

An Empirical Study of the Mid-Day Meal Programme in Khurda, Orissa

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The mid-day meal programme was initiated as a means of achieving universal primary education of satisfactory quality for all schoolchildren below the age of 14 by increasing enrolment, improving attendance and retention, and simultaneously improving nutritional status. This paper attempts to investigate some of these aspects based on primary data collected from Khurda district of Orissa. Data was collected from schools as well as from a sample of households of schoolchildren. The investigation includes a study of the organisational structure of the programme and also examines the cooked meals and dry ration variants.

It is difficult for a malnourished child to concentrate on studies and hence it hampers the process of her/his education. A child with an empty stomach devotes most of his attention to food rather than learning. So a scheme to overcome the classroom hunger is expected not only to enhance the nutritional status of children (which is desirable in itself) but also to improve the learning process.

1 Introduction

The mid-day meal (MDM) scheme was introduced with an objective of providing nutritious meals to children in schools to help them concentrate on classroom learning. The government of India launched the scheme in 1995 to universalise primary education and at the same time to improve the nutritional status of the children. The MDM scheme was introduced in all government schools, government assisted primary schools and schools coming under the education guarantee scheme (EGS).¹

The MDM scheme is aimed at overcoming classroom hunger, caused primarily by widespread poverty. Indeed poverty and classroom hunger (as an important factor in impairment of education) reinforce each other and can be seen to be locked in a vicious cycle.

Apart from overcoming classroom hunger, the MDM scheme is expected to reduce class inequalities and to overcome the caste and gender-based differences in access to primary education. The MDM programme can possibly increase by leaps and bounds the female enrolment, by sharing to a certain extent the private costs incurred by the parents, who are reluctant to send their children to school due to the cost of education. The MDM programme is also expected to help families take their children out of the labour market and put them in schools.

Thus motivated, this study is an attempt to investigate the functioning of the MDM scheme on the basis of an intensive field study carried out in the Khurda district of Orissa. The fieldwork was carried out spread over three visits of varying durations in 2004.

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Table 1: Date of Launch of School Meal Programmes in Different States in India

State	Food Supplement	Year (Commencement)
Tamil Nadu	Cooked meal	1957
Kerala	Corn soya meal	1961
Uttar Pradesh	Corn soya meal/wheat	1961
Andhra Pradesh	Corn soya meal	1962
Karnataka	Corn soya meal	1964
Gujarat	Upma/sheera/sukhali	1965
Bihar	Balahaar/corn soya meal	1968

Source: Vijayaraghavan (2002).

The plan of the paper is as follows: This section looks at a brief history of the school lunch programmes or programmes of similar nature and describes the salient features of the current MDM scheme. Section 2 takes a synoptic look at some recent studies in this area. Section 3 describes the fieldwork and other data sources used. Section 4 is devoted to a broad picture of the MDM scheme

Table 2: Socio-economic Indicators of Orissa

1	Geographical area in km ²	1,55,707
2	Population ('000)	36,707 (100%)
	Male	18,612 (50.7%)
	Female	18,095 (49.3%)
	Rural	31,211 (85%)
	Urban	5,496 (15%)
	Scheduled caste	5,129 (14%)
	Scheduled tribe	7,032 (19%)
3	Population density (2001) in per km ²	236
4	Decadal population growth rate (1991-2001)	15.94 %
5	Average size of operational holdings (1995-96) in hectare	1.30
6	Gross irrigated area to gross cropped area (2000-01)	27.01%
7	Net irrigated area to net area sown (2000-01)	27.28%
8	Net area sown to total area (2000-01)	37.43%
9	Per capita foodgrain production (2001-02) in kilogramme	204
10	Population served per medical institution (2001)	21,580
11	Population served per doctor (2001)	7,560
12	Consumer price Index for industrial workers (2001) (Base-1982=100)	
	Barbil	420
	Rourkela	407
13	Consumer price index for agricultural labourers (2001)(Base-1986-87=100)	
	General	300
	Food	286
14	Average number of teachers per primary school (2001-02)	2.7
15	Average number of teachers per middle school (2001-02)	3.4
16	Average number of teachers per secondary school (2001-02)	8.3
17	Teacher-pupil ratio (2001-02)	
	Primary	1:41
	Middle	1:27
	Secondary	1:21.65
18	Literacy rate (2001 census)	63.61%
19	Birth rate (per '000 persons) (2000)	24.03
20	Death rate (per '000 persons) (2000)	10.5
21	Infant mortality rate (per '000 live births) (2000)	96
22	Life expectancy	
	Male	57.1
	Female	57.0
23	Contribution of agriculture sector to GDP	
	1980-81	47%
	1996-97	27%
24	Contribution of manufacturing sector to GDP	
	1980-81	10%
	1999-2000	15%
25	Contribution of service sector to GDP	
	1980-81	43%
	1999-2000	59%

Source: State Economy in Figures, Government of Orissa, Bhubaneswar, 2001.

in the state of Orissa – its variants in different districts of the state, organisational structure of the scheme, cost of providing mid-day meals, etc. Section 5 provides the background to understanding the functioning of the scheme and its effectiveness in the study area. This includes the socio-economic and educational background of the parents of the selected children from the

selected schools; and the infrastructural facilities available in schools included in the sample of the study. Results concerning the impact of the scheme as revealed by the present study are presented in Section 6. This also includes a comparative study of achievements during the cooked meal phase and the dry ration phase of the implementation of the scheme. Its impact on employment opportunities, especially for women is also commented upon. Finally, some concluding comments are offered in Section 7.

1.1 Brief History of MDM

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

In India, the MDM programme was introduced for the first time in Madras city (present day Chennai) in 1925. Subsequently, it was started in Calcutta (present day Kolkata, 1928), Kerala (1941) and Bombay (present day Mumbai, 1942). The 1950s witnessed a rise in the adoption of the school lunch programmes by various Indian states. In the initial stages, the school lunch programmes were launched as anti-poverty-cum-nutritional support programmes rather than purely nutritional programmes. In this endeavour, India was assisted by many international agencies such as Cooperative of American Relief Everywhere (CARE), United Nations Children's Fund (UNICEF) and World Health Organisation (WHO). Table 1 (p 46) provides some information on the beginnings of various school lunch programmes in different states of India after independence.

