pulses, turmeric, little oil and local vegetables) everyday. Inadequate salaries were paid to the cooks and in most of the schools, it was reported that the conversion cost was found too inadequate to make a proper meal. The scope for involving the parents in the process of implementation of the programme was very limited.

Rana (2005) in her study ‘Utilization of Resources at Primary Stage in Himachal Pradesh’ revealed that in all the sampled schools there was provision of cooked mid day meals. Majority of the teachers were against the Mid Day Meal Scheme whereas, all the students were found to be satisfied with the food provided in the schools. Majority of the teachers wanted that the mid day meal should be provided in raw form and not in cooked form. The main reason for not being in favour of Mid Day Meal Scheme was that it is an extra burden on the teachers. Students pay more attention towards eating rather than to studies and it is very hectic to keep daily records. The suggestions given by most of the teachers for making Mid Day Meal Scheme more effective was that either there should be separate staff for maintaining the records or this Scheme should be handed over to some other agency.

Zaidi (2005) reported that since the Supreme Court says that the onus to monitor the implementation of the Scheme essentially lies with the Central government, as it is the Central government that is providing assistance, it is important that leakages from the Mid Day Meal Scheme should be stopped at all cost. The quality of cooked meal served needs to be enhanced. More allocation of funds for Mid Day Meal Scheme would
be able to attract students in the Sarva Shiksha Abhiyan (SSA) and increase retention in schools.

**Gangadharan (2006)** in a study of Mid Day Meal Scheme (MDMS) (termed as noon-meal scheme in Kerala) running in Kerala reported that the physical facilities for Mid Day Meal Scheme were available only in 50% schools; 94% schools were depend on firewood for cooking; separate building for kitchen outside classrooms were rare; adequate space was 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 average annual financial deficiency in schools is around 15%. Schools with less number of students have higher per day student expenditure. The Panchayati Raj Institutions (PRIs) have yet to show active interest in the management of the programme. The average MDMS enrolment rate was between 85 and 95 percent. There is a demand that the menu should be improved and made more attractive. 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. Storage provisions were rarely available in most of the schools and the cooks engaged in schools were untrained, inexperienced, aged and educationally under-qualified. There is need for continuous monitoring which is not there now. The undue delay in the transfer of contingency fund to schools had literally killed the enthusiasm of the programme managers. Noon Meal Scheme Committee is not functioning effectively due to various reasons. The Head Master is taking the lead role and ensures that noon-meal is served to students.

**Gupta (2006)** in her study on ‘Effectiveness of National Programme of Nutritional Support to Primary Education (MDM Scheme) in District Shimla of Himachal Pradesh’ concluded that a large majority of teachers responded that Mid Day Meal Scheme is helping to achieve the goal of universalization of primary education. No improvement was noticed in academic achievement of the students after the introduction of the hot
cooked Mid Day Meal Scheme. Studies got disturbed due to this Scheme because a major portion of the teachers’ teaching time is consumed in the maintenance of accounts and buying of food ingredients.

Kanani and Gopaldas (2006) studied the nutritional status of under-privileged Mid Day Meal (MDM) Programme beneficiaries in India and the contribution of MDM to their home level nutrition intake. The 50th percentile of weight, height and arm circumference of subjects corresponded with only the 5th percentile of Indian national norms. By Waterlow’s classification about one-third were ‘stunted’. ‘Wasting’ afflicted more 10–15 year olds than 5–9 year olds. Anemia (Hb<11g/dl) was present in 73% boys and 67% girls. Eleven per cent boys and 4% girls were classed as ‘active cases of xerophthalmia’ (night-blindness with conjunctival lesions). Parasitic infestation was detected in 44% boys and 35% girls. It was consumed less by the older (Std V–VII) than younger (Std I–IV) children and it also contributed less calories, protein, iron and retinol (as percent of RDA) to the older child’s intake. The home diet of subjects provided less than 25% RDA of retinol for 67% boys and 72% girls, the deficit being more prevalent in 10–15 than 5–9 years old. Iron and calorie intake was also inadequate. Mid day meal increased retinol intake marginally to about half the RDA for younger, and to only one-third the RDA for older children. Iron intake was brought upto 75% RDA, except in 10–15 year old girls (48% RDA). Thus, the older MDM beneficiaries, who have a poorer nutritional status and receive less MDM, need a higher allocation of MDM ration.

