MDG-Based Poverty Reduction Strategy for West Bengal

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iDSK

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Foreword

Responsible policy-making is dependent on good-quality information. It is possible to be skeptical about the real intentions of international organizations dominated by the affluent countries and hence the probability of realizing the Millennium Development Goals (MDGs) set out by the United Nations. However, the information thrown up in course of investigating the state of the target population groups and the likely impact of some of the programmes recommended for attaining the MDGs can be enormously valuable for future public action.

The current study was prepared under the sponsorship of the United Nations Development Programme, which entrusted the Indira Gandhi Institute of Development Research, Bombay, for carrying out an investigation of the MDG-based poverty reduction strategy for major Indian states. Professor Shovan Ray approached the IDSK for taking up the study for the state of West Bengal, and we readily agreed to carry it out. Professor Achin Chakraborty and Dr Subrata Mukherjee, who had already completed several studies relating to various policy initiatives in the fields of decentralized governance, health and education on the part of the Central and State governments, agreed to take up the study. The present report is the result of their devoted and arduous work. Chakraborty and Mukherjee have treated poverty as a multi-dimensional phenomenon, which is the obverse of the attainment of the full human potential of human beings.

I hope that the report will be useful for policy-makers, academics and the general public. It shows, of course, that while progress has been made in reducing various dimensions of deprivation in the state, a vast amount remains undone, as in the rest of India. That West Bengal has done better than many other constituent states of India in some dimensions of human development, of course, should not produce complacency among the policy-makers, administrators or responsible citizens, for there are still many areas of darkness both in respect of visible deprivation and the impenetrability of the darkness surrounding the deprived. Apart from exogenous factors beyond the control of local policy-makers and administrators, both policy deficiencies and implementation failures can be blamed for suboptimal outcomes. Further and strenuous efforts will be needed to minimize both kinds of deficiency and locate the areas of darkness, even if we think that national and international developments may have an overdetermining influence on many outcomes.

Professor Ray has thanked the UNDP and the Planning Commission, Government of India, for sponsoring this study, and we, at the IDSK, endorse those words of gratitude. He singles out Seeta Prabhu, Suraj Kumar and Ritu Mathur of UNDP, and R. Sridharan and Rajat Sachar of the State Plan Division of the Planning Commission for their constant support. Independently of Professor Ray, and together with him, we thank the Development and Planning Department, Government of West Bengal, for the unflagging support that Professor Ray and the IDSK team received from its successive Principal Secretaries, Pradip Bhattacharya and Jaya Dasgupta, and Special Secretaries, B. P. Syam Roy and Kalyani Sarkar, during the preparation of the PRSP report.

It also gives me great pleasure to thank Professors Radhakrishna and Dilip Nachane, successive directors of the Indira Gandhi Institute of Development Research, with which the IDSK has enjoyed an informal but collaborative relationship, for their ungrudging help.

It gives me special pleasure to record our obligation to Professor Shovan Ray, who, through his compellingly persuasive arguments, induced the IDSK, and the principal team members, Professor Achin Chakraborty and Dr Subrata Mukherjee to undertake this study. I have always held that it is an unwritten obligation of public educational institutions to carry out investigative studies on behalf of the governments at the Centre and the States so long as the autonomy of the institution is not compromised. The terms of reference of the current study fulfilled that condition admirably.

The first draft of the study was presented at a meeting organized by the Department of Development and Planning on 20 July 2009. It was attended, among others, by Shri Nirupam Sen,

Minister-in-Charge of Development and Planning and Commerce and Industries, Government of West Bengal, Dr Asim Kumar Dasgupta, Minister-in-Charge of Finance and Excise, Government of West Bengal, Dr Surjya Kanta Mishra, Minister-in-Charge of Health and Family Welfare, and Panchayats and Rural Development, Government of West Bengal, Professor V. K. Ramachandran, member, State Planning Board, Government of West Bengal, and Sm. Jaya Dasgupta, Principal Secretary, Department of Development and Planning, Government of West Bengal. The IDSK was represented by Professors Amiya Kumar Bagchi and Achin Chakraborty. The paper was revised in the light of the very useful comments and suggestions made at the meeting.

Finally, on behalf of the IDSK academic team and myself, I would like to thank the administrative staff of the IDSK for their unquestioning performance of the various tasks involved in conducting the investigation and their consolidation into a report. Needless to say, no person mentioned in our roster of gratitude for the blemishes remaining in the report.

Amiya Kumar Bagchi

1. Introduction

The purpose of this paper is to examine the poverty situation in West Bengal in a multidimensional framework and to explore possible strategies towards reduction of poverty in the state, keeping in view the Millenium Development Goals (MDGs). The MDGs, adopted by a United Nations summit of representatives of 189 countries in September 2000, consist of eight objectives within which there are specific targets to be achieved by 2015, covering income poverty, hunger, primary education, gender equality, child and maternal mortality, HIV/AIDS and other diseases, and environmental sustainability. The MDG-based poverty reduction strategy therefore must encompass multiple dimensions of deprivation which would include income poverty as only one of the dimensions.

The standard economic policy recommendations for poverty reduction are basically of two kinds: one, recommendations for macroeconomic adjustments that are supposed to promote economic growth, and two, certain specific interventions based on the microeconomic logic of market failure or interventions based on some notion of distributive justice. In India, at the national level, both kinds of policies have so far been considered important, even though doubts have often been raised about the poverty reducing effects of the kind of rather impressive growth that the country has been experiencing in the recent period. Doubts have also been raised about the effectiveness of certain poverty alleviation programmes, as the design and implementation of certain schemes and programmes do not seem to have been founded on sound microeconomic logic. Notwithstanding the limitations of the anti-poverty programmes that the Indian state has so far implemented throughout the country, different sub-national units have achieved varying levels of success. Given the very large differences among the states in India in terms of achievements in poverty reduction and human development, it is important to focus on each state separately and examine how the state can attain the MDGs.

From the pro-active role that the state governments in India have been taking recently to bring investment to their respective states, it seems that the policy makers believe in a kind of

'separability' of the issues of growth and poverty - the view that is still dominant in certain circles of development economists and policy makers. The conventional policy thinking suggests that there are policies to enhance growth, such as, good infrastructure, security of property rights, 'investment-friendliness', etc, and to alleviate poverty specific programmes need to be designed basically to redistribute the fruits of growth. In other words, poverty alleviation programmes, it is conventionally believed, have no positive role to play as far as growth and economic planning are concerned. The recent theoretical and empirical research, however, questions this conventional wisdom. The argument that many anti-poverty policies can potentially - and do in fact - contribute to economic growth is, for good reason, now gaining ground. Instead of viewing poverty alleviation as a residual aspect of growth-oriented economic planning, a good number of scholars now argue that the current state of knowledge forces us to view it as an essential aspect of any growth-oriented strategy in the developing world.

In this paper, even though we address each important MDG in separate sections, we argue that they are not mutually separable. Strategies to improve infant and child health, for example, cannot be seen in isolation from mass literacy programmes. We often see a lack of match between standard poverty alleviation programmes that aim at income generation and the so-called 'social sector programmes' that seek to intervene in the areas of public health or elementary education. Even the policies and programmes within the social sector itself suffer from isolation in both design aspect as well as its implementation. In this paper we emphasise the need for integration and convergence both at the design level and at the level of implementation. However, the state governments have very little direct role in the design of most of the poverty alleviation schemes or programmes as the central and centrally sponsored schemes are designed at the centre. But, at the implementation level much can be done to improve effectiveness and reach of the schemes. Social sector planning (as opposed to economic planning), which aims at education, health or poverty alleviation, generally suffers from inadequate allocations, wrong prioritization, bad targeting, unimaginative design, or insensitive

delivery mechanism. Even though these points are generally applicable to India as a whole, the importance of specific elements varies from state to state. One of the most crucial questions in this context is: What relative role does the nature of demand for the social sector services play vis-à-vis adequacy or inadequacy of supply?

Explanations can be found for the differences in well-being and deprivation between regions and communities. There are pockets of poverty in both urban and rural areas. The challenge for policymakers is to use the available resources to provide the greatest possible assistance to those who need it most. In the absence of reliable information on personal income, the first-best solution of identifying the poor and directing all benefits only to them is not feasible. This makes targeting by means of indirect indicators the only feasible alternative. The relative ease of identifying the pockets of 'backwardness' makes the place of residence a possible criterion to determine eligibility for poverty reduction programmes. Special allocation for identified backward areas within a state is a commonly used strategy in India, which is used in conjunction with additional targeting criteria such as identification of Below Poverty Line (BPL) households. However, geographical targeting in India has so far been attempted to 'develop' the 'backward' regions by allocating more resources to build economic infrastructure in these areas. Activities of Paschimanchal Unnayan Parshad (PUP) or Uttarbanga Unnayan Parshad (UUP) are examples of this kind. In the area of social sector, however, geographical targeting has been less emphasized, even though a few attempts have been made in this direction. The District Primary Education Programme (DPEP) was planned to be implemented in phases - starting from the most backward districts. We shall discuss how the district level focus may hide a high intra-district variation and in the absence of specific strategies to target geographically smaller units the desired outcome may not be achieved.

Within smaller geographic areas, particularly rural areas, income disparities tend to be much smaller. This is because typically smaller areas have more homogeneous socioeconomic characteristics, and the population is subject to the same

agroclimatic and geographic conditions. Targeting smaller administrative areas - blocks, Gram Panchayats, or even individual villages - can reduce leakage significantly. The attempt made by the Panchayats and Rural Development Department, Government of West Bengal, to identify more than four thousand villages as 'backward' is an important step in this direction. However, this identification exercise has not been followed up by implementation of poverty alleviation programmes targeted specifically to these villages. Very limited efforts have been taken recently, the impact of which is yet to be visible. If a poverty alleviation programme is targeted to villages, a closer correspondence between need and provisioning can be achieved. Some villages, for example, may need badly a local source of drinking water while some others need a workfare programme like NREGS more than anything else.

Living in a well-endowed area means that a poor household can eventually escape poverty, while an otherwise identical household living in a poor area sees stagnation or decline (Jalan and Ravallion, 2002). This difference in prospect is sustained because of impediments to factor mobility, such that the productivity of capital and labour comes to depend causally on location. Then policies to redress spatial inequalities can compensate for the underlying factor market failures and thus stimulate pro-poor growth.

In the rest of the paper we deal with specific MDGs and examine in separate sections the prospects of reaching them, analysing the trends in each of the relevant indicators. In Section 2 the issues in income poverty and hunger or food security are discussed; Section 3 focuses on elementary education; Section 4 deals with the three MDGs that relate to child and maternal mortality and communicable diseases; Section 5 discusses the role of governance in poverty reduction, emphasising the initiatives that the government has taken to enhance participation to improve service delivery; and Section 6 summarises the strategies that may be considered to make faster progress towards achieving MDGs.

2. Poverty and hunger

2.1 Poverty trends

The first MDG states that the percentage of population below the poverty line should be halved between 1990 and 2015. In addition, the proportion of people who suffer from hunger should also be halved. The percentage of population below the poverty line, i.e. the poverty head count ratio, is supposed to be reckoned in terms of a poverty line based on 'one dollar a day'. Since the purpose here is not to compare poverty ratios internationally, we need not follow the one-dollar-a-day definition here. Instead, we track the trends in poverty in West Bengal in terms of the official definition of poverty given by the Planning Commission. As there is no estimate of poverty for 1990, we track the trends in both rural and urban poverty since the eighties as estimated by the Planning Commission from various rounds of NSS. Between 1987-88 and 2004-05 rural poverty (headcount ratio) in West Bengal has declined from 48.8 percent to 28.5 and urban poverty from 33.7 to 14.8. If these trends continue in future, the picture that is likely to emerge in 2015 is depicted in Figures 1, 2 and 3. Reducing the income poverty index by half in a period of twenty five years does not seem unattainable if we project from the longer trend starting from the seventies. However, given the fact that the trend has become flatter in the later period, it is difficult to predict with more precision for the reason explained below.

Although poverty in West Bengal has been declining throughout the past three decades, the pace of poverty reduction has been slower in the period between 1993-94 and 2004-05 than in the previous two decades. Incidentally, rural West Bengal experienced the highest decline in poverty among all the states during 1983-88. The annual percentage decline was 3.3 during this five-year period, whereas the same for rural India as a whole was 1.66. However, during 1987-05, headcount ratio for rural West Bengal declined at an annual rate 1.19 percent. Even though this is considerably smaller than the rate of decline in the previous period, it turns out to be the second highest rate of decline among all the major Indian states since most of the states fared rather poorly in the later period.

**Figure 1: Trends in rural poverty in WB & India**
(Head count ratio)
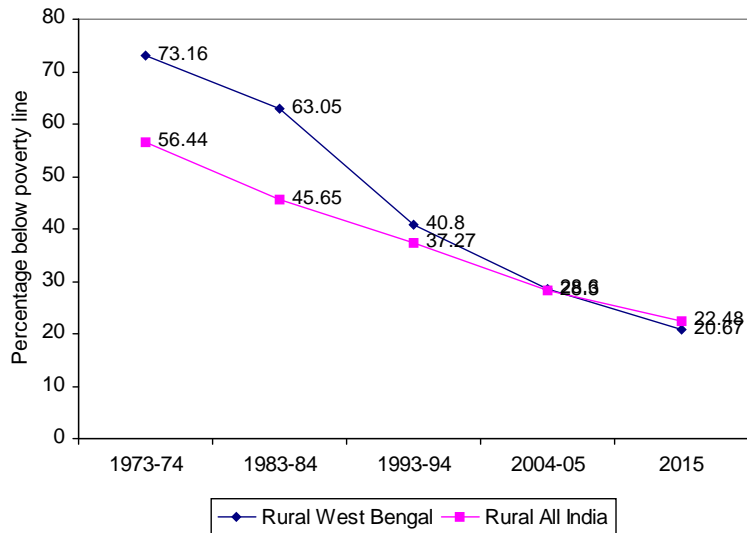
Source: Planning Commission, GoI.

The impressive decline in rural poverty in West Bengal between 1983 and 1988 coincided with an equally impressive growth in agricultural output. Saha and Swaminatham (1994) estimated that the annual exponential growth rate of output was 6.4 percent during 1981-82 to 1990-91. Several other estimates that took a slightly different beginning or terminal year also came up with the conclusion that West Bengal agriculture grew at an unprecedentedly high rate during the eighties. Growth in foodgrain production, however, slowed down in the early part of the nineties, even though agricultural output grew throughout the nineties at a rate much above the all-India average.