The present school lunch programme popularly called the MDM scheme, which is also known as the National Programme of Nutritional Support to Primary Education was launched in August 1995 with two-pronged strategy – to enhance educational attainments and to improve nutritional status of the school-children of the classes I-V in all government primary schools.

1.2 Salient Features of MDM

The salient features of the MDM scheme are as follows: (i) The central government provides foodgrains (wheat and rice) free of cost through the Food Corporation of India (FCI). (ii) Foodgrains (wheat/rice) are allocated at the rate of 100 grams per child per school day where cooked/processed hot meal is being served and 3 kg per student per month subject to a minimum attendance of 80 per cent by the students where foodgrains are being distributed. (iii) The programme is being implemented through panchayats and nagarpalikas. The scheme envisages for serving of cooked meals having a calorific value of equivalent of 100 grams of wheat and rice per student per school. (iv) Foodgrains were to be distributed in the interim period as a prelude to provisions of cooked meals till institutional arrangements are made. However, all schools under the programme are expected to switch to cooked meals at the earliest.

2 A Brief Review of Recent Studies

Poverty is a critical issue which has its adverse impact on the nutritional level of the children and their educational attainment. Poverty-stricken families cannot afford to provide their children the required amount of nutrition and so fail to furnish them with basic educational requirements.

Even if the children manage to get themselves enrolled in the schools; due to acute pressure of poverty and hunger,

Table 3: Districts under Cooked Meals (2002-03 and 2003-04)

Sl No	District	No of Blocks		No of Schools		No of Beneficiaries	
		2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
1	Angul	0	0	0	0	0	0
2	Balasore	1	1	114	133	15,538	14,160
3	Baragarh	0	0	0	0	0	0
4	Bhadrak	0	0	0	0	0	0
5	Bolangir	14	14	1,814	2,479	1,70,107	1,58,574
6	Boudh	3	3	565	698	45,587	43,940
7	Cuttack	0	0	0	0	0	0
8	Deogarh	0	0	0	0	0	0
9	Dhenkanal	0	0	0	0	0	0
10	Gajapati	5	5	661	1,074	53,529	52,610
11	Ganjam	0	0	0	0	0	0
12	Jagatsingpur	0	0	0	0	0	0
13	Jajpur	0	0	0	0	0	0
14	Jharsuguda	0	0	0	0	0	0
15	Kalahandi	13	13	1,618	2,906	1,47,624	1,52,503
16	Kandhamal	12	12	1,385	1,780	90,106	97,585
17	Kendrapara	0	0	0	0	0	0
18	Keonjhar	10	10	1,204	1,494	1,30,569	1,29,382
19	Khurda	0	0	0	0	0	0
20	Koraput	14	14	1,663	1,759	84,574	1,33,837
21	Malkangiri	7	7	827	1,001	60,676	67,430
22	Mayurbanj	26	26	2,734	3,208	2,39,828	2,61,668
23	Nayagarh	0	0	0	0	0	0
24	Nawarangpur	10	10	1,165	1,583	1,19,497	1,16,608
25	Nuapada	5	5	666	853	52,483	67,338
26	Puri	0	0	0	0	0	0
27	Rayagada	11	11	1,328	2,096	64,474	90,053
28	Sambalpur	3	3	344	477	33,173	33,979
29	Sonepur	6	6	708	833	69,574	63,525
30	Sundergarh	15	15	1,803	2,210	1,45,977	1,56,108
	Total	155	155	18,599	24,584	15,23,316	16,39,300

Source: Women and Child Development Department, Government of Orissa, Bhubaneswar, 2003.

they leave the schools half-way. Thus high dropouts, low retention and problems of girls' education are widely observed in such circumstances.

The pertinent issues that have been highlighted by these studies are related to: (a) nutrition of the children; (b) enrolment and attendance; (c) employment opportunities to women; (d) child labour; (e) social policy and state services; and (f) health hazards.

The main aim of MDM scheme is to provide sufficient nutrition to the children and thus assure that concentration level in the class improves. As has been pointed out by Dreze (2004), poor learning abilities and greater exposure to disease are directly related to hunger and undernutrition. The MDM scheme has come up with a positive intention to overcome malnutrition and undernutrition among young children and to improve learning abilities.

Dreze and Goyal (2003) have rightly called the MDM scheme a nutritionist's dream.

There is no doubt that malnutrition is more rampant in families that lack economic resources to meet even their basic needs. Hence poverty continues to exert a strong influence on nutrition of the children [Ramachandran et al 2000]. Jaitly (2002) suggests that ill-health is a reflection of the multidimensional link between poverty and social inequality, malnutrition and micro-nutrient deficiencies, and lack of access to critical amenities.

Poor socio-economic background has its adverse impact not only on the nutritional status of the children but also leads to a higher dropout and poor school enrolment. Most of the children from the low socio-economic strata of society suffer from malnutrition and often dropout from schools at an early age which adversely affects personality development at a later stage [Laxmaiah 1999]. His research also shows that mere implementation of the MDM scheme does not guarantee increased attendance. A study by Ramachandran et al (2000) emphasises that the children are, due to implementation of the MDM scheme, assured of their name being registered in schools as a proof of their official enrolment. However this by itself does not ensure their regular attendance in the school. This is because the causes of school absenteeism exists not only because of poor health and under-nutrition but also due to the poor economic conditions of their parents. To supplement the inadequate earnings of the family, the children need to work along with their parents to meet their basic needs. Their school attendance is erratic and absenteeism is often the norm especially for older boys and girls. For effectiveness of the MDM in bettering the schooling of young children, implementation needs to be accompanied by proper supervision.

It is said that poor socio-economic background compels the children of poor families to work from a very early age which deteriorates their mental and physical health. Shiv Kumar (2003) points out that the roots of child labour lie in food insecurity within the households. Critics have pointed out that the MDM cannot prevent the children dropping out of the schools, even if they are registered just for the sake of taking advantage of the MDM scheme, they work outside due to extenuating factors at home.