Lath (2006) critically analyze the Mid Day Meal Scheme and the school health clinic programme being implemented in Mumbai by the Municipal Council of Greater Mumbai and found that the Mid Day Meal Scheme definitely adds an incentive to the students to go to school. It needs to be tweaked in the right places so as to fulfill the objective of providing nutrition to the children. Most parties involved agree that the measures suggested by the National Advisory Council will lead to better running of
the Scheme. However, it needs introspection and deliberation on the part of the policy makers as well as implementation agencies in making this scheme a success and incentivize it to motivate children to come to schools.

National Institute of Public Cooperation and Children Development, Karnataka (2005-06) in their annual report concluded that Mid Day Meal Scheme has improved the school attendance in majority of the schools and reduced absenteeism. It has fostered a sense of sharing and fraternity and paved the way of social equity.

Ravi (2006) found that the records at the Department of Public Instruction indicated that school attendance has improved since the introduction of the Mid Day Meal Scheme by 2-10% across Karnataka.

Bisht (2007) in her study on ‘National Programme of Nutritional Support to Primary Education in Tribal areas of Himachal Pradesh: An Evaluative Study’ found that a large number of teachers revealed that Mid Day Meal Scheme is helping in achieving the goal of universalization of elementary education. They suggested that instead of providing cooked meal other incentives should be given and efforts should be made to improve the infrastructure of the government primary schools.

CUTS (2007) studied the implementation of Mid Day Meal Scheme (MDMS) in Rajasthan and found initially, students were distributed boiled wheat supplemented with groundnut and jaggery (Gur) under the Mid Day Meal Scheme. More than 90% parents and students were satisfied with the Mid Day Meal Scheme. Each school is required to send a monthly expenditure statement and vouchers to the Panchayat Samiti, which is supposed to reimburse the amount within 15 days. Only 21% of the schools received the funds every month, in time. The rest got funds in a time ranging from 2 to 6 months (12% got funds once in 6 months). 97% of the teachers reported that they received good quality food grains Mid Day Meal Scheme and only 23% of the schools were able to receive
food grains after getting them weighed before delivery. The absence of a weighing mechanism in most schools makes it difficult to measure the quantity of food grains delivered. Most schools lack adequate cooking and storage facilities. 62% of the cooks interviewed said that the mid-day meal was cooked in the open, which is unhygienic. Teachers are spending close to 20% of their teaching time or more on managing Mid Day Meal Scheme instead of teaching.

**Deodhar (2007)** in his article 'Mid Day Meal Scheme: Understanding Critical Issues with Reference to Ahmadabad City' pointed out that Gujarat started the Mid Day Meal Scheme in 1984 and was the only State after Tamil Nadu to start it so early. The objective was to provide one meal a day to students studying in primary classes (I-VII). It was suggested that providing 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, may 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.

**Fritz (2007)** examined that experimental evidence shows very little to support the belief that intelligence (as measured by intelligence tests) is markedly altered by diet. An organism may show reduced achievement, however, through lack of drive, which in turn may be a function of diet.

**National Institute of Public Cooperation and Child Development, Indore, Madhya Pradesh (2007)** observed that as a result of Mid Day Meal Scheme the school enrolment indicated marked improvement and the Scheme undoubtedly resulted in increased school attendance and facilitated in retention of children in school for a longer period. The Scheme has played a crucial role in reducing drop-out rate,
especially among girls. Parents viewed that the Mid Day Meal Scheme had reduced the burden of providing one time meal to their children and considered it as a great support to their families. Teachers opined that the Mid Day Meal Scheme aided in active learning of children, which indirectly improved their academic performance. The Scheme has played a significant role in bringing social equality.

**Nielsen (2007)** 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 schools and teachers reported that classroom performance of children had improved.

**Robinson (2007)** investigated the implementation of the Mid Day Meal Scheme (MDMS) based on interviews conducted in four districts of Madhya Pradesh (Bhopal, Seoni, Barwani and Sheopur). The key finding was that while the Mid Day Meal Scheme has been widely applied, it clearly suffers from major failures in its execution. Some key issues which were preventing the programme from running smoothly and the children from receiving their mid day meal were vast corruption (from the government officials to the teachers themselves) and the meager amount of money per student is not enough to purchase food as well as depute a cook to prepare it. Parents, who rarely know what they are entitled to, usually do not realize that their children are not receiving as much as they should be; even when they do pick up on this, they do not know where to turn to voice their complaints.