The share of the poorest 20 percent of the population in total consumption expenditure increased from around nine percent in 1983 to 11 percent in 1993-94. However, it increased marginally thereafter (Chattopadhyay, 2005). We have already noted that the decline in rural poverty slowed down starting from 1993-94. From these pieces of evidence, it seems obvious that the sharp decline in rural poverty in the eighties can be almost entirely explained by the unprecedented growth in agriculture during the same period and correspondingly the slower decline in rural poverty in the later period can also be explained in terms of the decline in agricultural growth. Datt and Ravallion (1998) had earlier suggested that the record of the major states in reducing poverty could largely be explained with reference to the systems of education and health care, and of agricultural infrastructure, that were inherited from the British raj. They do concede, however, that once economic growth rates are controlled, the poor are most likely to be empowered in those provinces where the lower castes or classes are strongly represented in ruling political regimes, as they are in Kerala, Tamil Nadu and West Bengal. Even though Harriss (1993) too made a similar point about representation of lower classes in ruling political regime, he acknowledged that much of the observed reduction in rural poverty in West Bengal through the 1980s and early-1990s was triggered by an extension in the double and even triple-cropping of rice.

Figure 2: Trends in urban poverty in WB & India
(Head count ratio)
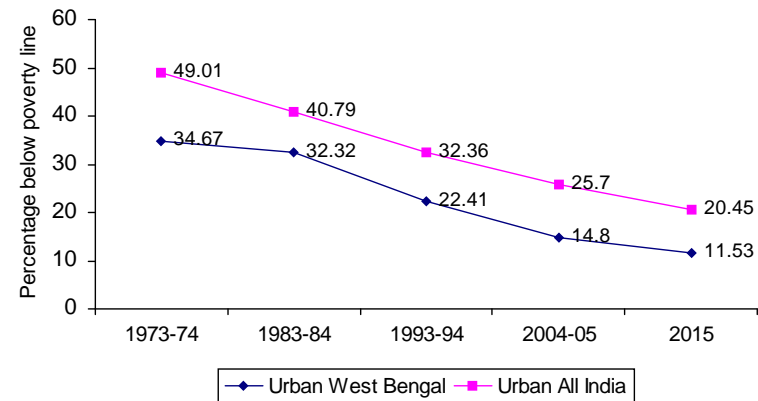
Source: Planning Commission, GoI.

Given this common understanding of the role of agricultural growth in the decline in rural poverty, and given the widely-shared view that there is little prospect of another turn around in agricultural growth in West Bengal, the question is: how can the state achieve further decline in rural poverty in a situation of slower growth in

agriculture? One area that draws immediate attention is the rural non-farm sector. There is considerable interest in understanding better how the non-farm sector contributes to economic growth and what specific role it plays in alleviation of rural poverty. Rural households participate in a wide range of non-agricultural activities such as wage and self-employment in commerce, manufacturing and services, alongside the traditional rural activities of farming and agricultural labour. There is a need for better understanding of the rural non-farm sector.

Figure 3: Poverty trends in WB & India
(Head count ratio)
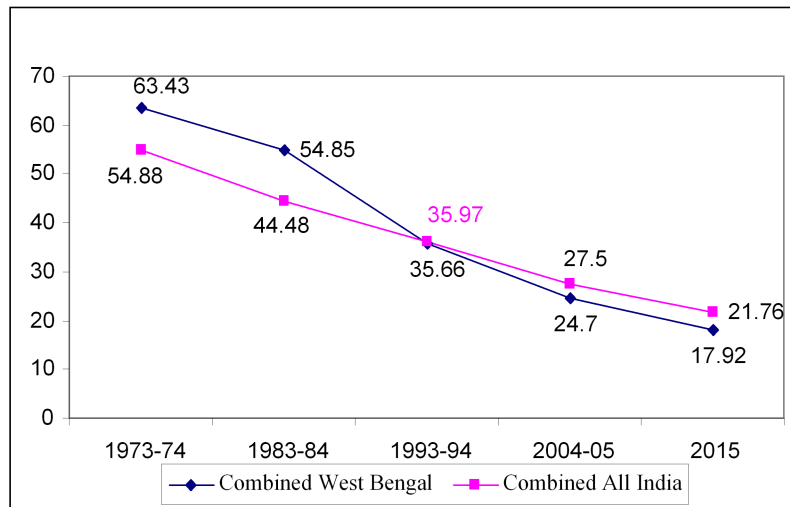
Source: Planning Commission, GoI

Analysing the survey data collected by NCAER in 1994, Lanjouw and Shariff (2004) find that non-farm incomes account for a significant proportion of household income in rural areas at the national level, but that this masks considerable variation across quintiles and across India's major states. Evidence shows that education and wealth are strongly correlated with the more remunerative non-farm activities. Among the other correlates, village level agricultural conditions, population densities and regional effects have independent significance. Lanjouw and Shariff

suggest that while the non-farm sector may be non-negligible in size in rural India, its direct contribution to poverty reduction is rather modest since the poor lack the assets which determine access to non-farm incomes. However, a growing non-farm sector can have influence on agricultural wage rates in rural India. They find that growth of certain non-farm sub-sectors is strongly associated with higher agricultural wage rates, an observation which is consistent with a significant poverty reducing impact and a tightening of rural labour markets.

In West Bengal, non-farm activities in rural areas have increased significantly. As a matter of fact, the percentage of workers employed in non-agriculture, according to Census 2001, was one of the highest among all the major states in India. However, to what extent the expansion in rural non-farm employment tightened the labour market and exerted upward pressure on agricultural wage rates remains a question. According to the Economic Census 2005, 10 percent of the total enterprises in the country are in West Bengal. However, 95 percent of them employ five or fewer persons. But this is no different from the all-India scenario. Studies suggest that very tiny enterprises have very low probability of survival. But where West Bengal differs from all other states is that West Bengal is the only state where the real wages for both casual agricultural and non-agricultural workers actually declined in the period between 1993-94 and 1999-2000 - two NSS rounds (Srivastava and Singh, 2006). Given the evidence that between the last two censuses the percentage of agricultural labourers in total (main + marginal) workers actually increased and the absolute number increased significantly, it seems that the non-farm sector could hardly absorb the growing number of people with very little human capital. In other words a large number of rural inhabitants are stuck with the kind of work that has little prospect of generating adequate income to get out of poverty, given the stagnating average wages in both agriculture and non-agriculture. It could be seen as a case of 'poverty trap' largely due to very low level of human capital. In rural West Bengal, 27 percent of the population in the age group 15-24 years remained illiterate in 2001. Persons in this age group are the new entrants to the labour market. It can be imagined that the type of work that

would be available to them will hardly be enough to keep them above the poverty line. In other words, this group will add to the number of 'working poor'. The problem is particularly acute among the Scheduled Tribes as it is evident from Table 1.

Table 1: Percentage of non-literate Scheduled Tribe persons among 15-24 age groups in rural areas of West Bengal

Districts	Percentage non-literate
Darjeeling	35.50
Jalpaiguri	49.45
Koch Bihar	33.80
Uttar Dinajpur	68.70
Dakshin Dinajpur	48.50
Malda	62.20
Murshidabad	56.62
Birbhum	63.46
Bardhaman	49.31
Nadia	50.83
North 24 Parganas	42.55
Hooghly	44.60
Bankura	37.43
Purulia	46.18
Midnapore	42.15
Howrah	46.49
Kolkata	16.58
South 24 Parganas	47.33
West Bengal	**47.19**

Source: Census 2001

2.2 Hunger and food security

It is well known that household food insecurity may very well coexist with adequate availability of food at the national or sub-national level. Yet, the fact that the percentage of people in West Bengal who reportedly do not get two square meals a day at least some days in a year is the highest among all the major states would definitely surprise all, given the state's remarkable achievement in agricultural production. The state has been holding on to this dubious distinction for more than a decade now, as revealed by NSS reports on 'reported adequacy of food intake'. NSS reports give two categories of inadequacy in food intake: (1) households reporting 'not getting two square meals a day' in some months of the year, and (2) households reporting not getting the same throughout the year. In rural West Bengal, much higher percentages of households report both kinds of inadequacy compared to rural India. Not only that reported inadequacy is high in rural West Bengal, it has remained so for over a decade (Table 2).

Table 2: Reported inadequacy of food intake in West Bengal

		Percentage of households whose members do not get two square meals a day					
		Throughout the year			Some months of the year		
		2004-05	1999-00	1993-94	2004-05	1999-00	1993-94
West Bengal	Rural	1.3	2.3	3.0	10.6	8.1	11.1
	Urban	0.7	1.1	1.5	0.6	0.9	2.0
India	Rural	0.4	0.7	0.9	2.0	2.6	4.2
	Urban	0.4	0.6	0.5	0.1	0.3	1.1

Source: NSS Report nos. 415, 466, 512

What is even more puzzling is that, while in all other states the percentage of households reporting food inadequacy has declined between 1999-00 and 2004-05, and in some states no households reported such inadequacy in 2004-05, in West Bengal the percentage has in fact increased (Figure 4). Although this needs further micro-level investigation of hunger and food inadequacy, it points towards an alarming tendency in West Bengal. While the overall headcount ratio of poverty is declining, a section of the poor seems to have been condemned to chronic poverty and hunger. This is also supported by the assessment made by the Panchayats and Rural Development Department, Government of

West Bengal, that there are at least four lakh persons in the state who are absolutely destitute.

Figure 4: Households reporting not getting two square meals a day
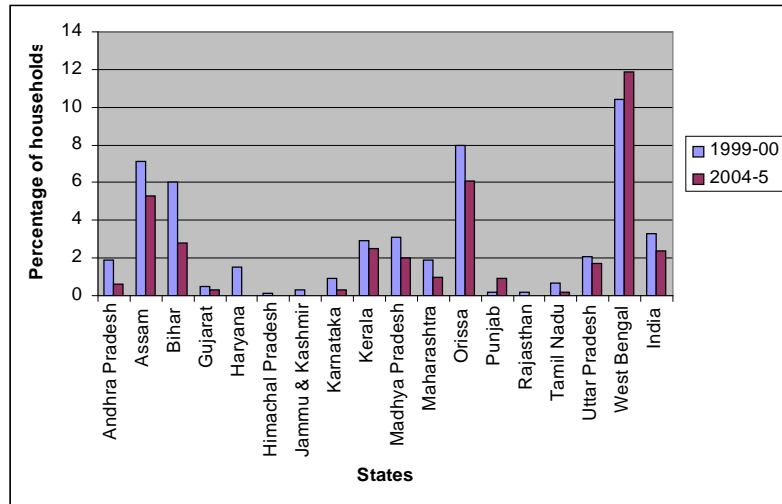
The puzzle is further compounded by the fact that the performance of the public distribution system (PDS) in West Bengal is no worse than in a majority of the states in terms of foodgrains off-take, leakage, and overall functioning, as revealed by the study conducted by the Programme Evaluation Organisation (PEO) of the Planning Commisssion, Government of India. As a matter fact, West Bengal shows the minimum leakage of subsidized foodgrains meant for BPL households, among all the major states. While 73 percent of the subsidized foodgrains goes to the poor in West Bengal, it is as low as nine percent in Bihar. Yet the reported inadequacy of food intake is much lower in Bihar than in West Bengal. However, even though the 'inclusion error' i.e. the proportion of APL households that have been wrongly given entitlement to subsidized grain in PDS, is low in West Bengal, the 'exclusion error', i.e. the proportion of BPL households deprived of their entitlement to subsidized grains, is rather high (32 percent). If the high value of exclusion error is disaggregated into (1) error

due to wrong identification and (2) error due to administrative malpractices, it turns out that a large part of the error (27 percent) is due to wrong identification.

2.3 BPL identification

That a steady decline in headcount ratio of poverty can be consistent with a constant, or even increasing, proportion of households experiencing food insecurity is no longer a hypothetical possibility. There has been an important debate on whether or not the Planning Commission methodology of counting the poor adequately captures the extent of nutritional deficiency due to inadequate calorie intake in a large number of households. But instead of looking at calorie intake we have looked at perceived inadequacy of food intake and found a sharp disjuncture between declining overall poverty ratio and reported food inadequacy in the case of West Bengal. Perhaps West Bengal is the only state where it shows up so sharply. A section of the population identified as 'above poverty line' is perhaps food insecure.

The Rural Development Department of the Government of India formulated a set of guidelines for identifying the BPL households for the purpose of eligibility under various poverty-alleviation programmes including Targeted Public Distribution System (TPDS). There are 13 different indicators and the state governments follow those guidelines and indicators almost in their entirety, even though they are free to fine tune the indicators to suit local conditions. The BPL identification methodology includes food insecurity as one of the criteria. However, since the household's overall status is determined on the basis of the total score, it is possible that a household is food insecure but the total score exceeds 33 (i.e. the cutoff poverty line score). We find evidence of this phenomenon from both the BPL surveys conducted in 2002 and 2005. This is quite expected in any multidimensional index and therefore should not be used as an argument to criticize BPL data. There is a lot of skepticism about the BPL data among the administrators and policy makers. We feel that there is no reason to reject the BPL data outright while analyzing poverty. Apart from the intrusion of vested interests of political and other kinds, BPL identification suffered from the problem of the lack of managerial skill as well. Even though the ostensible purpose behind

collecting BPL data is BPL identification, the data can be used for multiple purposes besides counting the number of households scoring less than the cutoff. If the importance of the data on each component were recognized for its own usefulness, care would have been taken to validate the data giving due importance to each component separately. If a high proportion of households scoring 1 or 2 on the indicator of food security are not identified as BPL households, there is a need for rethinking on the indicator since BPL identification has clear link with households' entitlement and access to subsidized food. The Panchayats and Rural Development Department (P&RD) of the Government of West Bengal has taken some initiative in this direction.

The findings from Rural Household Survey (RHS) conducted by P&RD in 2005-06 reconfirmed the NSS findings on reported inadequacy of food. According to RHS, around 480250 families (which constitute 3.5 per cent of all families) reported inability to manage even one meal a day for the major part of the year. As much as 7 per cent of the population in some districts reported that they could manage to get 'less than one square meal per day for major part of the year', and the figure is even higher (12-13 per cent) for some Gram Panchayats in Purulia. Most of these families are unable to take advantage of the workfare type programmes, such as NREGS, as the members are incapable of doing manual work. One observes in these families concentration of deprived conditions in multiple dimensions. They are most likely to be non-literate, under-nourished and in ill-health, lacking all kinds of opportunities, and so on. Even though they are on the BPL list, the PDS grains either do not reach them or they do not even have the means to buy the subsidized grain.

After identifying the families that suffer from hunger and destitution, the P&RD department initiated in November 2007 a programme called SAHAY. The programme initiates a process that starts with identification of the destitute families at the Gram Panchayat level. The GPs are then supposed to formulate and implement a poverty sub-plan which would address family specific vulnerabilities. The main thrust of the programme is to ensure implementation of the existing support schemes, such as AAY or close monitoring of PDS, as well as providing additional support,

such as cooked food through SAHAY-Bandhus. To address the needs of the SAHAY families, the GPs are supposed to ensure linkages between various programmes for the poor.