It has been noted that the MDM scheme does not bear the full cost of the education but it only mitigates some of these schooling costs. The MDM assures that children get one complete meal in the school and thus can devote their time to study rather than work. Besides that, as Dreze and Goyal (2003) have emphasised, MDM helps to overcome the social barriers and class prejudices prevalent in Indian society. Implementation of the MDM scheme requires or facilitates the children to sit together, regardless of their caste and economic background; instil the feelings of sharing and togetherness among them and so help overcome the caste biases. The findings of the PROBE survey also indicate that the noon meal programme in Tamil Nadu has helped to overcome the caste and class feelings among the children. Children eat and share the same food giving scant attention to who cooks it and who serves it.

The MDM programme also provides employment opportunities especially for the women. The Supreme Court order of 2001 states that the main attention should be focused on women, especially

while appointing cooks and helpers. Many women, who are either widows or are from underprivileged sections, have been employed as cooks and helpers. Dogra and Dogra (2003) have also raised this issue and suggested that the work of preparing

Table 4: Districts under Dry Rations (2002-03 and 2003-04)

SlNo	District	No of Blocks		No of Schools		No of Beneficiaries	
		2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
1	Angul	8	8	1,250	1,421	1,34,101	1,31,382
2	Balasore	11	11	1,751	1,965	3,03,060	2,97,794
3	Baragarh	12	12	1,471	1,900	2,03,597	1,94,570
4	Bhadrak	7	7	1,226	1,405	1,91,626	1,86,997
5	Bolangir	0	0	155	123	21,834	18,357
6	Boudh	0	0	26	23	3,106	2,929
7	Cuttack	14	14	2,171	2,260	2,63,396	2,62,118
8	Deogarh	3	3	459	643	36,259	35,031
9	Dhenkanal	8	8	1,112	1,406	1,31,254	1,31,036
10	Gajapati	2	2	344	387	27,981	25,856
11	Ganjam	22	22	2,940	3,188	3,99,593	4,06,288
12	Jagatsingpur	8	8	1,166	1,412	1,34,492	1,11,382
13	Jajpur	10	10	1,518	1,515	2,23,816	2,40,464
14	Jharsuguda	5	5	564	615	50,944	57,452
15	Kalahandi	0	0	150	129	14,984	12,648
16	Kandhamal	0	0	154	110	16,187	10,937
17	Kendrapara	9	9	1,423	1,656	1,45,366	1,63,370
18	Keonjhar	3	3	619	664	77,235	68,292
19	Khurda	10	10	1,227	1,388	1,52,891	1,66,507
20	Koraput	0	0	260	288	34,618	23,560
21	Malkangiri	0	0	120	108	12,292	10,549
22	Mayurbanj	0	0	248	211	29,268	26,605
23	Nayagarh	8	8	824	1,058	1,06,726	1,05,103
24	Nawarangpur	0	0	124	106	19,228	16,084
25	Nuapada	0	0	89	89	24,332	7,453
26	Puri	11	11	1,417	1,787	1,93,165	1,48,511
27	Rayagada	0	0	142	161	27,411	19,531
28	Sambalpur	6	6	798	1,050	82,638	72,478
29	Sonepur	0	0	91	91	7,888	7,349
30	Sundergarh	0	0	217	188	29,330	31,893
	Total	157	157	24,056	27,347	30,98,618	29,92,526

Source: Women and Child Development Department, Government of Orissa, Bhubaneswar, 2003.

meals should be given to the self-help groups (SHGs) or cooperatives of women from the weaker sections. These should include a good percentage of dalit women at the panchayat level. The government should provide two rooms to the SHGs for cooking, packaging and for storage purposes.

The MDM programme makes education more attractive and less burdensome for the poor families. They may be encouraged to realise that children with advanced skills and higher educational attainment can enter the labour market at a later stage and can earn better.

3 Data and Fieldwork

The MDM programme in all the government and government aided primary schools has been implemented only recently and this underlines the importance of the fieldwork as secondary data is not easily available. The secondary data for this study was obtained from the district level and state level authorities including reports of the department of women and child development, government of Orissa and other government reports.

Khurda district, located in central Orissa, was chosen for the field study. Khurda has the highest literacy rate of 80.19 per cent in Orissa according to the 2001 Census. Thus we were able to study the functioning of the scheme in one of the educationally most developed districts in Orissa. The MDM scheme is being implemented since 1995 in all the government schools, the government funded primary schools and the schools coming under EGS in Khurda. The schools under the scheme were providing cooked meals till 2001. The menu was rice and dalma (dal mixed with the seasonal vegetables). However from 2001, there was a switch to the dry rations scheme in many parts of the state including Khurda. It may be noted here that the Supreme Court order of 2001 had stated that the schools could carry on with the dry rations distribution till the institutional and infrastructural arrangements were made for the scheme. This was only for the intervening period, and sooner rather than later there has to be a transition from dry rations to cooked meals [Dreze and Goyal 2003]. Ironically, in many districts of Orissa, including Khurda, the MDM switched from cooked meal programme to the dry ration programme in the same year that the Supreme Court pronounced the above stated order.

Table 5: Nutritional Status of Children in Orissa (2003, 0-3 years)