**Vineeta (2007)** in her study ‘Mid Day Meal provide Succour to Andhra Kids’ revealed that mid day meal not only filled children’s empty stomachs but also saved them from starvation and malnutrition. For many children it was the only meal for the day.
Baru et al. (2008) reported that provision of dry rations and biscuits, which were part of the National Programme of Nutritional Support to Primary Education before the Supreme Court order on cooked meals, have shown that children often did not consume these. Although Mid Day Meal Scheme has ensured enrolment but it had little impact on attendance and retention levels.

Kumar (2008) in his research paper reported that most of the teachers teaching in government primary schools of Himachal Pradesh were not in favour 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.

Network for Social Accountability (NSA) (2008) A performance audit of National Programme of Nutritional Support to Primary Education (Mid Day Meal Scheme) was conducted by CAG during 2006-07 through test check of records of the Ministry of Human Resource Development and implementing agencies in 25 States and 5 Union Territories. The report of the CAG brought to public domain in 2008 revealed serious bottlenecks and issues of mismanagement of the Mid Day Meal Scheme. The present NSA Policy Brief tries to reiterate some such issues highlighted by the CAG on the performance of the Scheme. All information used in this policy brief has been taken from Report No. PA 13 of 2008 of the Comptroller and Auditor General of India. Key highlights of the CAG Report on the Performance of the Mid Day Meal Scheme were that Even after more than a decade of running the programme, there are evidences of lack of clarity regarding the objectives to be achieved by the Scheme. Ministry had not assessed the impact of the programme in terms of increase in enrolment, attendance and retention levels of children. The data collected from schools selected for audit did not disclose any definite pattern in enrolment, attendance and retention levels of children over the years. The Ministry has been unable to establish a system of reliable data capture and reporting by the States.
Many States resorted to over reporting of the enrolment while projecting the requirement of funds. There was no system of cross checking the data of enrolment furnished by the State Governments. The audit of the implementation of the Scheme countrywide displayed weak internal controls and monitoring. The provisions for programme evaluation and regular monitoring and inspections in the scheme design, were not effectively followed nor the results analyzed for review of errors and introduction of changes on the basis of lessons learnt. The steering and monitoring committees set up by the Ministry to monitor the Scheme at national and state level did not meet regularly. While at the national level, the committee met only twice since its inception in 2005 against the scheduled five meetings, the states fared even worse. In most of the schools sample checked in audit, regular inspections were not carried out to ensure the overall quality of mid day meal served and basic records such as issue and receipt of food grains, meal quality and evidence of community participation (through village education committees and parent-teacher associations) were not maintained properly. Audit of the implementation of the Scheme in the States disclosed leakages, deficient infrastructure, delayed release of funds and inflated transportation costs etc.

**Ram (2008)** observed very little increase in the enrolment of students in government primary schools of Himachal Pradesh after the introduction of cooked Mid Day Meal Scheme. In 19 schools (76%) no discrimination was noticed by the researcher at the time of distribution of mid day meal but in six schools (24%) the sitting arrangement of students were based on their caste and students from upper and lower Hindu castes do not share common mid day meal jointly in schools.

**Seetharaman (2008)** conducted a study entitled 'Impact of Mid Day Meal on the Nutritional Status of School Going Children.' The study was conducted in the States of Uttar Pradesh and Rajasthan. From each State, two representative districts were chosen. The districts selected
were Lakhimpur Kheri and Sitapur (Uttar Pradesh) and Bharatpur and Jodhpur (Rajasthan). The study concluded that nutritional status of urban children was found to be better than that of rural and slum children. Nutritional status of children was significantly influenced by environmental factors and this held true for all the four districts studied in the two sampled States. The Mid Day Meal did not make any appreciable and significant impact on improving the nutritional status of the children. One important impact was that it reduced the drop-out rate among the girls. The performance of Lakhimpur Kheri in reducing the drop-outs among girls was significant followed by Jodhpur, Sitapur and Bharatpur. Educational achievement of the children was very much influenced by their nutrition, parental as well as home environmental conditions. This was clearly evident in Lakhimpur Kheri followed by Sitapur, Jodhpur and Bharatpur.