From the two Guidelines issued subsequently by P&RD on October 10, 2008 and July 15, 2009, it is clear that in spite of repeated instructions from the department the Gram Panchayat functionaries do not seem to have grasped the importance of the programme. It is too early to comment on the success or failure of SAHAY programme. Table A2, however, reveals that a very small percentage of the destitute families have been supported by the programme so far. Given the enormity of the task to be accomplished, a concerted effort is needed to extend the reach of programme.

2.3 Role of National Rural Employment Guarantee Scheme (NREGS)

With the advent of the National Rural Employment Guarantee Act (NREGA), the poverty situation is likely to change. It is too early to assess the impact of NREGS on the real wages in rural areas as the scheme was launched in February 2006. NREGS, which now extends to all districts of West Bengal except Kolkata, is crucially linked to rural poverty alleviation in two important ways: First, the Act aims to provide 100 days of guaranteed employment to rural households (in a financial year) whose adult members volunteer to do unskilled manual work. Second, using this manual labour the scheme aims at creating durable community or private assets which will strengthen the livelihood resource base of the rural poor. Therefore, if properly implemented, the Act is expected not only to enhance income of the rural poor in the short-run but also to generate productive infrastructure in a sustainable manner which is much needed for poverty alleviation in the long-run, and to that extent it provides the safety net to the rural poor.

There is no straightforward way of judging success of NREGS. We observed that the 'average person-days per household per year' was 25 in West Bengal in 2007-08, which marginally increased to 26 in 2008-09. These figures are far below the all-India average. Yet, one might have reason to hesitate to judge it as an indication of total failure. Ideally, if there were adequate opportunities for wage work at the stipulated minimum wage, there

would be no demand for NREGA work, and the intensity of demand would vary according to the extent of availability of work opportunities in the economy. Thus the 'success' of NREGA depends on a complex of structural conditions the effect of which is difficult to separate out from the effect due to government's 'effort'.

The Panchayati Raj Institutions (PRIs) are the major designated agencies for the implementation of NREGA. The Gram Panchayat (GP), which is the lowest tier of PRI, is responsible for identification, execution and supervision of NREGS. Therefore, the success in the implementation of NREGS would depend not only on the basic structure of the local economy (such as the level of overall development, workforce composition, incidence of poverty etc.) but also on the capacity and accountability of the PRIs. NREGS is expected to be successful in West Bengal since the state is known to have strong PRIs (West Bengal Human Development Report 2004). There are other factors[1] too which should work in favour of a successful implementation of NREGS in West Bengal. As we discussed earlier, the rural poverty ratio is still significantly high in West Bengal (28.6 percent). The percentage of rural households 'not getting two square meals a day in some months' is the highest in West Bengal among the major Indian states.[2] The agricultural wage rate in West Bengal is lower than the national minimum wage rate of Rs. 66 (20 rupees less for male and 30 rupees less for females according to National Commission for Enterprises in Unorganised Sector 2007).

Despite all these favourable factors for higher demand for NREGS work by rural households in West Bengal, the available statistics for the last three years show that the state's success in generating employment under NREGS is rather poor. Among the structural constraints, high density of population and the resulting lack of available fallow land for public work are often cited as the most important one. Figure 5 presents the scatter plot showing

the correlation between 'average person-days per household' and population density in rural areas across districts. There is moderate negative correlation between the two (-3.5). It is clear from the scatter that the districts with less than the state average of 'person-days per household' (25) are the ones with relatively higher population density. The only exception is North 24 Parganas where the average number of person-days per household is 32.

Figure 5: Relationship between population density and average person-days per household (2007-08)
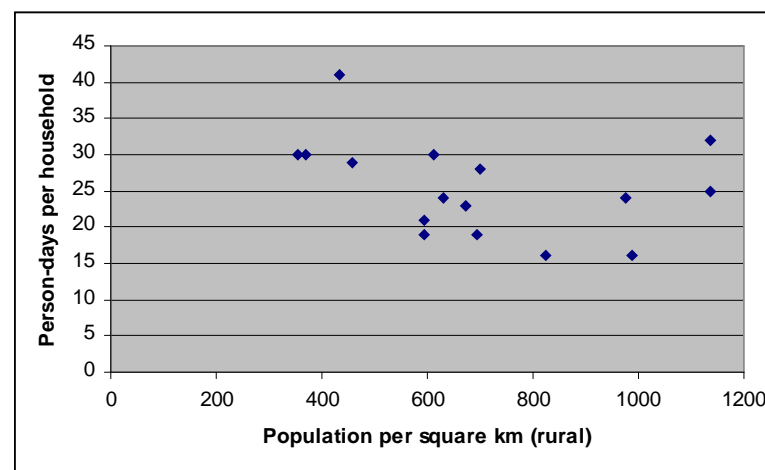
Data Source: Census 2001 and www.nrega.nic.in

NREGA requires that one third of the total work have to be given to women. West Bengal is among the states where the share is far less than one third (see Table 3). In Tamil Nadu, the share is about 80 per cent. However, this is consistent with the overall participation of women in the labour force in the two states. As a matter of fact, West Bengal has one of the lowest female labour force participation rates.

In West Bengal 73.35 per cent of the total rural households were provided with job cards in the first phase during 2006-07, but the average person-days created per household was 14-15 days, which was far below the promised 100 days. However, there has been substantial increase (from 14 to 25) in average person-days

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1. For example, high rural poverty ratio, large percentage of rural households not getting adequate food to eat everyday, almost stagnating agricultural wage rate, etc.
2. This factor, however, may or may not work in favour of creating high demand for NREGS work because malnourished people may not be in a position to do hard work.

per household between 2006-07 and 2007-08. What is to be noted is that, the percentage of rural households that have been provided with job cards in West Bengal has been the highest among all the states. A useful distinction may therefore be made between 'extensive' and 'intensive' coverage of the scheme. In West Bengal, unlike in most other states, the total number of person-days created in a year is relatively more thinly spread over a larger number of households. Therefore, it is suggested, the 'average person-days per household per year' understates the 'extensive' coverage of the scheme. On the other hand, the fact that so many households demand NREGA employment in the state indicates serious lack of availability of work at the stipulated wage rate.

Table 3: Performance indicators of NREGS in major states in India

	Average person days per household		Share of women in total person days	
States	2006-07	2007-08	2006-07	2007-08
Andhra Pradesh	33	42	55	58
Assam	72	39	32	31
Bihar	16	23	17	27
Chattisgarh	54	57	39	42
Gujarat	44	35	50	47
Haryana	48	49	31	34
Himachal Pradesh	47	36	12	30
Jammu & Kashmir	35	-	4	-
Jharkhand	37	46	40	27
Karnataka	38	36	51	50
Kerala	21	33	66	71
Madhya Pradesh	68	63	43	42
Maharashtra	5	39	37	40
Orissa	57	37	36	36
Punjab	49	39	38	16
Rajasthan	85	76	67	69
Tamil Nadu	28	51	81	82
Uttarakhand	30	42	30	43
Uttar Pradesh	39	34	17	15
West Bengal	14	25	18	17
India	43	42	41	43

Source: www.nregs.nic.in

When NREGS was launched in 2006, 10 districts of West Bengal were selected for implementation in the first phase. Among the first phase districts in West Bengal, the average person days per household increased from 14 days to 17 days mainly due to increase in two districts, namely, Bankura and Purulia (see Table 4). Bankura has generated so far the highest person-days per rural household among all the districts in both the years. In other first-phase districts, substantial improvements have been observed between 2006-07 and 2007-08 in terms of generation of average person days. Among the first phase districts, the lowest number of person days has been generated in Murshidabad in both the years; Maldah, Uttar Dinajpur and South 24 Parganas lag far behind others. Among the second phase districts, North 24 Parganas did the best in 2007-08.

Table 4: Average person-days created under NREGS per applicant household in the districts of West Bengal

Districts	2006-07				2007-08			
	Average person days created per household				Average person days created per household			
	SC	ST	Other	Total	SC	ST	Other	Total
South 24-Parganas	11	11	11	11	18	19	19	19
Bankura	20	39	24	24	34	36	58	41
Birbhum	25	26	18	22	30	39	29	31
Dakshin Dinajpur	19	26	11	16	22	20	22	21
Uttar Dinajpur	10	9	11	10	15	15	23	19
Jalpaiguri	8	10	8	8	27	33	29	29
Maldah	13	23	12	13	10	16	21	16
Murshidabad	7	6	8	8	14	15	16	16
Paschim Medinipur	14	13	21	16	20	20	32	24
Purulia	13	14	11	12	28	29	31	30
North 24-Parganas	--	--	--	--	29	38	32	32
Burdwan	--	--	--	--	30	26	26	28
Coochbehar	--	--	--	--	27	*	16	23
Siliguri MP	--	--	--	--	20	24	29	25
Hoogly	--	--	--	--	25	25	25	25
Nadia	--	--	--	--	16	16	27	24
Purba Medinipur	--	--	--	--	23	21	23	23
Total	14	16	12	14	25	28	25	25

*Note: * 771, which is absurd.*
Source: Calculated from www.nregs.nic.in

Table 5 shows combined shares of SC and ST in total population as well as total person days created under NREGS (2007-08). In order to find out the shares of NREGS benefits that have gone to the SC and ST communities in comparison to their share in population, we have computed the 'favour ratio'. Higher the value of the favour ratio than one, the more it indicates 'favour' towards SC and ST communities, which is indeed desirable. The districts which have done exceptionally well in distributing the benefits of NREGS in favour of SC and ST communities are Hooghly and Bardhaman. On the other side, there are districts like Cooch behar and Nadia where SC and ST communities have not received their due share of NREGS work.

Table 5: The combined percentage share of SC and ST in total population and person-days created per household (April 2007 - March 2008)

Districts	Share of (SC+ST) in total Population* (1)	Share of SC+ST in total person-days (2)	Favour ratio [(2)/(1)]
South 24-Parganas	33	41	1.2
Bankura	42	59	1.4
Birbhum	36	52	1.4
Dakshin Dinajpur	45	61	1.2
Uttar Dinajpur	33	37	1.1
Jalpaiguri	56	72	1.3
Maldah	24	36	1.8
Murshidabad	13	18	1.4
Paschim Medinipur	33	52	1.4
Purulia	37	58	1.6
N 24-Parganas	23	41	1.7
Bardhaman	33	67	2.0
Coochbehar	51	59	0.8
Siliguri MP	-	55	-
Hoogly	28	64	2.3
Nadia	32	22	0.9
Purba Medinipur	15	19	1.3

*Note: * population figures correspond to Census 2001; ** figures on person-days are pertaining to 2007-08.*
Source: Census of India, 2001

Mukherjee and Ghosh (2008) in their case study on the performance of Birbhum district on NREGS find considerable inter-block variations in terms of average person-days created and utilisation of NREGS funds. The blocks which performed better also showed considerable intra-block variation (or inter-GP variation). There is no clear relationship between utilisation of available funds for NREGS and average person-days created either at the GP level or at the block level. This suggests that a block or a GP may exhaust all its funds and still be unable to provide a good number of days of employment to households who are in need of employment. There is weak correlation between the number of households with job card and NREGS funds available at the GP level. It seems that GPs are not able to come up with schemes in adequate number to absorb all those who are in need.

NREGS is expected to be better implemented in places with a large number of agricultural labourers or a large number of poor households, since work opportunities of the agricultural labourers or poor households are subject to seasonal variations. The case study of Birbhum district shows that there is no evidence to vindicate this expectation. Instead of a positive relationship, a clear negative relationship is observed between percentage of BPL households and average person-days created per household.

The field survey conducted by IDSK team in two GPs (a developed GP and a backward one) of Birbhum district reveals that although people are familiar with NREGS as *100 days work,* they have very little knowledge about the application process for job card and work, unemployment allowance, compensation in case of delay in wage disbursement, etc. The Scheduled Tribe households were found to be in the most disadvantaged position in terms of average person days, although the position was marginally better in the advanced GP. It seems that the greater the need, the lower is awareness and access. NREGS also seems to have made no impact on seasonal migration.

The views expressed by the GP Pradhan, members and Sachibs during the field survey clearly point out that GPs need more support from technical staff (such as from engineers in designing the scheme, and overseers and data entry operators for implementing the schemes). "Too much paper work for NREGA"

was cited as a problem by many GP members including the Sachibs. As per NREGA, a GP is required to prepare an annual report containing the facts and figures and achievements relating to the implementation of the programme and a copy of the same is to be made public on demand. The shortage of human resources as a problem in the effective implementation of NREGS has been pointed out by other observers on NREGS.[3]

Though NREGA allows scope for creating various types of durable productive assets at the community level (such as roads, improving rural infrastructure, drought-proofing, watershed development, water conservation etc), it is generally observed that those works are frequently chosen which are easy to design (such as road construction and pond excavation), while more meaningful projects for rural transformation remained neglected. This finding is not just confined to the study GP; it has been observed in many places (Dutta 2008).

Given the way NREGS is designed, the five year perspective plan and annual plans by the GPs become very crucial for generating adequate employment opportunities and for creating meaningful assets for the communities in the long-run. Thus, in order to facilitate planning process and proper implementation of NREGS by GPs, comprehensive training on various issues involved during the process of implementation is of utmost importance. The components of the training may include correct identification and conceptualisation of the projects based on their usefulness to the community, making out various steps while executing the projects in view of the availability of unemployed labour force, and technique of supervision, reviewing and monitoring of the project at various stages of implementation for quality control, convergence of funds for single project etc. To what extent support from local NGO/ CBO can be sought also deserves special emphasis. In addition, training on maintenance of records and registers, administrative procedures involved at the GP level and grievances handling mechanism, process of conducting social audit, awareness generation at the village level about entitlements of NREGA so that an increasing number of people including women and those

belonging to the disadvantaged sections get involved in the programme. Capacity building in the backward GPs is absolutely necessary since the members and the functionaries in these GPs have low voice and less bargaining power vis-à-vis the block or district level administration.

Since the low capacity of PRIs (especially the GPs) is often identified as a major reason for failure of NREGS in many places, one can explore the possibility of utilising the ongoing Strengthening Rural Decentralisation (SRD) programme of DFID as an opportunity for improving the capacity of the PRIs in West Bengal. In agreement with DFID, a detailed programme for SRD was designed by the Panchayats and Rural Development Department (P&RD) of Government of West Bengal in 2003. The programme was launched by the end of 2005 in six of the most backward districts of West Bengal (Uttar Dinajpur, Dakshin Dinajpur, Malda, Murshidabad, Purulia and Birbhum). In designing the programme, the P&RD identified areas in the functioning of PRIs which needed systematic improvements in quality of governance with wider and better participation, greater transparency, accountability and responsiveness towards the poor for economic development with equity and social justice.

So far the SRD programme has carried out phased interventions for intensive capacity building of PRI functionaries in the six selected districts. These initiatives include special training workshops for all categories of PRI functionaries with thrust on various thematic issues like institutional strengthening, integrated pro-poor planning involving village community, resource mobilisation, better financial management, improved institutional practices including maintenance of transparency and expanded livelihood practices. There is evidence that SRD programme has registered notable achievements in some aspects of capacity building at the Gram Panchayat level since its inception. For instance, with support from SRD along with community involvement it was possible to install planning processes based on Gram Sansad Plan in 304 GPs and about 4000 Gram Sansads.

