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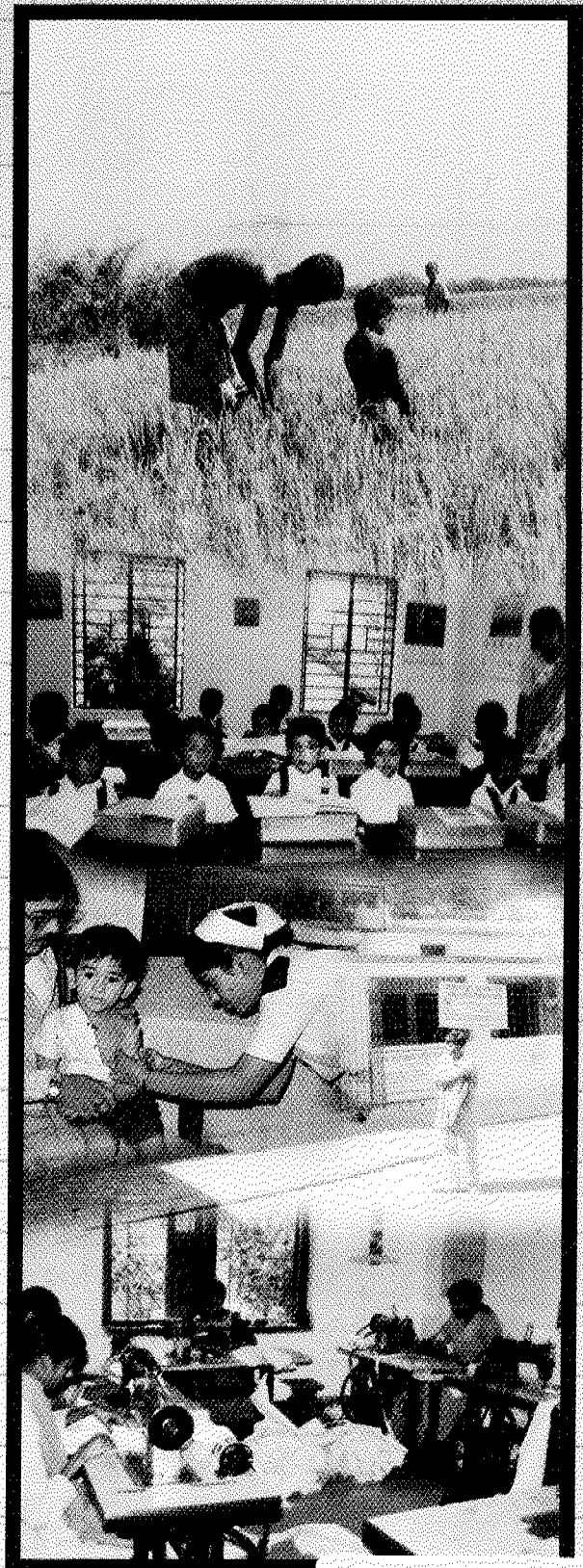
IN SEARCH OF A DISTRICT DEVELOPMENT INDEX