Swami Sivananda Memorial Institute (SSMI) (2008) noticed that Ms. Renuka Chowdhury, the Union Minister of State for Women and Child Development, has become keen on public-private partnership for delivering ready-to-eat packaged food in schools instead of cooked meal. Many feel that such a move would lead to intensification of Contractor Raj and would create obstacle towards decentralization. The Ministry has tried to project that hot cooked meal has failed to address malnutrition in order to introduce ready-to-eat packaged food under the Mid Day Meal Scheme.

The Hindu (2008) 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. 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 the country but also destroy our vast cultural 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 causes of underdevelopment and inequity that led to such problems.

Verma (2008) studied the problems of Mid Day Meal Scheme in elementary schools of Shimla district of Himachal Pradesh and found that after the introduction of Mid Day Meal Scheme at elementary level most of the problems have increased at various levels. There was no adequate infrastructure available in the elementary schools for preparation of mid day meals.

ANI (2009) reported that Mid Day Meal Programme has been successful in Uttar Pradesh in getting the rural young boys and girls to attend schools.

Bharadwaj (2009) found that the academic achievement of students studying in Non Mid Day Meal schools (private schools) was significantly higher in all subjects in comparison to students studying in Mid Day Meal schools (government schools) in district Kangra of Himachal Pradesh.

Express News Service (2009) reported that 12 crore (120 million) children are covered under the Mid Day Meal Scheme so far, making it the largest school lunch programme in the world. 20 million children are expected to come under the Scheme by 2020. Above 200 million suffer from hunger in India. A report released as part of the 2008 Global Hunger Index ranks India 66 out of 88 countries. 42.5 per cent of
children under the age of 5 years are under-weight in this country, according to statistics. On November 28, 2001 the Supreme Court issued its landmark direction to expand the mid day meal to all parts of India after Tamil Nadu and Gujarat.

**Gupta (2009)** studied teachers’ and students’ perceptions towards Mid Day Meal Scheme in district Mandi of Himachal Pradesh and concluded that the Mid Day Meal Scheme is helpful in encouraging poor children belonging to disadvantaged sections of the society to attend school more regularly. Lack of interest was noticed on the part of primary school teachers regarding implementation of Mid Day Meal Scheme.

**Hadi (2009)** found that Mid Day Meal Schemes introduced by the Congress government for school going children is showing positive results in Aurangabad in Maharashtra. In Aurangabad alone, the Scheme is currently running in about 296 government aided schools. Almost 24,411 students from the first to the fifth grade and 6025 students from the sixth to the eighth grade are the beneficiaries. Special care is also being taken to provide wholesome food and ensure cleanliness while cooking. The National Programme of Nutritional Support to Primary Education (commonly known as Mid Day Meal Scheme), one of the world’s largest nutritional programmes, covers more than one million schools.

**Kumar (2009)** found that there is decline in average enrolment of students in government primary schools of Himachal Pradesh. The current enrolment of students has increased but up to little extent in comparison to last five years. Average quality of raw material is provided well in time by FCI.

**Kumari, Devi & Rani (2009)** in their study ‘Impact of Mid day Meal Programme in Tribal Areas of East Godwari district of Andhra Pradesh’ found that a majority of the heads of the schools opined that there was considerable increase in the enrolment of the children in schools after the introduction of Mid Day Meal Scheme and the quantity of food served to
the children was sufficient. As regards the quality of food more than half
the number of respondents opined that it was good and the rest stated
that the quality of food needs to be improved. Further, almost all the
respondents stated that there was no wastage of food. All the heads of
the schools taste the food before it was served to the pupils. Majorities
i.e. 68.60 per cent eat in the verandah and 17.1% stated that pupil take
meal in their classrooms itself. The rest take meal in the open ground.
Majority of the respondents also stated that the health of the children
was improved after introduction of the Mid Day Meal Scheme. The heads
of the schools were entrusted with the tasks of verifying the cash, stock
registers and food items. Further, they also supervise the cooking process
to ensure non-contamination of food and cleanliness of the surroundings.
Most heads of the schools suggested that budget per child should be
increased to ensure adequate nutritious meal to the school children.
Further, they expressed that the menu should be changed from time to
time so that repeated food items can be avoided. Some also suggested
that construction of shelters be undertaken so that cooking takes place
in the premises of school. A few suggested that nutritious food with
required calories be provided to ensure better health of school going
children.