SlNo	District	Total Children	Children Weighed	Children Weighed % of Total	Children with Normal Nutrition	Normal Children as % of Weighed	Malnourished as % of Weighed (Grade I to IV)
1	Angul	58,430	41,052	70.26	14,325	34.89	64.99
2	Balasore	1,30,211	1,24,769	95.82	51,390	41.19	58.81
3	Baragarh	76,566	72,909	95.22	26,419	36.24	63.71
4	Bhadrak	93,433	89,645	95.95	41,148	45.90	54.10
5	Bolangir	1,05,121	99,748	94.89	33,481	33.57	65.91
6	Boudh	30,302	26,918	88.83	8,364	31.07	68.36
7	Cuttack	1,09,905	1,03,204	93.9	44,426	43.05	56.95
8	Deogarh	18,773	17,981	95.78	6,314	35.11	64.89
9	Dhenkanal	68,739	56,388	82.03	24,094	42.73	57.24
10	Gajapati	42,795	41,420	96.79	13,948	33.67	65.74
11	Ganjam	1,94,894	1,61,343	82.79	62,805	38.93	59.87
12	Jagatsingpur	25,248	24,450	96.84	8,594	35.15	64.84
13	Jajpur	1,10,399	1,04,183	94.37	42,595	40.88	57.03
14	Jharsuguda	59,907	57,692	96.3	28,967	50.21	48.35
15	Kalahandi	1,01,776	96,002	94.33	29,352	30.57	68.59
16	Kandhamal	1,00,462	82,157	81.78	32,476	39.53	60.47
17	Kendrapara	1,06,646	99,511	93.31	38,596	38.79	60.31
18	Keonjhar	72,722	66,198	91.03	32,206	48.65	51.30
19	Khurda	95,789	92,645	96.72	30,201	32.60	67.38
20	Koraput	43,589	41,632	95.51	13,391	32.17	67.83
21	Malkangiri	1,58,401	1,56,565	98.84	56,008	35.77	63.39
22	Mayurbanj	39,034	38,607	98.91	11,709	30.33	69.67
23	Nayagarh	86,131	82,627	95.93	24,752	29.96	70.03
24	Nawarangpur	25,552	22,140	86.65	9,196	41.54	58.45
25	Nuapada	53,800	51,233	95.23	18,784	36.66	63.09
26	Puri	1,05,999	1,01,975	96.2	54,639	53.58	46.41
27	Rayagada	70,024	66,612	95.13	21,401	32.13	66.71
28	Sambalpur	43,577	42,749	98.1	14,697	34.38	62.55
29	Sonepur	37,566	33,775	89.91	11,988	35.49	63.46
30	Sundergarh	98,633	96,684	98.02	31,266	32.34	67.22
	Total	23,64,424	21,92,814	92.74	8,37,532	38.19	61.28

The percentage shows only the number of children weighed for the purpose.

Source: Women and Child Development Department, Government of Orissa, Bhubaneswar, 2003.

The fieldwork consisted of two parts – one part covering schools and the other part covering the parents.

Khurda has 10 blocks, namely, Balianta, Balipatna, Begunia (rural and urban), Bhubaneswar (municipality), Bhubaneswar (rural), Bolgarh, Chilika, Jatani, Khurda (rural) and Khurda (urban). Five blocks were for the fieldwork, namely, Bhubaneswar (rural), Bhubaneswar (urban), Jatani, Khurda (rural) and Khurda (urban). From each block, two schools were selected at random so as to make it 10 schools in all. The respondents from the schools were mainly headmasters and teachers. The data was collected through a detailed structured questionnaire. Data was also collected from the school records pertaining to enrolment of students, school attendance, etc.

Table 6: Incidence of Moderate and Severe Malnutrition (2003)

Sl No	District	Malnutrition (in %)
1	Angul	27.46
2	Balasore	20.47
3	Baragarh	25.27
4	Bhadrak	22.26
5	Bolangir	28.80
6	Boudh	31.57
7	Cuttack	19.58
8	Deogarh	28.94
9	Dhenkanal	21.63
10	Gajapati	28.80
11	Ganjam	21.92
12	Jagatsingpur	14.76
13	Jajpur	22.42
14	Jharsuguda	31.85
15	Kalahandi	31.97
16	Kandhamal	26.77
17	Kendrapara	24.70
18	Keonjhar	26.28
19	Khurda	16.84
20	Koraput	31.58
21	Malkangiri	30.47
22	Mayurbanj	25.58
23	Nawarangpur	33.10
24	Nayagarh	22.23
25	Nuapada	30.27
26	Puri	14.74
27	Rayagada	31.42
28	Sambalpur	27.49
29	Sonepur	25.49
30	Sundergarh	29.06
	Total	25.46

Source: Women and Child Development Department, Government of Orissa, Bhubaneswar, 2003.

The second part of the fieldwork involved interviews of the parents and households of the children from those selected schools. For this purpose, 15 students were selected from each of these 10 schools. The households to which these students belonged constituted the second sample of 150 households. These 150 households were interviewed to get a picture of the demand side of the scheme. Since the area chosen for the fieldwork provided an opportunity to carry out a comparative study of the two forms of the MDM programme, this aspect was kept in mind while selecting 15 students from each school. For this purpose, only those students who either were themselves students prior to 2001 or who had a sibling in the school prior to 2001, were considered the sampling frame. This way we could ensure that the households studied had the experience of their children being part of both cooked meals as well as dry rations.

Apart from these, the other respondents for the study include government officials, and some officials of local non-governmental organisations (NGOs). Thus the study draws upon (1) primary data from the fieldwork, (2) secondary data from published sources and available literature, (3) data available from government records, and (4) discussions and interviews with government officials and NGOs.

Data was collected on enrolment, attendance, retention and dropouts from 1995-96 to 2003-04. Data was also collected on the impact of the scheme on education, on various parameters of the schemes at the school level and responses of the parents on the impact of these schemes on educational achievements, socialisation, etc.

4 MDM in Orissa: A Broad Picture

For a comprehensive analysis of the MDM scheme it is necessary to study the socio-economic setting.

4.1 Socio-economic and Demographic Features

Table 2 (p 47) provides a bird's eye view of Orissa's socio-economic features. The total literacy rate in the state is 63.61 per cent according to the 2001 Census. This also gives us an idea of the dismal performance of the hospitals and poor availability of the medical and nutritional facilities in the state. Poor and improper medical facilities have an adverse impact on the health of the people. This is reflected in low life expectancy. Alongside this, there are other numerous factors which re-emphasise the fact that Orissa is lagging behind in social and economic parameters.

4.2 Cooked Meal and Dry Ration Schemes

Since the study brings a comparative picture of the cooked meals (CM) and dry rations (DR), we begin by looking at the number of districts covered under cooked meals and the number of districts covered under dry rations in Orissa at the time when this study was carried out. It may be noted that there are blocks in some districts which are not officially covered under dry rations scheme, but there exist schools in some such blocks where dry rations were distributed. The relevant information is provided in Tables 3 and 4 (pp 48, 49).