Positive evidence of convergence of the initiatives of GP and of the line departments for improved delivery of the essential services has also been observed in the GPs. There is also

3. See EPW editorial dated January 26, 2008; Comptroller and Auditor General (2007), Dutta (2008) and Ambasta, Vijay Shankar and Shah (2008).

evidence that SRD programme has been instrumental in promoting community initiative, and meeting so-far-unperceived needs of the communities in the areas of public health, education and expansion of livelihood. Seeing the positive impact of SRD programmes on the coordinated activities of GPs, it is suggested that the experience of SRD can be utilised for expanding GP's capacity in NREGS implementation. If recruiting adequate human resources does not seem feasible in the short-run, the potential of SRD programme can be used to train the GP functionaries on the aforementioned issues so that NREGS can be better implemented by the GPs.

3. Elementary Education

3.1 Enrolment and dropout

The observation that West Bengal has had rather modest success in spreading elementary education among the masses is not much in dispute. Roughly, thirty one percent of the state's population remained non-literate at the beginning of the present century, which is only marginally less than the all-India average. To achieve total literacy in a short span of time the standard policy approach emphasises programmes for adult literacy and continuing education on the one hand and universalisation of primary enrolment by improving school facilities, on the other. The current level of illiteracy can be viewed as the result of past non-enrolment and dropouts. For West Bengal, what is worrying is that universal enrolment even at the primary level has not been attained, which means total literacy in the near future remains unattainable unless a concerted effort is made to bring to schools all out-of-school children in the relevant age group.

According to Census 2001, in West Bengal about 50 lakh children in the age group 6-14 years were not attending any educational institution. They constituted 29 percent of all in the same age group. Against the backdrop of this huge number of out-of-school children, the Sarva Shiksha Abhiyan was launched in 2002. The overall aim of this centrally sponsored programme was to provide quality elementary education to all children in the age group 6-14 years by 2010. To achieve this, it was envisaged that all children must complete four years of primary schooling by 2006. Clearly this has not been achieved.

For the past several years, the Gross Enrolment Ratio (GER) at the primary level has been exceeding 100. It was 101 in 2002, according to the 7th All India School Education Survey by NCERT, and 104 according to the DISE (District Information System for Education) data for 2005-06. GER is a poor indicator for monitoring progress towards universal enrolment, as it cannot indicate the number of children remaining out of schools. What is of interest is the number of out-of-school children (age 6-11 years or 6-14), and for that purpose we need to conduct surveys of out-of-school children. A related notion is the Net Enrolment Ratio (NER), which

is a better indicator than GER. However, estimates of NER are fraught with problems. While the Economic Review for 2005-06 of the Government of West Bengal claimed that the NER at the primary stage was as high as 98, it is 84.5 according to the State Elementary Education Report Cards 2007, prepared by the National University of Educational Planning and Administration (NUEPA) based on the District Information System for Education (DISE) data collected and compiled by the MIS cell of the State Project Office of the Sarva Shiksha Abhiyan. In other words, the number of out-of-school children in the age group 6-11 years could be anything between two and fourteen lakh. According to the child census conducted in 2007 the number of out-of-school children in the age group 5-13 is about seven lakh. On the other hand, the Annual Status of Education Report (ASER), 2008, shows that the percentage of out-of-school children in the age-group 6-14 in West Bengal has come down from 7.8 in 2006 to 5.7 in 2008. Even though all these numbers cannot be directly compared with the Census 2001 figures, it can be concluded that between 2001 and 2008 significant reduction in the number of out-of-school children has occurred. However, in relative terms, West Bengal still lags behind the majority of the states in terms of the percentage of out-of-school children (Figure 5) and the rate of dropout at the primary stage (Figure 6).

Figure 5 Percentage of out-of-school children in major states of India, 2008
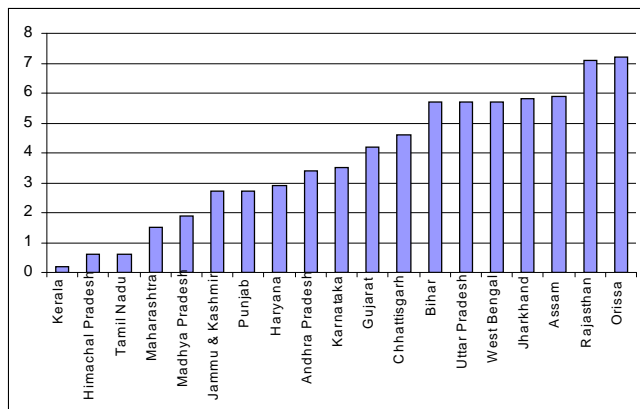
Source: Annual Status of Education Report (ASER) 2008

Figure 6 Percentage of enrolled children at the primary level who dropped out, 2007-08
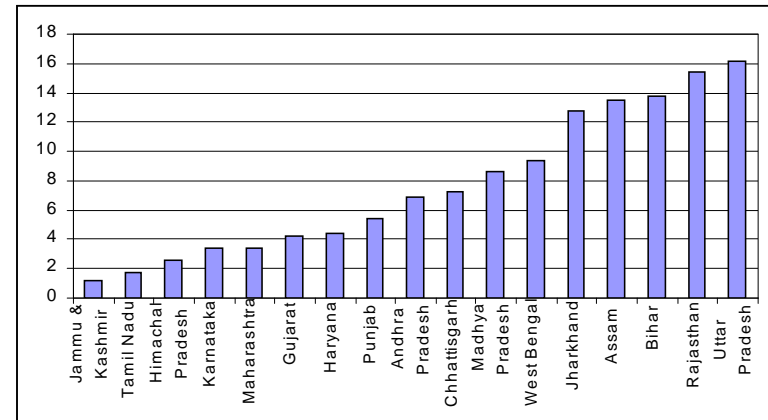
Source: DISE, 2007-08

The District Primary Education Programme (DPEP) was implemented in 1997 in five districts of the state, and later extended to cover five more districts, with the overall objective of universalisation of elementary education. Earlier studies noted rapid expansion in enrolment in the DPEP districts vis-à-vis the non-DPEP districts. DPEP later culminated in SSA and it has been more than a decade now that the targeted intervention programme has been in place. But the result has been rather modest.

At the policy level this requires distinct focus on several aspects of the process of universalisation. It is well-known that literate parents - mothers in particular - are more likely to send their children to school than the non-literate parents. The adult literacy programme, which was implemented in the early nineties in a campaign mode, eventually ran out of steam, leaving a substantial number of adult non-literates untouched. Even the positive gains from the programme could not be kept up as the neo-literates lost their literacy skills for the limited reach of the post-literacy and continuing education programmes.

Improving quality and efficiency of elementary schooling is generally more difficult than effecting quantitative expansion and growth in enrolment. Although there is little evidence of

improvement in the average quality of instruction, the growth in enrolment in the very recent couple of years has been impressive. To a significant extent the latter can be attributed to the mid-day meal (cooked) scheme that has been seriously implemented recently. Enrolment is thus highly sensitive and adaptable to interventions. Enrolment is also sensitive to changes occurring outside the realm of education policy. In certain districts, it has been observed that the parents' decision to migrate in seasons seriously affects children's education.

3.2 Infrastructure of primary education:

In the past nine years of DPEP and Sarva Shiksha Abhiyan the infrastructure for primary education in West Bengal has significantly improved. We select a set of indicators to compare twenty Indian states based on the data available from the District Information System of Education (DISE). In Table 6, the second column gives the ratio of the number of primary schools to that of upper primary schools. The latter includes both the 'upper primary only' schools and secondary schools. Even though, strictly speaking, this is not an indicator of primary school infrastructure, it plays a very important role in the progress towards universalisation of elementary education. The ratio indicates opportunities for further education available to students who complete primary education.

The other indicators of infrastructure that we have taken are the percentage of single classroom schools, the percentage of single teacher schools, the percentage of schools with student-classroom ratio exceeding 60, the percentage of schools with pupil-teacher ratio exceeding 60, and the percentage of schools without girls' toilet. All these indicators are 'deprivation-type' rather than achievement-type. Since our purpose here is to highlight the gaps and suggesting strategies to mitigate the deprivation we have deliberately chosen these indicators.

We could also include in our reckoning the percentage of female teachers in primary schools as it is well recognized that parents generally would like their girl children to be taught by women, and girls find their role model in the female teacher. As early as in 1956-57, 41 percent of the school teachers in Kerala were women. The number has steadily increased over the years,

and now the percentage of women teachers stands at 73. This can be contrasted with West Bengal where the percentage is now 32. However, our composite index in Table 6 does not include this indicator.

Table 6: Ranking of states according to composite index of infrastructure for primary education, 2007-08

	Primary/ UP & above	%single classroom schools	%single teacher schools	%schools with SCR>60	%schools with PTR>60	%schools without girls' toilet	Index of Prmry school Infrastructure
Kerala	1.79	0.80	0.24	1.10	0.43	30.25	0.952
Haryana	1.61	8.07	3.94	11.14	7.02	17.25	0.886
Punjab	2.19	4.00	10.46	3.17	12.10	16.00	0.852
Gujarat	1.46	9.15	3.94	6.11	2.55	53.03	0.850
Tamil Nadu	2.62	0.00	3.83	1.60	3.88	47.76	0.849
Maharashtra	1.54	13.27	4.56	4.03	2.65	57.67	0.830
Himachal Pradesh	2.27	4.44	7.57	0.50	0.97	71.74	0.800
Uttarakhand	2.65	2.67	15.29	4.59	7.65	52.25	0.751
Jammu & Kashmir	2.27	16.6	5.82	0.98	0.83	91.65	0.733
Karnataka	2.02	17.89	13.09	3.57	5.99	65.21	0.731
Andhra Pradesh	2.39	37.52	7.48	5.37	1.40	65.21	0.705
Rajasthan	2.11	7.09	36.23	3.99	11.69	30.46	0.696
Uttar Pradesh	2.62	0.86	2.80	25.49	34.67	18.95	0.692
Orissa	2.53	4.74	16.67	4.53	8.81	78.63	0.682
Chhattisgarh	2.21	6.63	17.25	9.58	10.98	85.54	0.645
Madhya Pradesh	2.62	11.52	18.78	10.16	19.54	59.08	0.626
Jharkhand	3.10	5.14	11.18	16.27	23.72	88.01	0.555
West Bengal	5.63	12.36	3.64	19.09	11.02	71.41	0.552
Bihar	3.73	11.51	7.74	46.23	38.39	84.70	0.363
Assam	3.27	65.26	29.41	28.02	13.70	93.20	0.301

Source: DISE, 2007-08

Given a vector of numbers, a simple method of producing a complete ranking of states is to construct a composite index. Each indicator value had been first normalised by subtracting it from the maximum value of that indicator and then dividing the difference by the difference between the maximum and the minimum values. The normalised values were then added and divided by six to obtain the composite index. We then ranked the states according to the composite index value. Among the 20 states West Bengal's rank is 18. The ranking shows the state's relative position vis-à-

vis other nineteen states. The point that we need to highlight is that even though the infrastructure for primary education in West Bengal has improved significantly over the past several years, in relative terms the state remains in the lowest strata.

Schools in West Bengal are generally more crowded than those in most other states, even though most of the habitations (92 percent) have at least one primary school within one kilometer. The student-classroom ratio was 54 in 2003-04, which has come down to 47 in 2007-08, yet it still remains high in comparison with the majority of the states. In West Bengal about 42 per cent of the primary students are enrolled in schools where the student-classroom ratio is 60 or above. In no other states, except Assam, Bihar and Uttar Pradesh, is this percentage so high.

There are indications of significant improvement in some indicators of school infrastructure in the very recent years, for example, the percentage of single-teacher schools, pupil classroom ratio, number of schools with common toilet and girls' toilet. But no improvement is observed in the other two indicators, viz. percentage of schools with two or fewer teachers, and the ratio of the number of primary schools to upper primary and secondary schools. The last indicator points at one of the most crucial factors in universalisation of elementary education, going beyond the primary. Unfortunately, West Bengal trails far behind all other states in terms of this important indicator i.e. the availability of upper primary or secondary schools compared to primary schools. The ratio of primary to upper primary/secondary schools is 5.6 for West Bengal, as against 2.4 for India as a whole. As a matter of fact, this ratio is the highest in West Bengal among all the states in India. If on average thirty students passed out from each primary school then each school having class five would have to admit around 170 such students. In the competition to secure a class five seat in a school of their convenience many students, particularly the weaker ones, tend to drop out. Although none of the students who pass out of class-IV is denied admission to class-V, the relative shortage of upper primary and secondary schools must have a dampening effect on the students' desire to continue studies beyond class-IV.

3.3 Allocation of financial and human resources

Although there is significant disparity in school infrastructure across districts, inter-district comparisons often mask the fact that significant intra-district disparity exists. Our interest here is not on inter-district or intra-district disparities per se, even though disparities of both kinds should be reduced. Instead, we relate disparities in specific indicators to show one rather perverse aspect of resource allocation. In Table 7 we present literacy rates for persons in seventeen districts as given by Census 2001. In the third column we present one of the indicators of infrastructure, viz. percentage of schools with two or fewer teachers based on the DISE data for 2004-05.

Table 7: Block-level correlations between literacy and percentage of schools with two or fewer teachers

Districts	Percentage Literate	% schools with 2 or fewer teachers	Block-level Corr coeff
Jalpaiguri	58.9	41.3	-0.93
Uttar Dinajpur	42.9	65.3	-0.82
Darjeeling	66.0	38.1	-0.75
Medinipur	73.9	53.1	-0.70
North 24 Parganas	69.1	43.6	-0.69
Cooch Behar	64.3	28.5	-0.60
Purulia	53.2	86.0	-0.58
Hoogli	71.0	38.9	-0.50
Howrah	72.8	48.1	-0.43
Nadia	61.8	25.2	-0.37
Bankura	62.0	56.6	-0.32
South 24 parganas	67.4	39.2	-0.30
Murshidabad	52.3	26.0	-0.19
Birbhum	59.9	37.8	-0.16
Maldah	47.8	31.8	-0.04
Bardhaman	65.8	37.1	0.03
Dakshin Dinajpur	60.4	31.0	0.20

Source: Census 2001 and DISE, 2005.

One would expect the policy makers to try to improve the infrastructure where the educational outcome was poor. In other words, the percentage of schools with two or fewer teachers should be first reduced in districts with low literacy. This can be argued on both efficiency and equity grounds. But the numbers show just the opposite - blocks with low literacy still have high concentration of schools with two or fewer teachers. The correlation between the two indicators based on district level data is negative, albeit week. However, the correlation coefficients for some of the districts based on block level data are negative and rather high. In other words, not only that in most of the districts the poor outcome (i.e. low literacy) has not had any influence on the allocation of resources (as indicated by the percentage of schools with two or fewer teachers), the latter continues to remain perverse even with a lag of five years. This will have a dampening effect on the aggregate outcome. To raise the average value of an indicator that has the upper limit (e.g. literacy) it would be more efficient to focus relatively more on the groups that lag behind others in terms of achievement in the indicator. But the existing distribution of resources goes against this logic. This needs immediate attention.