**New Delhi (2009)** The overall responsibility to provide wholesome and
nutritious meal to children in schools under the Mid Day Meal Scheme
(MDMS) lies with the State Governments and Union Territory
Administrations. Isolated and sporadic instances of food poisoning or
uneatable material being found in the food do come to the notice of the
Government. Some cases of misuse of food grains and funds provided for
the Mid Day Meal Scheme have come to the notice of the Government
through various sources, like newspaper reports, reports of the
Comptroller and Auditor General of India, Monitoring Institutions etc. As
and when any report regarding misuse of resources provided for the Mid
Day Meal Scheme comes to the notice of the Central Government, the
concerned State Government/UT Administration is asked to conduct a
suitable enquiry into the complaint and to take appropriate action against the responsible person(s) and also to initiate corrective measures to avoid recurrence of such incidents in future. In order to curb possibility of corruption in implementing the Scheme elaborate monitoring mechanism has been prescribed for all levels. In the Scheme Guidelines, emphasis has been laid on transparency such as suo-moto display of information on weekly/monthly basis on (i) quantity of food grains received, date of receipt; (ii) quantity of food grains utilized; (iii) other ingredients purchased, utilized; (iv) number of children given mid day meal; (v) daily menu; and (vi) roster of community members involved in the programme, participation of gram panchayat/gram sabha, members of village education committee, parent-teacher association and local women’s/mothers’ self help groups. Besides, in district level committee public representatives (MPs, MLAs) and elected members of Zila Parishad have also been included to monitor and supervise the implementation of the programme. Officers of States/U T Administrations are required to inspect on an average 25% of the schools every quarter and all schools at least once every year. In addition, States and Union Territories are required to develop a dedicated mechanism for Public Grievances Redressal, which should be widely publicized and made easily accessible.

This information was given by the Minister of State for Human Resource Development Smt. D. Purandeswari, in a written reply to a question, in the Rajya Sabha.

Wikipedia (2009) The Mid Day Meal Scheme (MDMS), like other schemes of government, has been a victim of corruption leakage. Various scams involving Mid Day Meal Scheme have been unearthed since it was started.

- In December 2005, the police had seized eight truckloads (2,760 sacks) of rice meant for primary school children being carried from Food Corporation of India (FCI) godowns in Bulandshahr district of Uttar
Pradesh to North Delhi. When the police detained the trucks, the drivers claimed that the rice was being brought all the way to Delhi to be cleaned at a factory. However, according to the guidelines, the rice has to be taken directly from FCI godown to the school or village concerned. Later it was found that the rice was being siphoned off by a UP-based NGO, Bharatiya Manav Kalyan Parishad (BMKP), in connivance with the government officials.

- In January 2006, Delhi police unearthed a scam in the Mid Day Meal Scheme.

- In November 2006, the residents of Pembong village under the Mim tea estate (around 30 km from Darjeeling), accused a group of teachers of embezzling mid day meals. In a written complaint, the residents claimed that students at the primary school had not got mid day meal for the past 18 months.

- In December 2006, The Times of India reported a scam involving government schools that siphon off food grains under the Mid Day Meal Scheme by faking attendance. The modus operandi of the schools was simple -the attendance register would exaggerate the number of students enrolled in the class. The additional students would not exist -they were "enrolled" to get additional food grains which were pocketed by the school staff. The scam was exposed, when P. Asha Kumari, an assistant teacher at the government model primary school, Jakkur, in Yelahanka acted as a whistleblower. She informed the Lok Ayukta, who conducted a probe and indicted four persons for misappropriation. The whistleblower was harassed by the school staff and requested a transfer. She was transferred to a government primary school at Cholanayakahalli, where she again found the same modus operandi being used to siphon off the food grains. She again complained to the Lok Ayukta, who issued notice to the school.

Bawani and Jcbarcy (2010) in their study entitled, ‘Nutritional status and Creativity among children at the Primary Level’ concluded that the
correlation between head circumference and creativity is positive and significance at 0.05 level. Blood Hemoglobin and Dietary score is significantly and positively correlated with creativity at the 0.01 level. Head size relates mainly to the size of brain. A decreased head circumference is believed to reflect a decreased brain size. Brain is the seat of thinking. Hence activities involving thinking like creativity was found to be significantly correlated with head circumference.