We see that the total number of beneficiaries for cooked meals increased from 15,23,316 in 2002-03 to 16,39,300 in 2003-04 and total number of schools coming under cooked meals also increased from 18,599 in 2002-03 to 24,584 in 2003-04. We find that the MDM scheme was completely implemented as cooked meal scheme in all the tribal districts and underdeveloped areas like the K-B-K blocks which comprise of Koraput, Bolangir, Nawarangpur, Sonepur, Malkangiri, Nuapada, Rayagada, Kalahandi. Other districts covered by the scheme are Mayurbanj, Sundergarh, Keonjhar.

In 2002-03, 14 districts were providing cooked meals; 12 districts were distributing dry rations and four districts were giving both dry rations and cooked meals. A careful study of Table 3 shows that all the blocks covered under cooked meals scheme are in underdeveloped districts, but there are also some schools in these blocks which are distributing dry rations to the students as we can see from Table 4.

We see that relatively better developed districts like Ganjam, Angul, Cuttack, Kendrapara, Jagatsingpur, Khurda, Balasore, Puri had all the schools under dry rations scheme (Table 4). These are the districts having relatively lower level of malnutrition (Table 5, p 49).

Table 7: Educational Background of Parents

Background	Fathers		Mothers	
	(Frequency)	(%)	(Frequency)	(%)
Illiterate	0	0	13	8.7
Class I-V	3	2	11	7.3
Class VI-X	17	11.3	39	26
Class 11-12	26	17.3	29	19.4
Graduate	30	20	44	29.3
Postgraduate	39	26	14	9.3
Engineer	22	14.7	0	0
Other professional qualifications	13	8.7	0	0
Total	150	100	150	100

Source: Field Survey, 2004.

The districts like Sambalpur, Keonjhar, Gajapati and Balasore have provision for both cooked meals and dry rations.

There is a noticeable increase in schools covered in case of dry rations (Table 4) ie, from 24,056 in 2002-03 to 27,347 in 2003-04. This increase in schools is accompanied by a small decline in beneficiaries, from 30,98,618 in 2002-03 to 29,92,526 in 2003-04.

Table 8: Infrastructural Facilities in the Sample Schools

Items	No of Schools
1 Cooking premises	
Open shed	6
Temporary shed	3
Constructed kitchen	0
Classrooms	1
Cook's shed	1
2 Storage for grain	
School building	5
Storage shed in school premises	3
Classroom	2
3 Place where meal was served	
Classrooms	0
Separate place	10
4 Source of drinking water	
Municipality water	7
Tube well	6
Well	4
5 Source of utensils	
Government	1
Parents	2
School	10
6 Way meal is served	
Plates	10
Paper	1
Leaf	5
7 Source of plates	
School	10
Students	4
8 Toilets	6

All figures are out of 10 schools included in the study.

Source: Field Survey, 2004.

The department of women and child development in Orissa looks after all the nutrition intervention programmes pertaining to children and women. The department was set up in 1995 to provide the much needed focus to programmes aimed at holistic development of women and children. This is the nodal department for formulating plans, policies and programmes for the development of women and children in the state.

The nutrition intervention programmes being run by the department of women and child development are:² (a) integrated child development services; (b) mid-day meal programme; (c) supplementary nutrition programme; (d) special nutrition programme; (e) emergency feeding programme; and (f) national nutrition mission.

In Orissa, the organisational responsibility of these programmes rests with the existing official staff that in addition to the normal routine work shoulders the responsibility of the school lunch programme. The organisational

structure of the school lunch programme is described in the following section.

4.3 Organisational Structure of School Lunch

At the state level, the commissioner cum secretary, department of women and child development is in charge of the overall implementation of the MDM programme in the state. At the district level, it is the district collector who shoulders the responsibility of implementing the scheme besides taking major decisions for the success of the scheme. The district collector is assisted by (a) civil supply officer, (b) district social welfare officer, and (c) project director, district rural development agency. At the school level, the headmaster or teacher looks after the programme. A part time cook and a helper who are the non-official agents of the programme support him.

The distribution of mid-day meal is the responsibility of the headmasters and assistant teachers in majority of cases. The teachers mainly manage the programme at all stages starting from the procurement of foodstuff to the distribution of cooked meal to the ultimate beneficiaries. The assistant teachers distribute cooked meal with the help of part time cooks and helpers whose remuneration was Rs 200 and Rs 100 respectively per month.

In Orissa, mid-day meal is provided to the students only on working days. Thus, there is no provision for distributing mid-day meals on holidays. By contrast, in Tamil Nadu noon meal is distributed both on working days and also on holidays. The provision of mid-day meals in Orissa is done on the basis of the enrolment of the children in primary schools. The school enrolment data is said to be inflated so as to achieve higher targets. By showing these figures, they can demand higher allocations. This is again in contrast to the practice in Tamil Nadu where distribution of mid-day meals is done on the feeding strength of the children in primary schools. The feeding strength means the number of children present at the time of meal, unlike in Orissa where distribution is on the basis of the total enrolment of the children regardless of the fact whether they are present at the time of serving of the meal or not.

All the 10 blocks of Khurda district were distributing dry rations from 2001. The distribution rate was 3 kg of rice per child per month. The eligibility for a student to obtain ration in a month was that the student should have 80 per cent attendance in the previous month. The allocation was made by the Food Corporation of India (FCI) on the basis of the enrolment figures provided by different

Table 9: Class-wise Enrolment (1995-96 to 2003-04)

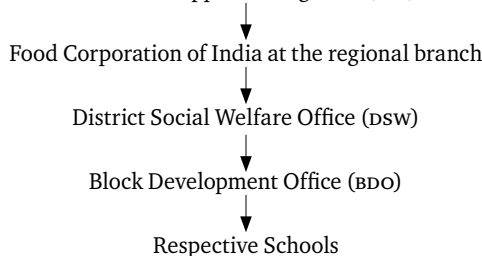
Year	Class I	Class II	Class III	Class IV	Class V	Total
1995-96	854	871	925	915	920	4,485 (-)
1996-97	808	830	867	868	897	4,270 (-4.8)
1997-98	957	984	1,019	1,004	1,015	4,979 (16.6)
1998-99	982	1,026	1,063	1,026	1,047	5,144 (3.3)
1999-2000	1,010	1,049	1,124	1,060	1,084	5,327 (3.6)
2000-01	1,047	1,076	1,144	1,008	1,124	5,399 (1.4)
2001-02	1,082	1,108	1,058	1,138	1,144	5,530 (2.4)
2002-03	1,110	1,089	1,192	1,166	1,141	5,698 (3.0)
2003-04	1,087	1,086	1,161	1,175	1,141	5,650 (-0.8)

Figures in parenthesis show per cent increase in total enrolment in a given year over the preceding year.