For the last fifteen years of the past century, expenditure on elementary education grew much slower than total education expenditure (Figure 7).

Figure 7: Expenditure on elementary education and total education expenditure (1985-2005)
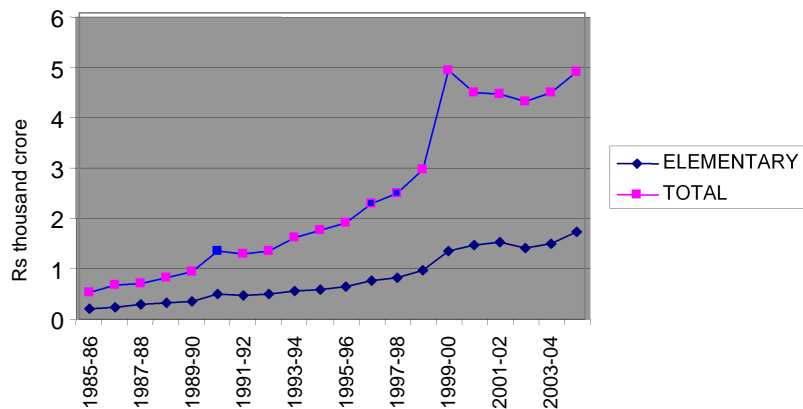
Source: Statistical Abstract, GoWB, various issues

As a result, the percentage of expenditure on elementary education fell from above 40 in 1985-86 to below 30 in 1999-2000. The trend has slightly reversed since then (Figure 8). The long trend in the decline in this ratio shows that in West Bengal the elementary education sector has been relatively neglected both in terms of financial allocation as well as other resources. Even though the situation has been improving, the progress is rather slow, which makes us skeptical about the probability of reaching the goal of universalisation in 2010 as envisaged by Sarva Shiksha Abhiyan.

Figure 8: Expenditure on elementary education as a percentage of total expenditure on education (1985-2005)
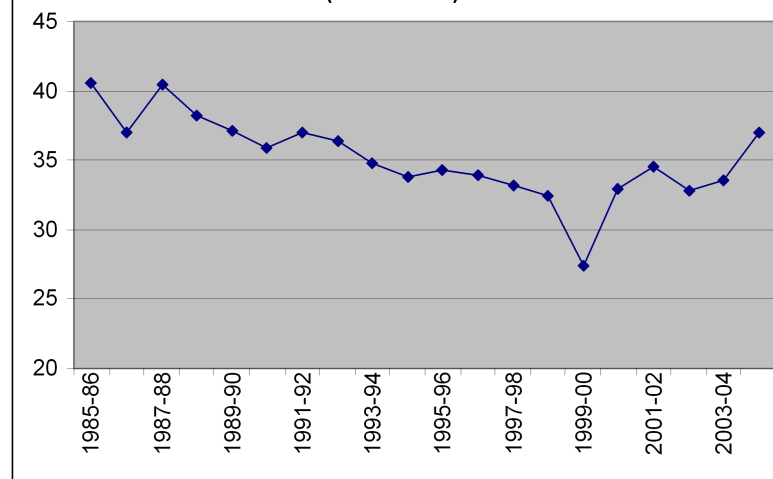
Source: Statistical Abstract, GoWB, various issues

4. Child mortality, maternal health and communicable diseases

The Millennium Development Goals 4, 5 and 6 explicitly deal with health related issues, although health issues are crucially related to nutrition, deprivation and education, which are addressed in the first three millennium development goals. While *Goal 4* aims at reducing child mortality, *Goal 5* targets improvement of maternal health. *Goal 6* shifts our attention to the fatal communicable diseases such as HIV/AIDS, malaria and tuberculosis. These communicable diseases are of special concern in societies with poverty, low health awareness due to low literacy and poor coverage of public health interventions.

4.1 Infant and child mortality

Goal 4, which aims at reducing child mortality, has a clear target of reducing under 5 child mortality rate by two thirds between 1990 and 2015. The Goal suggests three basic indicators for monitoring the achievement: (a) under 5 mortality rate; (b) infant mortality rate; and (c) proportion of 1 year old children immunised against measles.

Before we discuss the trends in infant and child mortality in West Bengal, it is important to bear in mind that the state has had remarkable success in reducing general mortality as indicated by the trend in the death rate. According to the latest Sample Registration System (SRS) data (2007), the death rate in West Bengal is 6.3, which is the lowest among all the major Indian states. Moreover, West Bengal is the only state where the rural death rate is lower than the urban death rate.

According to the National Family Health Survey 3 the under 5 mortality rate is 59.6 in West Bengal (for the year 2005), which is well above Kerala and Tamil Nadu, the states which have done well in improving child health.[4] Since most of the *under 5* deaths take place within one year of birth, efforts to reduce infant mortality

(i.e. death occurring within one year of birth) can reduce the under 5 mortality to a great extent. As the time series data on IMR are more easily available than data on under 5 mortality rate, we use the former indicator for detailed time series trend analysis and for making forecasting.

Figure 9 presents the IMR for West Bengal for the period 1981-2007. It shows that West Bengal has been able to reduce IMR substantially over the years, though its achievement in reducing IMR is not equally shared by its rural and urban population. In the rural areas, the IMR decreased from 91 in 1981 to 37 in 2007 indicating a significant improvement. However, in the most recent years (2005-07) the rate of improvement seems to have slowed down. In the urban areas it decreased from 44 in 1981 to 29 in 2007. Reduction of IMR is more difficult at lower levels than at higher levels. Nevertheless it remains true that the falling IMR in West Bengal is mostly due to substantial reduction of rural IMR. Rueal IMR has fallen from 98 in 1981 to 39 in 2007. However, the rural-urban gap in IMR in West Bengal has not significantly declined since 1994.

Figure 9: Movement of IMR in West Bengal

Since most of the under 5 death takes place within one year of birth, reducing the IMR by two thirds between 1990 and 2015 can take us a long way in achieving MDG 4. According to SRS

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4. Though Kerala has been performing well on the health front for a long time, Tamil Nadu has made substantial improvement in children and women's health in recent years. The under 5 mortality rate for Kerala and Tamil Nadu are 16.3 and 35.5 respectively.

estimates, in 1990 the IMR for West Bengal was 50.7 (53.7 for rural and 36.7 for urban). If one follows the MDG 4 for IMR, West Bengal needs to reduce its IMR to a level as low as 16.9 by 2015 (17.9 for rural areas and 12.2 for urban areas) . What would be the expected level of IMR by 2015 if the present pattern of IMR continues in West Bengal? To get an answer to this question, we have regressed log value of IMR on time and time-squared. Though time squared does not turn out to be significant either at 1% or at 5 % levels, the results predict IMR figures much above than what the state ought to achieve by 2015. The predicted value of IMR for West Bengal by 2015 is 27.7 (28.6 for rural areas and 20.9 for urban areas). It is obvious that without a great deal of conscious and coordinated action it is not easy to reach the target set by MDGs.

Gender difference in IMR is an issue which deserves attention. The movement of sex-wise IMR is presented in Figure 10 for the years for which data were accessible. Given the fact that female infants have higher chances of survival, urban West Bengal shows a contrary feature in the last few years i.e. infant mortality rate is higher for females than males. Another important fact is that neonatal mortality (i.e. deaths that take place within four weeks after birth) accounts for a major share in infant mortality. Estimates from NFHS 3 show that the share of neonatal mortality in infant mortality is 78 per cent. Therefore, it is important that the deaths that take place within one month after birth are reduced. Of course, interventions that can reduce neonatal mortality go well beyond just medical care. No amount of medical care for the newborn will be enough unless under-age marriage is stopped, pregnant mothers are provided good nutrition and adequate antenatal care, anaemic mothers are given special attention and delivery takes place in a hygienic atmosphere with the help of trained medical personnel.

Figure 10: Gender difference in IMR in rural and urban West Bengal
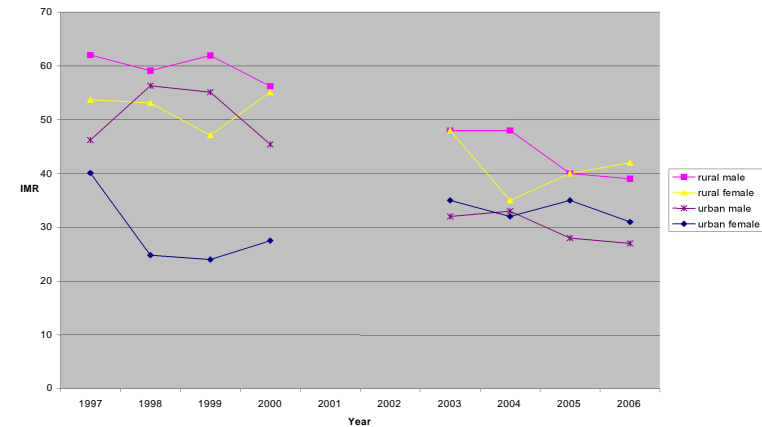
The latest NFHS data (NFHS 3) indicate that not all the factors mentioned above are favourable in West Bengal (see Table 8). Under-age marriage is still widespread, especially in the rural areas. Data show that 53.3 per cent of the women belonging to age group 20-24 got married by age 18 (62.6 per cent for rural, 31.5 per cent for urban and 21.0 for Kolkata). Although these figures do not tell us exactly what percentage of women got married before they became 18 years old, data on age at first birth indicates early marriages in the state compared to Kerala and Tamil Nadu. For example, the median age at first birth for women belonging to age-group 15-49 is 19 in West Bengal, whereas such age is 22.7 and 21 in Kerala and Tamil Nadu respectively. Women's health is also an important factor as children of women with poor health status are prone to various health risks which may lead to mortality. In West Bengal more than one third (37.7 per cent) of the women (of productive age group 15 - 49) have body mass index less than normal. In rural West Bengal almost half of the women have body mass index less than normal. The prevalence of anaemia among women which is an important indicator of maternal ill health is also high in West Bengal. More than 60 per cent of the ever married women of age group 15-49 are anaemic.[5]

5. In West Bengal the percentage of ever married women (age group 15 - 49) who are anaemic is 63.8 (59.0 per cent for urban, 65.6 per cent for rural and 56.1 per cent for Kolkata). Among the pregnant women, 62.6 per cent are anaemic (63.1 per cent in urban, 62.5 per cent in rural and 50 per cent in Kolkata).

Table 8: Select indictors of maternal and child health care

Indicators	West Bengal				Tamil Nadu	Kerala
	Urban	Rural	Kolkata	Total		
Percentage of mothers who had at least 3 antenatal care visits for their last birth	55.8	87.7	62.4	87.3	96.5	93.9
Percentage of mothers who consumed IFA for 90 days or more when they were pregnant with their last child	37.4	20.8	41.6	24.3	43.2	77.3
Percentage of births assisted by a doctor/nurse/LHV/ANM/other health personnel	80.2	36.8	88.3	45.7	93.2	99.7
Percentage of institutional birth	79.2	33.8	87.7	43.1 §	90.4	99.5
Percentage of mothers who received postnatal care from a doctor/nurse/LHV/ANM/other health personnel within 2 days of delivery for their last birth	67.4	29.9	70.1	37.8	89.6	87.7
Percentage of children (age group 12-23 months) fully immunized (BCG, measles and 3 doses each of polio/DPT)	70.3	62.8	67.6	64.3¶	80.8	75.3
Percentage of children with diarrhea in the last two weeks who received ORS	34.9	45.3	*	43.7	29.0	34.6
Percentage of children with diarrhea in the last 2 weeks taken to a health facility	67.6	50.0	*	52.7	60.1	67.4
Percentage of children with acute respiratory infection or fever in the last 2 weeks taken to a health facility	62.4	44.5	80.4	48.0	80.5	81.4

Note: Based on the last 2 births in the 3 years before the survey.

*   not shown, based on fewer than 25 unweighted cases

§   Various figures are now available from different surveys conducted later at different time points. According to District Level Household Survey (DLHS-3) 2007-08, it is 49.2; according to Coverage Evaluation Survey done by UNICEF (2006), it is 60.2.

¶   According to DLHS-3, 2007-08, it is 75.8.

Source: NFHS 3

Adequate antenatal care, delivery under the supervision of medically trained persons and proper post-natal and child care are crucial to avoid maternal complications and child morbidity which in many situations lead to death. These interventions assume crucial importance, especially in a situation where other factors (such as women's health and level of awareness) are not favourable. Some select indicators of maternal and child health care are presented in Table 8. Two points are clear from the table: (i) West Bengal has a long way to go if one compares its achievements in the coverage of maternal and child health care with states like Kerala and Tamil Nadu. (ii) West Bengal needs to reduce its sharp rural-urban difference in the coverage of various maternal and child health care.

Important intervention: Sick Newborn Care Units in Purulia and Birbhum

We mentioned that reduction in infant mortality would primarily depend upon decline in neonatal mortality. Evidence shows that 20 percent of newborn babies require special care for survival and it is this 20 percent which accounts for the majority of deaths. With the goal of reducing neonatal mortality, the Neonatal Special Care Unit in Purulia District Hospital was first established. On 23rd of February 2006 with an initial expenditure of Rs 80 lakhs a second unit was set up in Suri Sadar Hospital. Dr. AK Singh, Dr. Amitava Sen and Dr. Dilip Mahalanabis - three eminent personalities in the area of child health and health care were instrumental in setting up the units in Purulia and Birbhum. Recently, this model of Neonatal Special Care Units has been praised and recognized by the United Nations as a model to be followed by other Indian states.

The important components of care are: training to help personnel in the art of newborn care, basic care of all newborn babies, specialized medicine care for sick newborn, high risk follow up and saving newborn irrespective of socio-economic identity. A team of trained doctors and nurses are managing the Sick Newborn Services 24 hours a day with the state of the art services and equipment. In Birbhum, the 20-bed unit built over a space of more than 1800 sq.feet, has been planned with special care, keeping in mind the ambient temperature, sound, and specified intensity of light.

Data on the Birbhum unit for the period from March 2006 to December 2006 show that altogether 278 newborn, about 70 percent of whom were males, were admitted in this unit for treatment of a wide range of problems such as birth asphyxia, severe respiratory distress, preterm delivery with LBW, septicemia, physiological jaundice, convulsion etc. Sometimes a combination of the problems has also been found. Out of 278 newborn, 50 newborn could not survive. The common causes of death are found to be birth asphyxia, preterm delivery with LBW, septicemia and severe respiratory distress. The duration of stay in this unit varies from 6 minutes to 109 days. Between January 2007 and December 2007, 186 newborn were admitted but 35 could not survive, and in most of the cases the causes of death were as stated earlier. Those who survived would have died had they not been brought to the Sick Newborn Care Unit. All efforts should be made to maintain these units and new units must be set up in other districts as well. It is appropriate that two of the most backward districts in terms of human development have been chosen for implementation of this initiative.