Parida (2010) conducted a study entitled, ‘Mid Day Meal Scheme and Growth of Primary Education – A case Study of a District in Orissa’ and found that the Mid Day Meal Scheme has produced a positive impact in the case of attendance and drop-out rate. The Scheme has increased the enrolment of boys and girls of all categories in all the schools. The Scheme has also been able to increase the rate of attendance of school-going children. Though the impact of Mid Day Meal Scheme is impressive in terms of enrolment, retention and attendance, nonetheless, the Scheme suffers from a number of bottlenecks in the course of its implementation. The quality of food materials supplied for the noon-meals programme is found very poor. Massive corruption and kick-backs are also reported in the operation of the Scheme. Dal and other condiments supplied by the agents were not fit for human consumption. Financial allocation for operation of this Scheme is inadequate and irregular. The quality of food materials supplied for school lunch programme is found very poor. Rice supplied by the FCI godown was found producing bad smell. Supervision and monitoring of the programme is not regular. The study hours of the schools are getting affected due to direct involvement of teachers in the management and operation of the Mid Day Meal Scheme. The Scheme also suffers from managerial and administrative problems. There is no separate staff to look after the operation of the Mid Day Meal Programme. Further, the poor quality of food sometimes discourages the children to take mid day meals in schools.
2.2 OVERVIEW

Children have been the most cherished possession in any society from time immemorial. However, it is unfortunate that most of them are victims of malnutrition especially in the Indian context, which affects not only their health, but also their attendance and performance in school. The National Programme of Nutritional Support to Primary Education commonly known as Mid Day Meals Scheme was launched in August, 1995 with the aim of giving a boost to Universalization of Primary Education by increasing enrolment, retention and attendance and simultaneously impacting upon nutritional status of students in primary classes. The Mid Day Meal Scheme intended to cover all students of primary classes (I-V) in the government and government aided schools in all States and Union territories. From October, 2002 the programme has been extended to children studying in Education Guarantee Scheme and Alternative & Innovative Education (EGS&AIE) Centers. Private unaided schools are not covered under the programme. Government of India vides its D.O. No. 9-1/2008-EE-2 (MDM) of dated 14-01-2008 allowed the extension of Mid Day Meal Scheme to upper primary stage across the country from the year 2008.

The studies examined under review of related literature have been classified under two areas viz. impact of Mid Day Meal Scheme in the improvement of nutritional status of children and secondly impact of the Scheme on enrolment, retention and attendance of children.

2.2.1 Mid Day Meal Scheme and Improvement in Nutritional Status of Children

One of the major objectives of National Programme of Nutritional Support to Primary Education (Mid Day Meal Scheme) is to improve the nutritional status of primary school stage children by providing a hot cooked nutritious lunch in recess time. A little research is available in this area. On the basis of this available literature on Mid Day Meal
Scheme and improvement in nutritional status of children it can be concluded that nutritional status of urban children was found to be better than that of rural and slum children (Sail, 1970 & Seetharaman, 2008). Mid Day Meal Scheme is not without benefit and in most cases impacting positively on nutritional status of primary school children (Chandrasekaran, 1968; National Institute of Nutrition, Hyderabad, 1991; Baskran, 1995 & Blue, 2005).

### 2.2.2 Mid Day Meal Scheme and Enrolment, Retention and Attendance of Children

The purpose of this section is to study the impact of Mid Day Meal Scheme on enrolment, retention and attendance of primary school students. On the basis of available research studies depicting impact of Mid Day Meal Scheme on enrolment, retention and attendance it can be concluded that a number of research studies reported overall improvement in enrolment of students as a result of Mid Day Meal Scheme and the increase was more in case of the of girls (NCERT, 2000; Jain and Shah 2005; Nielsen, 2007), SC, ST (Jain and Shah, 2005; Baskran, 1995) and rural children (Naik, 2005). National Institute of Nutrition, Hyderabad (1991) found that the impact of Mid Day Meal Programme on enrolment is difficult to pinpoint. Kumar (2005) concluded that neither cooked nor uncooked meal has given positive indication in the improvement of enrolment of students in government primary schools of Himachal Pradesh and Ram (2008) observed very little increase in the enrolment of students in government primary schools of Himachal Pradesh after the introduction of cooked Mid Day Meal Scheme. Further, Kumar (2009) found that there is decline in average enrolment of students in government primary schools of Himachal Pradesh.

A number of research studies (CARE, 1977; Operations Research Group, 2003; Misra and Behera, 2004; Blue, 2005; Mathur, 2005 and Parida, 2010) reported positive impact of Mid Day Meal Scheme on

Rao (1983) found overall significant improvement in attendance and deterioration in academic standards after the introduction of Mid Day Meal Programme. Network for Social Accountability (2008) reported that Ministry of Human Resource development had not assessed the impact of the programme in terms of increase in enrolment, attendance and retention levels of children.