Source: Field Survey, 2004.

schools to the block office and then transferred to the district office. The way rice is being canalised in Orissa is as follows:

Government of India supplies foodgrains (rice) free of cost



4.4 Cost Structure of Cooked Meals

The following cost figures are available from the officials for the implementation of mid-day meal programme as cooked meal programme in Orissa (per meal per child unless specified otherwise):

- (i) Rice: 100 grams (free of cost)
- (ii) Dal: 15 grams (35 paise)
- (iii) Vegetables, salt, condiments: 10 paise
- (iv) Oil: 30 paise
- (v) Transportation cost: 10 paise

Total cost of the above (items (ii) to (v)): 85 paise per child per day

(vi) Fuel, stationery = Rs 1.30 per child per month.

The government of India provides rice, while the state government provides the funds to meet other expenditures like cost of dal, salt, oil, fuel and stationery, vegetables and condiments. The honoraria paid to cooks and helpers are borne by the gram panchayats. The rice is lifted from the nearest FCI point allotted by the government of India. The cost of transportation of rice from FCI godowns to the schools is borne by the central government at the rate of Rs 25 per quintal. The required quantities of dal, oil, salt are procured locally through purchase committees constituted at the district level. The costs of these items are met out of funds allocated by state government (department of women and child development, government of Orissa).

5 Background of the Parents and School Infrastructure

The study of the educational background of the parents shows that most fathers are highly qualified with nearly 15 per cent engineers and 8.7 per cent fathers being other professionals (MCA, MTECH or MBA). Further, 26 per cent of fathers are post-graduates and 20 per cent of them are graduates. Only 2 per cent of the fathers have education up to the primary level and below. In the case of mothers, most of them are also well educated and only less than 9 per cent are illiterate. More than one-third of the mothers are graduates or postgraduates. However unlike fathers, none of them hold any professional degree (Table 7, p 50).

The economic background of the sample households tell us that 14.7 per cent of the households earn between Rs 2,500 and 5,000

per month, 21.3 per cent of them earn in range of Rs 5,000 and 10,000 per month, 30.7 per cent of the households earn between Rs 10,000 and 20,000 per month and 28 per cent of the households earn more than Rs 20,000 per month. Over half of the households earn more than Rs 10,000 per month. Economically they form a heterogeneous group with the per month household income ranging from under Rs 3,000 to over Rs 20,000.

School Infrastructure Facilities

The field study also brings out a clear picture of the infrastructural facilities in the schools. These details are provided in Table 8 (p 51) and depict a woeful inadequacy of required infrastructure.

Poor infrastructural facilities created disturbances in the smooth functioning of the cooked meal scheme which is possibly one of the reasons for switching over to the dry rations scheme in 2001. Specific reasons cited for this shift by school authorities/teachers are: (i) no separate space for cooking, (ii) no separate place for serving meals; (iii) no storage facilities for grains; (iv) no proper source of drinking water; (v) uncertainty about quality of rice; (vi) irregular inspection by government officials; and (vii) most importantly, disruption of teaching process (in terms of teachers giving more time for arrangement and management of the cooking and less time for teaching and students paying more attention to food rather than studies).

It is interesting that the school authorities and teachers cite irregular inspection by the government officials as a contributing factor in the ill-functioning of the cooked meal scheme. After all, rarely does anyone want to invite inspections by the outside officials. Hence this needs to be understood. This reason is cited by the respondents to draw attention to the lack of infrastructure and to the difficulties in the implementation of the cooked meal scheme. It is suggested that, due to the lack of such inspections, these inadequacies are neither taken note of nor are they redressed.

Table 11: Caste-wise Enrolment (1995-96 to 2003-04)

Years	SC	ST	GE
1995-96	812	64	3,609
1996-97	932	88	3,250
1997-98	919	156	3,904
1998-99	994	179	3,971
1999-2000	1,120	208	3,999
2000-01	1,257	218	3,924
2001-02	1,195	233	4,102
2002-03	1,177	249	4,272
2003-04	1,078	247	4,325
Period	Compound Average Growth Rate (%)		
Period I (Cooked meal)	9.13	27.8	1.69
Period II (Dry rations)	-4.99	4.25	3.30
Whole period	3.61	18.4	2.29

Source: Field Survey, 2004.

Table 12: Average Enrolment in Cooked Meal and Dry Rations (by Caste)

Category	Average Number of Children (1995-96 to 2000-01)	Average Number of Children (2001-02 to 2003-04)	Rise in Enrolment (%)
SC	1,006	1,150	14
ST	152	243	60
GE	3,776	4,233	12
Total	4,934	5,626	14

Source: Field Survey, 2004.

6 Impact of the Scheme

The main intention of the scheme is to reduce the dropout rates and increase the retention rate and enrolment.

6.1 Enrolment

The data on enrolment for nine years from 1995-96 to 2003-04 for 10 schools are given in Table 9 (p 51). This period involves implementation of both types of the schemes under the MDM (cooked meals and dry rations) – cooked meals scheme from 1995-96 to 2000-01 and dry rations scheme from 2000-01 to 2003-04. We shall call years 1995-96 to 2000-01 when cooked meal scheme was in operation as period I and the years 2000-01 to 2003-04 when the dry ration scheme was in operation as period II. It is clear that fresh enrolment takes place in all classes to a varying extent from year to year. There was a big jump in enrolment (at all levels) in 1997-98 after a slump in 1996-97. In all other years, there has been a moderate increase in enrolments.