4.2 Maternal mortality

The goal of improving maternal health aims at reducing the maternal mortality ratio by three quarters between 1990 and 2015. Two indicators are suggested to monitor the achievements: maternal mortality ratio and proportion of births attended by skilled health personnel. The maternal mortality ratio is defined as the number of maternal deaths per one lakh live births (see Appendix). Since maternal deaths are not frequent events, estimates of maternal mortality ratio (or maternal mortality rate) are subject to many limitations. Table 9 presents estimates of maternal mortality ratio and maternal mortality rate for West Bengal, along with estimates for Kerala and Tamil Nadu. Estimates for these two southern states are given basically to judge how realistic our target is of reducing maternal mortality by three quarters between 1990 and 2015. Though we do not have data on maternal mortality ratio for 1990 (or any year close to 1990), the available data shows some interesting trends. West Bengal was able to reduce its maternal mortality ratio from 218 in 1997-98 to 194 in 2001-03 registering an 11 per cent decline. During the same period Kerala

and Tamil Nadu (with much lower maternal mortality ratio than West Bengal) could reduce the ratio by 26 per cent and 20 per cent respectively (see Table 9). Kerala and Tamil Nadu are also states with high percentage of institutional delivery. It is not unreasonable to argue that institutional delivery can be a strong influencing factor in reducing maternal mortality, and poor access to institutional delivery cannot be compensated by birth attended by trained birth attendants. Although there is no separate data for West Bengal on distribution of maternal deaths by causes, distribution of all India sample maternal deaths show that haemorrhage and obstructed labour due to malposition and malpresentation of foetus are two important direct causes of maternal deaths.[6] It is obvious that only good antenatal check up, institutional delivery and timely access to specialised care in case of delivery complications can prevent maternal deaths.

Table 9: Estimates of maternal mortality ratio, maternal mortality rate for West Bengal, Kerala and Tamil Nadu

	Maternal mortality ratio	Maternal mortality rate
1997-98		
West Bengal	218	19.2
Kerala	149	9.3
Tamil Nadu	167	11.5
2001-03		
West Bengal	194	14.8
Kerala	110	6.6
Tamil Nadu	134	8.8

Source: Registrar General of India: MATERNAL MORTALITY IN INDIA: 1997-2003: TRENDS, CAUSES AND RISK FACTORS, Sample Registration System.

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6.   SRS estimates on the causes of maternal deaths in India (2001-03): Hemorrhage: 38%, sepsis: 11%, hypertensive: 5%, obstructed labour: 5%, abortion: 8%, other conditions: 34%.

West Bengal has done fairly well in the coverage of antenatal care, but its achievement on institutional delivery is rather modest. The percentage of institutional delivery seems to have somewhat improved in the past couple of years, which is evident from a comparison of the NFHS 3 and the Coverage Evaluation Survey done by UNICEF (2006). While according to NFHS 3 it is 43.1, it is 60.2 according to the UNICEF survey. However, according to the DLHS 3 (2007-08), which comes after UNICEF survey, it is 49.2 per cent, which is still low, especially in comparison with states like Tamil Nadu and Kerala (see Table 8). In these two southern states, the percentage of institutional delivery has exceeded 90 per cent. According to the Sample Registration System data, West Bengal has not made a substantial improvement on medical attention at birth over the years. The percentage of births which received medical attention increased from 30.7 per cent in 1991 to 37.1 per cent in 2003. During the same period such percentages in Kerala and Tamil Nadu improved from 91.5 to 97.1 and from 56.8 to 65.3, respectively. Considering the much higher levels of medical attention by Kerala and Tamil Nadu, it is obvious that West Bengal's has to make faster progress in this sphere.

In a recent paper on the Indian context Mavalankar, Vora and Prakasamma (2008) suggest that since more than 60 per cent of births are domiciliary deliveries in India, we need to come up with an option to provide skilled birth attendance at the community level and in this context the lack of qualified midwives is a major human resource constraint for providing locally accessible skilled delivery care for rural women. Lack of management capacity in the health system has led to poor quality services and slow progress. They strongly argue for the need to provide comprehensive maternal health services, including antenatal care, delivery care, emergency obstetric care and postnatal care, within an efficient health system. The extent of the change in political priority, improvement in managerial capacity and resource allocation will determine, to what extent we will be able to meet the MDG 5. In this context National Rural Health Mission could be an opportunity to bring strategic focus on skilled birth attendance, EmOC and referral services, which will be effective to reduce maternal mortality rapidly.

4.3 HIV/AIDS

MDG 6 aims at combating HIV/AIDS, malaria and TB. It has an ambitious target of halting the spread of HIV/AIDS by 2015 and begun to reverse the process and also similar target for combating malaria and other major diseases. As far as HIV/AIDS is concerned, West Bengal falls in the category of middle prevalence states. However, incidence of HIV/AIDS is on the rise in the state. In West Bengal, the number of HIV/AIDS cases increased from 9 in 1995 to 1220 in 2004. According to West Bengal AIDS Prevention and Control Society, the prevalence is no longer confined to the risk population and has entered the general population. Given the state of medical knowledge, aggressive awareness campaign is the only possible intervention to control this deadly disease. However, the recent available data raises serious doubts about the effectiveness of HIV/AIDS awareness campaign in West Bengal. It seems that despite its intensive and innovative campaigning, AIDS awareness campaign has not achieved its desired results in the rural areas and among women. The data from National Behavioural Surveillance Survey 2001 show that in urban West Bengal (for the age group 15-19 years), 78.1 per cent of the males and 66.4 per cent of the females know about the sexual route of HIV transmission. The corresponding figures for rural West Bengal are (56.6 per cent for the male and 32.3 per cent for the female). Similar male-female and rural-urban differences in awareness about HIV/AIDS are also observed by the NFHS 3 report. Table 10 presents two indicators of awareness about HIV/AIDS among men and women in West Bengal, Kerala and Tamil Nadu from NFHS 3. The table shows that only 50.2 per cent of the women (ever married women of age group 15-49) in West Bengal have heard of HIV/AIDS, compared to 94 per cent in Tamil Nadu and 95 per cent in Kerala. Similarly, only 29.3 per cent of the women know that consistent condom use can reduce chances of getting HIV/AIDS compared to 42.1 per cent in Tamil Nadu and 70.6 per cent in Kerala. As far as knowledge of HIV/AIDS is concerned, the men-women difference is substantial in the rural areas compared to the urban areas of West Bengal. However, with regard to the knowledge that consistent condom use can reduce chances of getting HIV/AIDS,

significant man-woman difference is found everywhere (rural, urban and Kolkata). This calls for strengthening and intensifying the HIV/AIDS awareness campaign in the rural areas, especially among the rural women.

Table 10: Indicators of awareness about HIV/AIDS among men and women in West Bengal, Tamil Nadu and Kerala

	West Bengal				Tamil Nadu	Kerala
	Urban	Rural	Kolkata	Total		
Percentage of people who have heard of HIV/AIDS						
Women	78.4	39.0	89.7	50.2	94.0	95.0
Men	91.9	65.8	95.9	73.5	97.7	98.6
Percentage of people who know that consistent condom use can reduce the chances of getting HIV/AIDS						
Women	52.5	20.0	62.6	29.3	42.1	70.6
Men	79.5	46.1	85.9	56.9	81.8	85.6

Source: National Family Health Survey 3

4.4 Communicable diseases

Although West Bengal is not among the Indian states with a very high incidence of tuberculosis, there are 7-8 states where the incidence is lower than in West Bengal. According to the latest estimates from NFHS 3, the number of persons per lakh usual residents suffering from any tuberculosis is 605 and that from medically treated tuberculosis 577. Out of 29 Indian states there are 20 and 21 states respectively where the numbers of persons per lakh usual household residents suffering from any tuberculosis and medically treated tuberculosis, respectively, are above that of West Bengal. An earlier study by Mukherjee (2003) made critical observations about the performance of RNTCP in West Bengal and found that the national tuberculosis programme did not yield expected performance in the state like other parts of the country. According to him the greatest constraint in achieving the target was forceful employment of DOTS providers in the programme without proper motivation, particularly of the government sector staff.

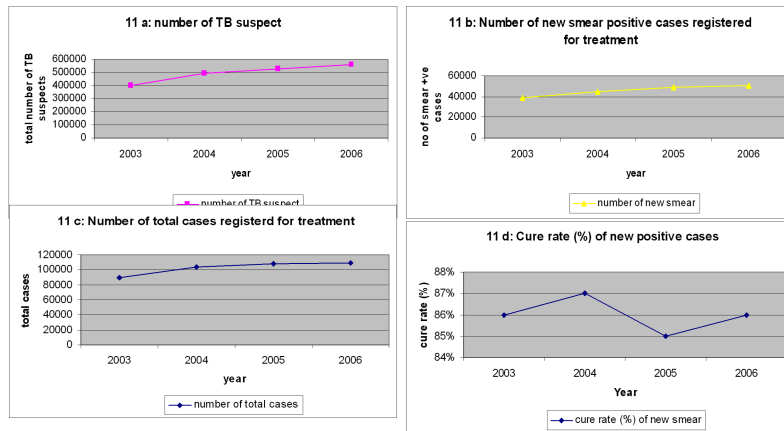People's awareness about tuberculosis and right treatment in proper time are the key factors for controlling and preventing tuberculosis and avoiding social exclusion of people who are suffering. The data on people's knowledge of and attitude toward tuberculosis in West Bengal are presented in Table 11. Only about 40 per cent of the people know that TB is spread through the air by coughing or sneezing. More than half of the population has misconceptions about transmission of TB. 10-15 per cent people believe that TB cannot be cured, and if anybody in the family is infected with TB, around 10 per cent of the people are in favour of keeping it a secret from the neighbours. All these figures strongly suggest that along with treatment for tuberculosis patients, there is a need to put more efforts in awareness campaign.

Table 11: Knowledge and attitude toward tuberculosis of men and women in West Bengal

	Percentage who have heard to TB	Among men/women who have heard of TB percentage who			
		Report that TB is spread through the air by coughing or sneezing	Have misconceptions about transmission of TB	Believe that TB can be cured	Would want a family member's TB kept secret from the neighbours
Male	95.9	43.8	57.2	85.4	10.0
Female	90.4	37.6	57.3	80.6	10.4

*Source: National Family Health Survey 3*

As far as the time trend is concerned, the incidence of TB is on the rise, a part of which may be due to increase in HIV/AIDS infection. While the number of selected pulmonary TB patients applied for admission in TB hospitals and Sanatoria has shown a sharp decline, annual TB cases (total) and new smear positive cases have increased. The number of TB patients applying for admission decreased from 3358 in 2000 to 678 in 2006. Annual case detection rate (total) per lakh population has increased from 97 in 2001 to 127 in 2006. Similarly during the same period, new smear positive cases per lakh population increased from 39 to 59. Available data for the last few years clearly show that incidence of TB has increased by number which is not too insignificant to be ignored (see Figures 11 a, b, c and d).

11 a: number of TB suspect

11 b: Number of new smear positive cases registered for treatment

11 c: Number of total cases registered for treatment

11 d: Cure rate (%) of new positive cases

As far as the spatial distribution of TB patients is concerned, in 11 districts (out of 19 districts) the total number of patients initiated on treatment is more than 5000. In four districts the annual case detection rate is higher than 150 per lakh population. These districts are Darjeeling (206), Jalpaiguri (168), Maldah (156) and Purulia (155). Three north Bengal districts (Dakshin Dinajpur, Jalpaiguri and Malda) show higher positive case detection rates than the target of 75 per lakh population. The cure rate of new smear positive cases is low (79 per cent) in Darjeeling district as against West Bengal average of 86 per cent. According to the latest data, new cases constitute more than 80 per cent of the total cases and also 6 per cent of the total cases are from failure in earlier treatment. It should also be examined if large numbers of female patients are deprived of treatment due to various social and economic reasons, since the share of female patients in total cases is only 28 per cent. The distribution of patients by age group shows that the most productive age group 15 - 54 accounts for almost 80 per cent of the total number.

Malaria, one of the deadly communicable diseases, has not shown any sign of decline in West Bengal during the last two decades. Data collected as a part of Anti Malaria Programme (NAMP) in West Bengal show that the number of positive cases has increased from 46510 in 1985 to 159646 in 2006. Although the incidence of malaria per lakh population might show a decline if we considered the massive population growth during this period,

the increase in absolute number of malaria cases is a matter of grave concern. Figures 12 a-d present time series data on some aspects of malaria. There is no evidence that the percentage of smear positive cases has come down over the years. It reached its highest in the late 90s (see Figure 12a). Though *Plasmodium vivax* (Pv) cases account for almost three quarters (72.8 per cent according to the latest available figure) of the total diagnosed malaria cases still now, the worrying trend is the share of *Plasmodium falciparum* (Pf) cases in total positive cases which has increased over the years with some fluctuations (see Figure 12b). Plasmodium is the most fatal type among the four species of identified malaria parasites.[7] The absolute number of death due to malaria has steadily increased over the years (Figure 12c) and death per lakh positive cases has also not shown any sign of decline (Figure 12d).

12 a: Percentage of smear positive cases

12 b: Percentage of Pf cases
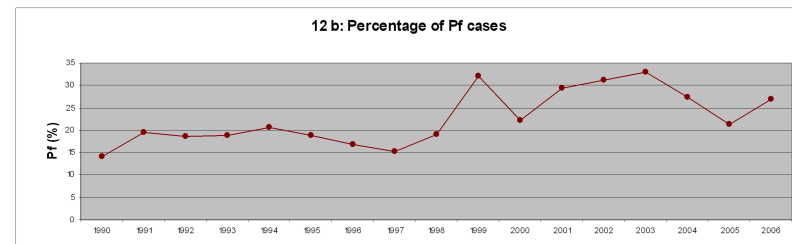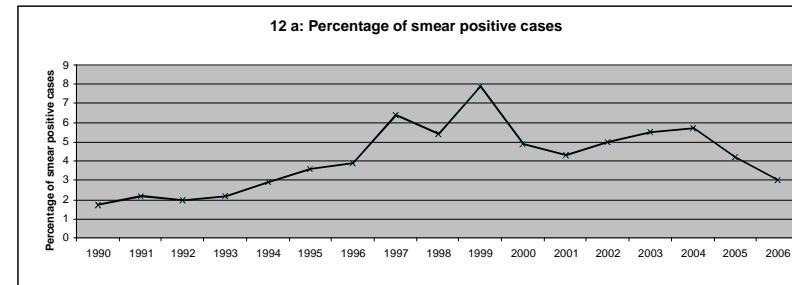
7. The parasite Plasmodium vivax (Pv) is the most frequent and widely distributed cause of benign, but recurring (tertian), malaria. It is one of four species of parasite that commonly cause malaria infection in human beings . It is less virulent than Plasmodium falciparum, (Pf) the deadliest of the four, and seldom fatal. Pv is passed on by the female Anopheles mosquito, since it is the only sex of the species that bites. (Source: http://en.wikipedia.org/wiki/Plasmodium_vivax).