2.3 HYPOTHESES OF THE STUDY

For the formulation of hypotheses for the present study the researcher reviewed and analyzed the studies conducted by scholars in this area particularly those studies conducted in the context of State of Himachal Pradesh. A few research studies reported the teachers’ perceptions towards Mid Day Meal Scheme in Himachal Pradesh. Rana (2005) while studying utilization of resources at primary stage in Himachal Pradesh revealed that majority of the teachers were against the Mid Day Meal Scheme. Gupta (2006) concluded that studies got disturbed due to Mid Day Meal Scheme because a major portion of the teachers’ teaching time is consumed in the maintenance of accounts and buying of food ingredients. Bisht (2007) found that a large majority of teachers suggested that instead of providing cooked meal other incentives should be given and efforts should be made to improve the infrastructure of the government primary schools in tribal areas of Himachal Pradesh. Kumar (2008) in his research paper reported that most of the teachers teaching in government primary schools of Himachal Pradesh were not in favour 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. Verma (2008) found that after the introduction of Mid Day Meal
Scheme at elementary level most of the problems have increased at various levels. There was no adequate infrastructure available in the elementary schools of district Shimla for preparation of mid day meals. Gupta (2009) reported lack of interest on the part of primary school teachers regarding implementation of Mid Day Meal Scheme in district Mandi of Himachal Pradesh.

Every year after the introduction of cooked Mid Day Meal Scheme in Himachal Pradesh (September, 2004) all research studies reported wastage of teachers’ teaching time as a result of Mid Day Meal Scheme and teachers are not in favour of implementation of cooked Mid Day Meal Scheme. No research studies are available with regard to attitude of primary school teachers towards Mid Day Meal Scheme in Himachal Pradesh. So, there is need to study the teachers attitude towards Mid Day Meal Scheme and finding the possible factors responsible for their disliking of present status of implementation of Mid Day Meal Scheme.

**Bases for Hypotheses**

1. **Rationale for comparing teachers on the basis of gender**

Educational statistics (2006-07) Sarva Shiksha Abhiyan, Himachal Pradesh reported that out of 26584 teachers working in government primary schools of Himachal Pradesh 11249 (42.31%) are female teachers. In government primary schools of Himachal Pradesh the percentage of male primary school teachers is more in comparison to female teachers in all districts except Hamirpur and Una. Male population generally found to have less involvement in cooking operations at home and hence they may consider the management of Mid Day Meal Scheme in school as burden and wastage of time. Nature of role being played by women at home is the same and introduction of Mid Day Meal Scheme has further extended the duration of that job even in the school leaving comparatively less time for academic work.
2. Rationale for comparing teachers on the basis of teaching experience

The attitude of primary school teachers towards Mid Day Meal Scheme was also compared on the basis of their teaching experience. The rationale for comparing the attitude of teachers on the basis of teaching experience was that as the more experienced married teachers are themselves parents and are considered to be well familiar with the nutrition related needs of growing children.

3. Rationale for comparing teachers on the basis of social category

Although studies are not available to throw light on the difference of attitude of teachers towards Mid Day Meal Scheme on the basis of their social category. It was however considered worthwhile to study the difference in attitude on this account. Despite constitutional guarantees for non discrimination on the basis of social categories, the differences are still in practice as reflected during different occasions. Community lunch is such an occasion. Therefore, social category was considered a factor worth studying.

Following hypotheses were formulated in the study:

1. There will be no significant gender-wise difference in the attitude of primary schools teachers towards Mid Day Meal Scheme.

2. There will be no significant difference between more experienced male and female primary school teachers with regard to their attitude towards Mid Day Meal Scheme.

3. There will be no significant difference between less experienced male and female primary school teachers with regard to their attitude towards Mid Day Meal Scheme.
4. There will be no significant difference between less experienced and more experienced male primary school teachers with regard to their attitude towards Mid Day Meal Scheme.

5. There will be no significant difference between less experienced and more experienced female primary school teachers with regard to their attitude towards Mid Day Meal Scheme.

6. There will be no significant difference in the attitude of less experienced and more experienced primary school teachers with regard to their attitude towards Mid Day Meal Scheme.

7. There will be no significant difference in the attitude of primary school teachers towards Mid Day Meal Scheme in relation to their social category.