Looking at the average growth rate in both the periods we find that the rate of increase in enrolment during the cooked meal scheme (3.8 per cent per annum) has been much higher compared to the rate of growth of enrolment when the dry ration scheme (1.5 per cent per annum) was in operation (Table 10, p 52).

This was found to be true for enrolment for every class except class IV. The inference is inescapable that when the MDM was introduced as a cooked meal scheme, it did stimulate significant motivation for the students to enrol in the schools. The increase in enrolment continued, though at a much smaller level even after there was a switch to the dry ration scheme.

Tables 11 and 12 (p 52) provide a comparative picture of student enrolment during the two schemes disaggregated according to caste. It is seen that in absolute numbers, the ST students form a small number but they have registered the fastest growth in enrolment from the cooked meal days to the dry ration days. These are brought out in Table 12. Increase in enrolment in case of general category students is the lowest at 12 per cent. In case of SC students, the increase in enrolment is marginally higher than general students at 14 per cent, both of which are far below the achievement in the growth of ST student enrolment of 60 per cent.

More importantly, it can be clearly seen that the average annual rate of increase in enrolment during the period of cooked meal scheme was over six times as large as the same during the period of dry ration scheme in case of the ST students. Further, during the cooked meal scheme, there was a high rate of growth in the enrolment of SC students as well (though smaller than that for the ST students). However, once the schools switched over to the dry ration scheme, there was actually a fall in the enrolment of the SC students.

Tables 13 and 14 provide a comparative picture of change in enrolment of students from the first period to the second period when disaggregated according to the gender of the child. Looking at the impact of MDM during the two periods, there is a decline in the growth rate of enrolment in the second period compared to the first period for both the boys and the girls. But the decline in the growth rate is much sharper in case of girls. Tentatively, it may appear that the impetus to enrolment of girls during the

cooked meal period is sustained even after the MDM scheme was modified to dry rations. Looking at the aggregate figures for the two periods, it is clearly seen that there is a larger increase in the enrolment among the boy students (17 per cent) in contrast to the girl students (11 per cent) in the second period over the first period. We find that while the cooked meal scheme was in operation, there was a marginal decline in the gender gap (from 14 per cent to 13 per cent in terms of the girl enrolment as a proportion of boy enrolment); this gap however widened after the switch to dry rations to 16 per cent. Thus, it may be seen that the MDM scheme in its dry ration form was unable to reduce the gender differential in the school enrolment, though it was being achieved when cooked meals were served.

6.2 Impact on Attendance

No actual data on attendance could be obtained since this required study over several years of attendance registers, which were not available. Hence we rely on teachers' response

for this. This is reported in Table 15 (p 54). We find that out of 10 schools surveyed, five schools reported an increase in attendance, four schools said that there was constant attendance and in case of one school attendance had in fact reduced in the first sub-period (CM). The second period (DR) also presents a similar picture.

In case of household survey, we find that all 150 households reported that enrolment had certainly increased in case of cooked meals scheme and so had the afternoon session attendance which is an important part of the daily attendance. Earlier, once the children went home for having their food at noon, they would normally not return to their school. But after the cooked meal scheme was introduced,

the children were getting their food in the school itself and so they stayed back after their mid-day meal. Thus MDM (CM) definitely had a positive impact on afternoon session attendance. Now at the time of dry rations, 145 households felt that the enrolment had increased.

6.3 Impact on Dropouts

We faced a similar problem in studying dropouts also – no concrete data could be collected due to unavailability of dropout figures in the schools. As can be seen from Table 16 (p 54), out of 10 schools, five schools reported a decrease in dropouts after the introduction of the scheme and four schools talked about constancy in the dropout rates so far cooked meal period is concerned. In case of dry

Table 13: Sex-wise Enrolment
(1995-96 to 2003-04)

Years	Boys	Girls
1995-96	2,405	2,080
1996-97	2,055	2,215
1997-98	2,673	2,306
1998-99	2,744	2,400
1999-2000	2,831	2,496
2000-01	2,885	2,514
2001-02	2,962	2,568
2002-03	3,098	2,600
2003-04	3,067	2,583
Period	Compound Average Growth Rate (%)	
Period I		
(Cooked meal)	3.71	3.86
Period II		
(Dry rations)	2.06	0.91
Whole period	3.09	2.74

Source: Field Survey, 2004.

Table 14: Average Enrolment in Cooked Meals and Dry Rations (Sex-wise)

Category	Average Number of Children Enrolled 1995-96 to 2000-01 (Period I)	Average Number of Children Enrolled 2001-02 to 2003-04 (Period II)	Rise in Enrolment (%) between Periods I and II
	Cooked Meal	Dry Rations	
Boys	2,599	3,042	17
Girls	2,335	2,584	11
Total	4,934	5,626	14

Source: Field Survey, 2004.

rations, four schools reported a decrease in dropouts after the introduction of the scheme and six schools said that dropouts have remained constant.

6.4 Impact on Nutrition

Regarding the nutritional improvement, there was no source or instrument at hand by which the nutritional change in children could have been gauged. Only the observations made by the teachers at that time can be taken for studying the impact of the scheme on the nutrition. Apparently all 10 schools reported an increase in nutrition of the children. The aim with which the scheme was introduced seems to be achieved so far as the nutritional component of the scheme was concerned.

Coming to the impact on nutrition, in case of dry rations, eight schools reported that the change in nutrition status is positive and two schools reported constancy in nutrition.

6.5 Employment Opportunities for Women

The questionnaire administered at the school level brings forth that there has been some employment generation opportunities for the marginalised sections, especially women. The respondents of the 10 schools under the study confirmed that a major preference had been given to the underprivileged sections and the women who were widows; who were the sole earners for their families; and who did not have the support of ancestral property. Further, it was found that the mid-day meal scheme was seen as a great support by the working mothers among the parents of the students. This was welcomed both by the housewives and mothers. Out of 150 households covered under this study, 102 housewives and 11 working mothers (working as teachers) welcomed the cooked meal scheme, when it was in operation. Even in the case of dry ration scheme, 10 working mothers who are teachers and 11 housewives supported the scheme as they found it fruitful in terms of its impact on education. However, the majority of mothers supported cooked meals over dry rations.