12 c: Death due to Malaria

4 d: death per 100000 poitive cases of malaria
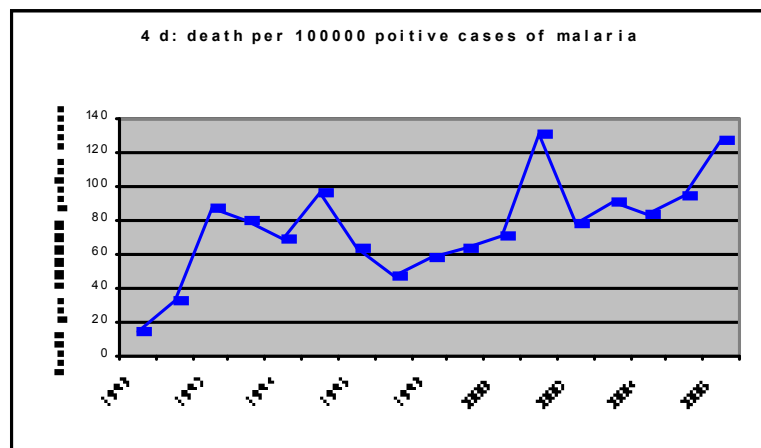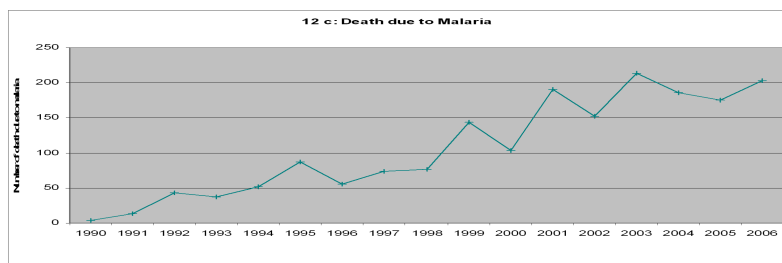
According to the recent figures, the districts which have reported more than 10 deaths due to Malaria are West Midnapur (10), Purulia (27), Bankura (14), Koch Bihar (24) and Jalpaiguri (97). The National Anti Malaria Programme should give special attention to the districts of West Midnapur, Purulia, Bankura and Jalpaiguri, since these districts show very high share of Pf cases.[8] Spraying with Dichloro Diphenyl Trichloroethane (DDT) is an effective measure to control the mosquitoes spreading malaria and this is an important intervention activity of anti-malaria programme. Recent data on progress and assessment of spraying with DDT under malaria programme[9] show that not all severely affected districts are adequately covered. For example, the districts of

Murshidabad, Bankura and Koch Bihar did not even get 80 per cent coverage in any round. The situation was worse in Murshidabad which got only 35 per cent coverage.

4.5 Health financing

The 12th Finance Commission recommended that the non-plan salary component under education and health & family welfare should increase only by five to six percent while non-salary expenditure under non-plan heads should increase by 30 percent per annum during the award period. In 2005-06 the salary and wage component under health and family welfare increased by 8 percent while non-salary-and-wage component increased by a mere 5 percent. There is clearly an urgent need for raising the non-salary component.

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8. The following districts show high share of Pf cases in total malaria cases: West Midnapur (37%), Purulia (65%), Bankura (37%) and Jalpaiguri (40 %).

9. Progress & assessment of spraying with DDT under Malaria programme (NVBDCP), West Bengal (2006).

5. Governance for poverty reduction

Poor quality of governance has often been identified as the main 'cause' of persistence of poverty and low human development (Saxena, 2006). Governance encompasses a large number of aspects that have direct bearing on what is called 'service delivery' for the poor.

5.1 Allocation and utilisation of resources

Given the severe fiscal limitations on the ability of the state to allocate more resources to the social sector, it is necessary to ensure that the available resources are used in the best possible manner. However, it is now common knowledge that deviations from the norm are almost universal. Large portions of funds for various schemes and programmes remain unutilized. Impressionistic accounts suggest that underutilization of available resources seems to be more severe in relatively backward areas, where such lapses prove to be more costly in terms of the lost opportunity to make significant improvement in people's lives. The uneven pattern of utilization across regions further widens the spatial disparity in outcome indicators.

The aggregate level indicators of allocation priorities, such as the ratio of social sector expenditure to total expenditure, per capita social expenditure, the ratio of health expenditure to total expenditure, and so on, give some indication of the government's allocative priorities at the state level. In order to find out government's allocative priorities we need to analyse government budgets. However, inter-sectoral financial allocation constitutes only a fraction of the actual process of development, the end result of which is the expected improvement in the condition of the people. What come in between allocation and final outcome are the extent of utilization of the financial resources and how efficiently a given amount of resource translates into final outcome. The Institute of Development Studies Kolkata conducted a study to examine the extent of underutilisation of funds for the social sector in Purulia - one of the most backward districts in West Bengal. We discuss briefly the findings of the study here.

The state's rather modest record in making progress in human development stands in contrast to the vast amount of resources allocated to the social sector through various schemes and programmes. A somewhat incomplete list of programmes for the social sector that we could come up with indicated an allocation of roughly Rs 250 crore for Purulia in a typical recent year. This indicates that the problem is not necessarily one of limited resources, but political priorities and incentives at the local level.

In the recent period the Government of India has increased its allocation to child-specific programmes. The three most important programmes in terms of the quantum of resources allocated are in the areas of nutrition and child development (ICDS), elementary education (DPEP-SSA and Mid-day Meal Scheme) and child health (RCH). In Purulia, Rs. 59 crore was available in 2005-06 for spending in the first two areas, but only 40 percent of the amount could be spent during the year.

In 2004-05, Purulia spent only 23.6 percent of the allocated amount on SSA (Rs. 15.38 crore) and 12 percent of the available fund from DPEP allocation. The situation did not improve significantly in the next year, as the percentage of utilisation remained at 35 percent for SSA, although for DPEP it increased to 60 percent. As the DPEP's focus is mainly on the educationally backward districts, it seems that those are the districts which generally suffer from the lack of capacity to utilise resources in time. The fund specifically earmarked for the National Programme for Education of Girls for Elementary Level (NPEGEL) - a sub-component of SSA launched in 57 educationally backward blocks targeted to girls - was hardly utilised. There is significant intra-district disparity in the functioning of ICDS. In Arsha there were 111 sanctioned positions of Anganwadi workers, but half of them remained vacant in 2005. In Bagmundi too 26 posts of Anganwadi workers were vacant. Non-deployment of anganwadi workers and helpers is the main reason for non-functioning of a number of anganwadi centres in these two blocks. Arsha and Jhalda - II seem to have been consistently lagging behind others in terms of utilisation of allotted funds.

During 2004-05 Purulia received approximately Rs. 290 lakh for health and family welfare related central programmes, apart from the regular budgetary provisions by the state for running the public health care system in the district. Adding this amount to the opening balance at the beginning of the year, we get a total of Rs. 320 lakh available for the year. Only half of this amount (Rs. 162.3

lakh) was spent during the year. During 2005-06, Purulia received Rs.300 lakh exclusively on account of RCH and National Rural Health Mission of which only Rs. 123 lakh could be spent during the year. While some of the unspent funds can be utilised in subsequent years, during the two-year period (2004-06) Rs. 11.7 lakh of unspent amount had to be refunded.

The IMR reduction programme required that a few blocks would first be selected and asked to prepare a plan of action outlining specific strategies to reduce IMR. Even though four blocks were selected none of them could submit a proper plan for getting the fund under the programme.

The explanations for non-utilisation of funds in health related programmes are not much different from others. Programmes are usually designed at higher levels with very little flexibility to accommodate priorities at the local level. Once the fund is allocated, it becomes the task of the district level functionaries to prepare a plan of action that has to be in conformity with the requirements and conditionalities of the programme. If the action plan is prepared at all it has to be done in a very hurried manner as the arrival time of funds and the date by which the work has to be completed are often unrealistic.

There is an incentive problem too. In the present system, no one is punished for not spending money. On the contrary, if expenditure is not made in accordance with the conditions stipulated in the programme, the concerned official may be questioned. In other words, spending money not only entails additional work load for the official, it also has the contingent risk of being questioned if the procedures followed are not 'proper'.

During 2005-06 the total fund available to Purulia for carrying out SGRY was Rs. 570 million of which only 51.6 percent could be utilised during the year, which is far less than the state average (64 percent). However, in the case of IAY, Purulia's performance in terms of utilisation of funds is fairly good compared to a number of other districts. An important aspect of IAY is that the allotment of a house is usually made in the name of the female member of the beneficiary household. In West Bengal, with the highest density of population, the very poor often do not own homestead land.

But IAY funds cannot be utilised for buying land for the poor. This seems to be more constraining in certain districts than in Purulia.

In the case of the Total Sanitation Campaign (TSC), Purulia's record is dismal. TSC envisages a high degree of community involvement through Information, Education and Communication (IEC), and it requires that the project proposal must be generated at the district level. It appears that the awareness programme that is supposed to general demand for sanitation from the prospective beneficiaries has been rather weak in the district.

Most of the explanations of non-utilisation of funds in Purulia district are not unique to the district. Only the intensity of the problem is great because of the district's backwardness in terms of certain basic indicators of human development, such as literacy. The state's attempts to provide targeted benefits to the poor and disadvantaged have been severely hampered by its inability to provide generic skills through mass education and literacy in districts like Purulia. Further, schemes and programmes, which require identification of beneficiaries according to the eligibility criteria, generally suffer more because the process of identification has a tendency to drag on.

There is a widespread belief that large parts of funds are released towards the end of the financial year, and hence the lower levels of administration find it difficult to spend in a very short time. While it is true for some programmes, it is not true for all. Other constraints, such as the limited capacity of the local administration, seem to be dominating in a district like Purulia.

All the social programmes and schemes have to pass through the eye of the needle, i.e. local public administration. Our major finding is that the local public administration has been rather weak in their capacity to grapple with the excessively complicated designs of the schemes. Many such schemes presuppose an idealistic harmony of interests among the local public administration and the panchayati raj institutions. Social heterogeneity and the limited nature of accountability in areas of public service delivery either promotes discretionary dispensation of benefits, or where it is not possible for political competition, leads to a conservative outcome - money meant for social schemes remains unspent.

The analysis of the pattern of utilization of available funds reveals that for several programmes Purulia cannot be identified as a unique case of failure. For example, the reason for failure in utilizing the SGRY or NFFWP funds is quite generic. In one case it is the delay on the part of FCI to make the foodgrain available and in the other it is the guidelines and stipulations of the programme that constrain the progress of implementation.

5.2 Community-based monitoring

There is a general feeling that the basic services, such as health care, education, water and sanitation - all of which are the responsibility of the state - are better delivered in a decentralized system of governance than in a centralized one. Hence, improving service delivery has been one of the implicit motivations of decentralised efforts in most of the countries that have gone for decentralisation of governance to various extents. Increase in public spending by itself does not guarantee that people's health would improve or all the children would complete at least elementary education of reasonable quality. Public expenditure often fails to reach the poor as much as we expect it to do. One of the reasons why improving service delivery is behind most decentralization efforts is that these services are consumed locally. It is hoped that decentralization would strengthen the relationship of accountability between people and their political representatives, which in turn would strengthen other relationships of accountability between various levels of the government for service delivery.

Two problems are most frequently cited in the context. First, the lack of capacity at the level of local government to exercise responsibility for public services may constrain decentralization efforts; and second, decentralization often leads to misaligned responsibilities. Misalignment between the structure of the government bureaucracy and the assignment of service responsibilities to different tiers of the government often creates confusion regarding accountability and conflicts of interests. While the local officials of 'line departments' continue to respond to the incentives provided by upper-tier governments, local elected governments have little effective power to ensure accountability for service delivery.

Clearly, the higher level government has a key role in building local capacity. It can provide training in traditional, top-down ways, or it can create an enabling environment by responding to the needs of the local governments their experiences as decentralization proceeds. Decentralization to locally elected governments is likely to improve political incentives and service delivery outcomes if people are better informed and likely to use information about public services in their voting decisions for electing local governments.

In West Bengal, the three-tier Panchayat system is responsible for implementing various schemes related to poverty alleviation and livelihood security, besides its responsibility to provide a limited range of public goods. However, until recently, their involvement in delivery of such services as health care and education was negligible. Recent initiatives, such as Community Health Care Management Initiative (CHCMI), need careful attention in this context.

The Panchayats and Rural Development Department (P&RD), Government of West Bengal, launched the Community Health Care Management Initiative (CHCMI) with support from UNICEF and the Department of Health and Family Welfare, Government of West Bengal, in 2004, with the overall aim of promoting community involvement in improving people's health. CHCMI follows a well-formulated set of objectives. If the ultimate objective is to improve people's health, there is no obvious way in which strategies can be designed to achieve that goal. Until recently the focus of the government's health policy had almost exclusively been on the financial allocation through government departments, such as the department of health and family welfare, to directly provide health care services of curative as well as preventive and promotive kind, on the presumption that it would be automatically translated into improved health of the people. With the advent of the Panchayati Raj as the formal institutional form of decentralized governance it was increasingly realised that the Panchayati Raj Institutions (PRI) could be involved in delivery of public health services. Yet the conventional wisdom has so far not gone beyond using the Panchayats only for occasional campaigns such as Pulse Polio programmes which require mass participation.

Perhaps for the first time in the history of decentralised governance in West Bengal such a comprehensive programme as CHCMI has been planned with the aim of involving the community in monitoring its own health. To involve the community, specific steps had to be designed, the first and foremost of which was identification of the key agency at the local community level. The key agency here is the elected Gram Panchayat (GP), and the specific steps include regular meetings of GP functionaries with health care delivery workers, including ICDS workers and supervisors, training GP functionaries to sensitise them about health issues and develop capacities to manage the system of monitoring. The meetings are held on the last Saturday of every month, and are supposed to deliberate on the important health issues and concrete steps that need to be taken to address those issues. The discussions, and the decisions that follow, must be based on quantifiable data on nutritional status, mortality, morbidity, different aspects of safe motherhood, and various public health issues such as sanitation, drinking water and so on. Special emphasis has been on safe-motherhood-related awareness generation and capacity building in the community.