6.6 Educational Achievements

To assess the impact of the scheme on educational achievements, we need to investigate the impact of the scheme on the performance of the students, activeness of the students and motivation of the students.

It is suggested by the proponents of the MDM scheme that implementation of the scheme will make the students more active in their studies. Interviews of the households tell us that 118 households

felt that cooked meals have a positive effect on the activeness of the students whereas the remaining 32 households chose dry rations over cooked meals on this count. As far as performance of the students is concerned, 149 households said that performance of the students had been better during the cooked meals scheme and only one household indicated its preference for dry rations over cooked meals for improved student performance. Children get food and education side by side and this has created enthusiasm in the children to attend schools. Further, 145 households feel that children had been motivated due to the cooked meal scheme. In contrast only 19 households found that dry rations scheme had a motivating effect on the students. It is thus seen that parents find the mid-day meal scheme more beneficial for the students if it is implemented as a cooked meal scheme.

7 Concluding Comments

An examination of the MDM scheme tells us that the schools did not have adequate infrastructure and staff to implement the cooked meals scheme. The menu was monotonous but nutritious; there was no interference or hindrance from the parents in implementation of the scheme; the parents also did not complain of mismanagement. However due to inadequacy of required staff, the teachers had to spend much time and effort in running the cooked meal scheme.

Looking from the demand side, we find that households prefer cooked meals rather than dry rations as parents – regardless of their educational, economic and caste background – value the benefits of cooked meal scheme on enrolment, socialisation, employment, nutrition, learning, performance, motivation, reduction in the frequency of falling ill, activeness in studies, etc.³ Parents' responses indicate that cooked meal had definitely helped in increasing enrolment and attendance. Socialisation of the children was also more effective. The scheme had generated some employment opportunities for the underprivileged sections. According to parents, all the above objectives were achieved only at the time of cooked meals. Dry rations do have certain advantages but these are outweighed by benefits of cooked meals. An overwhelming proportion of households feel that cooked meal is more effective. Indeed, 132 households (88 per cent) felt that the cooked meal scheme should be restarted, and only 18 households (12 per cent) were against the view of restarting of the scheme. On the other hand, only 30 households (20 per cent) hold that dry rations should continue to be distributed. The criticism of cooked meal scheme

Table 15: Impact on Attendance: Cooked Meals and Dry Rations

Schools	Attendance CM (%)	Attendance DR (%)
School 1	Increase (1)	Increase (1.7)
School 2	Constant	Increase (1.9)
School 3	Constant	Constant
School 4	Decrease (1.2)	Increase (1.8)
School 5	Increase (2.3)	Constant
School 6	Increase (2.6)	Increase (2.4)
School 7	Increase (1.7)	Constant
School 8	Constant	Increase (1.7)
School 9	Constant	Constant
School 10	Increase (2.25)	Increase (1.75)
No of schools reporting increase	5	6
No of schools reporting decrease	1	0

Note: Figures in parenthesis give percentage increase or decrease (as applicable) in attendance.
Source: Field survey, 2004.

Table 16: Impact on Dropouts

Schools	Dropouts in Case of CM (%)	Dropouts in Case of DR (%)
School 1	Decrease (0.6)	Constant
School 2	Decrease (1.3)	Decrease (1.5)
School 3	Constant	Constant
School 4	Decrease (1)	Constant
School 5	Constant	Constant
School 6	Increase (2.6)	Constant
School 7	Decrease (0.9)	Decrease (1)
School 8	Constant	Decrease (0.85)
School 9	Decrease (1)	Decrease (1.3)
School 10	Constant	Constant
No of schools reporting increase		1 0
No of schools reporting decrease		5 4

Figures in parenthesis give percentage increase or decrease (as applicable) in dropouts.
Source: Field survey, 2004.

still holds that the cooked meal scheme had adversely affected the teaching process as there were no noon meal managers or organisers to look after the scheme. So the whole responsibility fell on the shoulders of the teachers who had to manage and supervise everything related to cooking. When asked about any other alternatives to MDM, 98 per cent of households said that supply of textbooks can also make a positive difference, 88.7 per cent of parents said that provision of scholarship is a better option, 56.7 per cent talked about the elimination of fees and only 47.3 per cent said that the supply of food items can help the family or students.

The supply side (the schools) is mainly in support of dry rations. The main reason cited is the disturbance in the teaching process as teachers were spending a lot of time in arrangement for cooked meal which left the teachers exhausted – after which they were not in a position to take classes in the afternoon. According to the schools, the students' attention also got distracted due to the cooking going on in the school as there were no separate cooking sheds and the food used to be cooked in the open space or in a classroom. Thus dry rations were seen preferable as these were given only once a month and the teachers did not have to spend

so much of time and effort. Teachers did accept that enrolment and attendance had increased during the cooked meal scheme. However, as the data on enrolment shows, it has continued to increase even after a switch to dry rations. The socialisation was better and new employment opportunities were generated in case of the cooked meal scheme. No one refuted the beneficial impact of cooked meal on the teaching process and education, which is the main aim with which the scheme was launched. The schools also talked about the irregularity of inspection done by the government officials even after repeated requisitions were made by the concerned schools.

On the whole, it is clear that the cooked meals scheme functioned for around six years reasonably well in spite of certain inadequacies and shortcomings, mainly of infrastructure and staff. The beneficial outcomes, both on nutritional account and educational performance, were quite evident as both the survey among schools and parents clearly brings out. As an epilogue, it may be mentioned that the schools in Khurda (Orissa) have switched back to providing cooked meals as the MDM scheme is implemented presently.

NOTES

- 1 The Education Guarantee Scheme (EGS) is an effort to provide community-centred and rights based primary education to all the children in a quick and time-bound manner. Under EGS, the government gives a guarantee to provide a primary schooling facility to the children in a habitation where there is no such facility within a kilometre. It works on a decentralised basis through collaboration of the state governments, local body/panchayat and community.
- 2 This section is largely based on the Annual Activity Report, women and child development department, Bhubaneswar, Orissa, 2003.
- 3 This is based on response of 150 households.

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