The most important aspect of CHCMI is that the monitoring initiative is supposed to be based on a comprehensive *population-based* set of data. The data generated by the government departmental sources are essentially supply side data on facilities and the numbers they serve. Solely from the information on how many have availed the government facilities it is impossible to draw a complete health profile of a population, and hence make specific plans covering the whole population. CHCMI seeks to remedy this by focusing on the need for population-oriented data base. To achieve this, progress has to be made in the direction of institutionalization of the system of monitoring, which, in turn, requires identification of key functionaries and assignment of specific tasks and responsibilities. In this process, SHGs are involved in collection of household level data. To what extent CHCMI has progressed in this direction is what the IDSK study examined.[10] The study was based on primary data collected from

six districts: Dakshin Dinajpur, Malda, Murshidabad, Birbhum, Purulia and Bankura.

No common explanation can be found as to why some GPs have taken more interest in CHCMI than others. It ranges from motivated GP leadership combined with active SHGs to existence of a good NGO as facilitating agent. The correlation between the process score (i.e. the extent of involvement of GP) and an outcome indicator, namely, the percentage of institutional deliveries, is found to be positive and not too low, which shows that a GP with a high process score is likely to show a high percentage of institutional births.

The most prominent element of CHCMI is the 'Last Saturday Meetings' that the GPs hold every month to discuss public health issues. The meetings are being held regularly in all the 54 GPs. The minutes of the recently held meetings show that a variety of health related issues, most of which on safe motherhood, have been discussed. However, there are indications that not all the GPs and GP members are equally involved in the meetings. In most of the meetings either the *Pradhan, or Upa-Pradhan,* or the Sanchalak is present, besides the almost regular others from the Health Department, and sometimes ICDS. In a very few GPs more than one GP member was present at a time in the meeting.

The proceedings of the meetings in most cases are recorded in very general terms such as "people should be made aware of the health and hygiene practices". If specific points are not noted, it is not possible to record in the subsequent meetings the 'actions taken'. However, no matter how casually they are done, the last Saturday meetings undoubtedly have influenced the PRI functionaries. They now at least feel the importance of having information on birth and death, safe motherhood and other health related information including child under-nutrition.

In our overall assessment, the record of success of CHCMI has so far been somewhat mixed, which is not surprising, since it is too early to have the full effect of the initiative felt. The amount of work that has gone into planning and designing the initiative is quite remarkable. If one goes through the series of notifications containing detailed instructions on various components of CHCMI

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10. For details see Chakraborty, Achin, Subrata Mukherjee and Bidhan Kanti Das An Evaluation Study on Advocacy of Safe Motherhood under CHCMI, Institute of Development Studies Kolkata, 2007.

one can hardly doubt the internal consistency of the design and the assumptions on which various components have been built. The study, however, identifies a few key areas where some rethinking combined with a bit more effort at implementation can bring about better results.

The main challenge is to motivate those PRI functionaries who are yet to take active interest. At the core is of course the general lack of capacity to comprehend and implement various instructions flowing down from above, which is not specific to CHCMI. However, sensitization alone cannot be effective unless they are combined with some incentives. While in the orientation programmes successful cases should be repeatedly mentioned to instill a sense of competition among the GP functionaries, a small number of specific targets can be thought of, which are somewhat feasible to attain. The GP may be rewarded if certain targets are reached.

The data on population health collected and compiled at different levels must attain the desired standard of quality. With more effort in monitoring at different levels it is possible and most desirable to improve the quality of data. More importantly, the GPs are yet to be sensitized about the difference between the nature of data that the health department would provide and the kind of data they need for planning action. The crucial difference is between 'client oriented' and 'population oriented' data. GPs must be sensitized to keep as much information as possible on the excluded people.

6. Summing up: What is to be done

1. The slowing down of decline in income poverty in rural areas in the later part of the 1990s and the first part of this decade can be linked to the deceleration in growth in agriculture in the same period. Diversification of agricultural production away from paddy in certain districts may boost rural income. Centrally-sponsored schemes, such as National Horticulture Mission (NHM), should be seriously pushed to promote comprehensive growth of horticulture covering fruits, vegetables, roots & tuber crops, mushroom, spices, flowers, aromatic plants, cashew and cocoa. The Government of West Bengal has created the West Bengal State Horticulture Development Society for implementation of the NHM programmes, and the impact of the programme has just started showing up. There has been a 3.8 per cent growth in the area under fruits as it has increased from 187130 hectares in 2006-07 to 194250 hectares in 2007-08. During the same period, while the production of fruits increased by 4.78 per cent, production of vegetables grew by 3.87 per cent. However, even though the state has so far received Rs. 10010.75 crore from the NHM, it has been able to spend only Rs. 59.34 crore (Economic Review 2008-09). The District Horticulture Development Societies should be made active to promote horticulture in a planned manner.

2. Even though West Bengal shares a very high percentage of all the non-agricultural economic enterprises in the country, an overwhelmingly large number of them are tiny enterprises (employing one or two persons), as in all other states. There is a need for better understanding of the nature of these enterprises and non-farm activities in rural and semi-urban areas. Instead of viewing them as the residual sector absorbing the surplus labour from agriculture, their potential in sustaining livelihood for a longer period should be explored in a systematic manner based on evidence from the field. To infuse dynamism in the sector, a number of support services are needed - from skill formation to credit.

3. Excessive focus on employment-oriented poverty-alleviation strategies hides the fact that there is a serious problem of hunger and undernourishment in the state which constrains the capacity of some people to take advantage of workfare-type programmes. Secondary data suggest that a section of the BPL population fails to access the subsidized food meant for them. They are either too poor to lift their quota from the ration shops or some other kind of barrier exists. Each Gram Panchayat may be instructed to identify the real destitute for providing food support. But food support only cannot pull them out of poverty trap. There is no alternative to universalizing elementary education if any significant effect on poverty reduction in the long run is to be sought.

4. One of the major dilemmas at the policy level arises out of the competing use of land as the most critical input for development purposes. Areas with relatively higher land productivity because of higher intensity of input-use and multiple-cropping practices happen to be the ones which are also relatively more attractive as non-agricultural sites. This makes the opportunity cost of land in those areas rather high, and therefore there seems to be an inevitable tendency towards conversion of agricultural land for non-agricultural purposes. In the process, the livelihood of the landless agricultural workers may be seriously affected, as they have very little human capital to negotiate in the emerging non-agricultural job market. The critical factor thus turns out to be the human capital again.

5. The transition from agriculture to non-agricultural activities would have been a bit smoother had there been a faster progress on the school education front. Progress in elementary education in West Bengal, by all reckoning, has been rather modest. To improve indicators of average achievement, special focus must be on the groups of children who lag behind others, i.e. those belonging to the disadvantaged social groups and communities.

6. Education forms the crucial link between different aspects of human development, including access to resources - no matter whether the latter is state-mediated or market driven. There is no inherent contradiction between the state actively seeking investment from private investors and improving the livelihood of people, but the apparent conflict arises because a vast number of people remain excluded from the development process as they lack the minimum level of education which is essential for participation.

7. West Bengal has so far made rather modest progress on elementary education. To some extent the outcome can be related to deficiency in school quantity and quality. The pupil-teacher ratio and student-classroom ratio for primary schools are among the highest, and the percentage of female teachers is among the lowest. The distribution of teachers is unfavourable to low-achievement areas. Although the Sishu Siksha Kendras (SSK) have somewhat filled the gap left by the primary schools, instead of running two parallel systems, the positive aspects of SSKs have to be consolidated and made use of to improve the regular system of primary schools. Effort should be made to increase the number of female teachers in schools, which can go a long way to reduce dropout of girl children in the post-primary stage. The most important deficiency in school infrastructure is perhaps the high ratio of the number of primary to upper primary/secondary schools, which means, efforts should be made to increase the number of schools with upper primary sections. The focus of DPEP and SSA on districts may mask the fact that substantial disparities exist within the district - across space, social groups and communities. Targeting smaller administrative areas - blocks, Gram Panchayats, or even individual villages - can reach the deserving more effectively. In the case of school quality, it would be worthwhile to narrow down focus to specific schools with disproportionately large shares of dropouts.

8. The attempt made by the Panchayat and Rural Development Department, Government of West Bengal, to identify more than four thousand villages as 'backward' is an important step in the direction of geographical targeting, even though the choice of criteria could be improved upon. However, this

identification exercise has not been followed by implementation of poverty alleviation programmes targeted specifically to these villages. If a poverty alleviation programme is targeted to villages, a closer correspondence between need and provisioning can be achieved.

9. Adequate antenatal care, delivery under the supervision of medically trained persons and proper post-natal and child care are crucial to avoid maternal complications and child morbidity which in many situations lead to death. These interventions assume crucial importance, especially in a situation where other factors (such as women's health and level of awareness) are not favourable.

10. Initiatives such as Neonatal Special Care Units with sophisticated facilities set up in backward districts must be nurtured. The two units set up in Purulia and Birbhum have already drawn attention of the United Nations. They are being viewed as a model to be replicated elsewhere.

11. To minimise the problem of underutilization, the District Planning Office may be given the task of tracking all the funds that flow into a district and their utilisation. An extensive campaign by government bodies (local and state) and NGOs about all programmes/schemes, availability of funds, eligibility criteria, institutional mechanism for lodging complaint in case of unfair exclusion or malpractices can make people aware of their entitlement.

12. The State government should try to move the Central ministries with the suggestion to simplify and make the programmes/ scheme more flexible to fit into the ground situation and local context so that the really needy people get the benefit. The respective departments and officials should be made more accountable in case funds remain under-utilised. District administration, especially the District Planning Office should support local bodies to prepare their plans - wherever such a plan is a prerequisite for availing central allocation - by providing them relevant skill and expertise. Special training programmes for local level officials and representatives should be organized so that eventually they develop their own capacity to make action plan at the local level.

Appendix I

Millennium Development Goals

1. **Eradicate poverty and extreme hunger**
   - ❖ Reduce by half the proportion of people living on less than a dollar a day
   - ❖ Reduce by half the proportion of people who suffer from hunger

2. **Achieve Universal Primary Education**
   - ❖ Ensure that all boys and girls complete a full course of primary schooling

3. **Promote Gender Equality and Empower Women**
   - ❖ Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015

4. **Reduce child mortality**
   - ❖ Reduce by two thirds the mortality rate among children under five

5. **Improve maternal health**
   - ❖ Reduce by three quarters the maternal mortality ratio

6. **Combat HIV/AIDS, malaria and other diseases**
   - ❖ Halt and begin to reverse the spread of HIV/AIDS
   - ❖ Halt and begin to reverse the incidence of malaria and other major diseases

7. **Ensure environmental sustainability**
   - ❖ Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources
   - ❖ Reduce by half the proportion of people without sustainable access to safe drinking water
   - ❖ Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020

8. **Develop a global partnership for development**
   - ❖ Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory, includes a commitment to good governance, development and poverty reduction- nationally and internationally

- ❖ Address the least developed countries' special needs. This includes tariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction
- ❖ Address the special needs of landlocked and small island developing States
- ❖ Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term
- ❖ In cooperation with the developing countries, develop decent and productive work for youth
- ❖ In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- ❖ In cooperation with the private sector, make available the benefits of new technologies- especially information and communications technologies

Appendix II

$$\text{Maternal mortality ratio} = \frac{\text{Number of maternal deaths to women (15-49 years)}}{\text{Number of live births to women (15-49 years)}} \times 100000$$

$$\text{Maternal mortality rate} = \frac{\text{Number of maternal deaths to women (15-49 years)}}{\text{Number of living women (15-49 years)}} \times 100000$$

$E[\ln(\text{IMR-total})]$ = 4.4799 - 0.0222*t - 0.0003*t2
(t-value)   (131.88)   (-3.84)   (-1.66)
R^2 = 0.9573

$E[(\text{IMR-rural})]$ = 4.5652 - 0.02353*t - 0.0004*t2
(t-value)   (135.82)   (-4.10)   (-1.72)
R^2 = 0.9618

$E[\ln(\text{IMR-urban}]$ = 3.8713 + 0.0045 - 0.0009
                    (56.71)   (0.39)* - (2.03)**

R^2 = 0.6751
* not significant; ** significant at 5.4 per cent level.

Table A1: Annual RNTCP Performance, West Bengal (Case Finding (2006), Sputum Conversion (3rd Qtr 2005 to 3rd Qtr 2006), Results of Treatment (2005)

DISTRICT	Total patients initiated on treatment	Annual total case detection rate	New smear positive patients initiated on treatment	Annual new smear positive case detection rate	% Estimated new smear positive cases detected	% Sputum positive out of total new pulmonary patients	Cure rate of new smear positive patients
Bankura	4152	121	2239	65	87	71	88
Barddhaman	9920	134	4061	55	73	55	84
Birbhum	4214	131	2281	71	94	69	86
S Dinajpur	2360	147	1271	79	105	73	88
Darjiling	3539	206	1121	65	87	59	79
Haora	6527	143	2368	52	69	59	82
Hugli	6629	123	2740	51	68	60	88
Jalpaiguri	6128	168	3018	83	111	76	87
Koch_Bihar	3044	115	1435	54	72	67	86
Kolkata	7077	145	2899	59	79	74	83
Maldah	5494	156	2696	77	102	65	82
E Medinipur	3881	82	2541	54	72	85	84
W Medinipur	6819	122	3023	54	72	62	84
Murshidabad	7434	119	3663	58	78	68	88
Nadia	6137	125	2662	54	72	59	89
N 24 Parganas	10907	114	5213	55	73	75	89
Puruliya	4215	155	1766	65	87	55	88
S 24 Parganas	7751	105	4066	55	73	73	89
N Dinajpur	3091	118	1372	53	70	63	86
West Bengal	109320	127	50436	59	78	67	86

Table A2 : Implementation of SAHAY (till 31.07.2009)

District	No. of SAHAY families as per Primary List	No. of GPs started providing support	% of families getting support	No. of GPs	No. of families being provided support	% of GPs providing support
Jalpaiguri	13861	839	6.1	146	32	21.9
Coochbehar	22007	2983	13.6	128	80	62.5
Darjeeling	2991	0	0.0	134	0	0.0
Uttar Dinajpur	11032	159	1.4	98	10	10.2
Dakshin Dinajpur	7710	494	6.4	65	30	46.2
Malda	16910	177	1.0	146	9	6.2
Bardhaman	17182	74	0.4	277	5	1.8
Bankura	7669	379	4.9	190	52	27.4
Hooghly	10894	6	0.1	210	2	1.0
Purulia	12997	718	5.5	170	15	8.8
Birbhum	14779	1208	8.2	167	21	12.6
Purba Medinipur	10011	366	3.7	223	41	18.4
Paschim Medinipur	18124	861	4.8	290	58	20.0
Murshidabad	29307	0	0.0	254	0	0.0
Nadia	23243	103	0.4	187	7	3.7
South 24 Parganas	19109	66	0.3	312	2	0.6
North 24 Parganas	17133	37	0.2	200	8	4.0
Howrah	3970	23	0.6	157	2	1.3
West Bengal	258929	8493	3.3	3354	374	11.2

Source : Panchayats and Rural Development Department, Government of West Bengal

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