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822-INWE01-17312

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Foreword

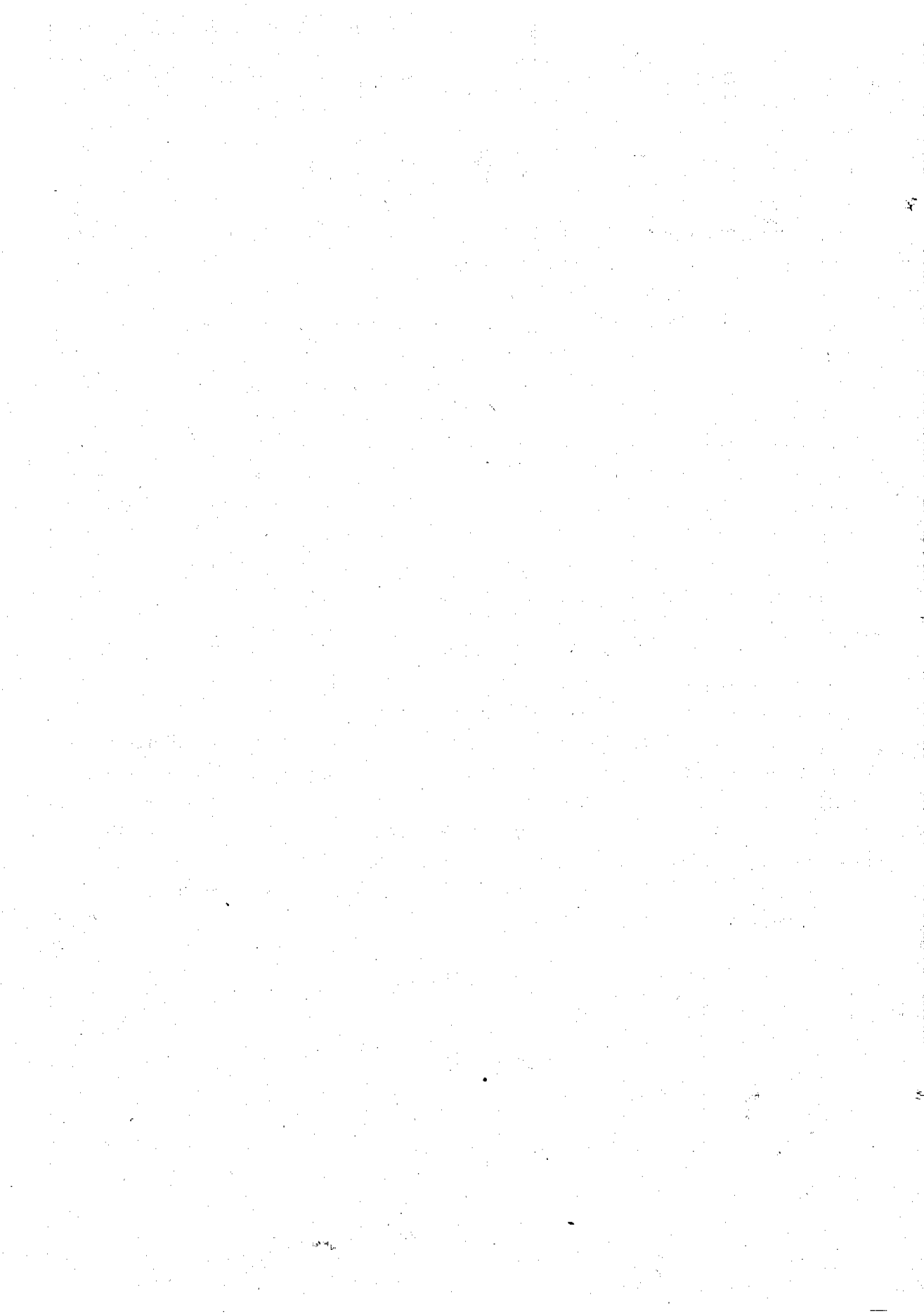
We had been in search of a District Development Index for the last few years - an index that can be handled comfortably by an ordinarily educated person. In other words, we were looking for an index that can be used by anyone without being an expert in Economics or Statistics. The task was not easy. While an academician would not be willing to sacrifice accuracy, a mathematically accurate index would not be of much help to a serving Civil Servant or a decision maker in the Panchayat set-up unless he or she is a specialist. It is quite possible that a rural development functionary, whether a Government servant or a representative of the people, might have come from the discipline of Literature or History. Even then, he will have to work with a District Development Index for various purposes. Therefore, we were toying with the idea if it could be possible to have an academician who would appreciate our need and at the same time would be willing to ensure that the possible loss of accuracy did not ruin the acceptability of the Index itself.

I am grateful that Professor Biswajit Chatterjee, Economics Department, Jadavpur University agreed to shoulder the burden as a labour of love. He was also very kind to take up the work in association with my colleague, Dr. Dilip Ghosh, Senior Research Officer of this Institute. The present report is the outcome of these efforts. How far the loss of accuracy, which seems to be unavoidable, has marred the acceptability of the index would be left to the experts. We will also leave it to the rural development functionaries to find out how comfortably they can work with it. The blame, if any, in trying to satisfy the dual tests, is entirely mine, while all credit will go to the researchers and also to those who have all along been encouraging the Institute and the present researchers.

Alok Kumar Mukhopadhyay

Director

State Institute of Panchayats
and
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Preface

The present report makes an effort to present the on-going development scenario in 18 districts of the State of West Bengal. This development scenario is all comprehensive and encompassing different aspects of development. Though it is difficult to capture the different variants of development in a single framework, this study attempts to provide an overall view of the level of development of the districts through an aggregate score. It is obvious that an aggregate index hides something intrinsic, but it is easier to understand and is comprehensible to development practitioners.

The present study is divided into five chapters. The introductory note in the first chapter provides the purpose and objective of this study. The collection of data is a major hindrance in the present study as district level disaggregated data are not easily available. We thank the Bureau of Applied Economics and Statistics for their Statistical Abstract which contains many valuable information. Even then, there lies enormous scope for improvement in the interest of researchers. It is imperative that certain effective steps should be taken by the different departments for building database at the district level, and if possible at the block levels, for monitoring the development functions. The conceptual framework is presented in the second chapter through a brief note on development perspectives. The concept of development is all pervasive. Glancing at it in a fragmented way does not reflect the reality. For this reason, in this study 19 attributes are considered for developing the district index. Only human development index or indexing on the basis of the growth or infrastructure or district domestic product alone cannot give the holistic view of development in the districts.

The third chapter presents the details. This chapter is divided into three main sections, namely:

Section 1: Indicators of economic growth

Section 2: Indicators of Infrastructure development

Section 3: Indicators of Social Development

Chapter four provides the district development index (DDI). In this study human development index for the districts are also calculated. But HDI provides a limited view as it takes into consideration a few indicators and ignores others. For providing a broad based view we develop DDI on the basis of the available data. As the base year of all data used are not the same, some questions may be raised in respect of consistency of the data. There is no way out to avoid such situation. The present study provides a methodology only. As and when data will be available any body in the development network can build up district index, block index and even gram panchayat index following our methodology. The last chapter is mainly concerned with policy implications of the present study.

This prefatorial note will remain half done if we do not mention the name of Shri Alok Kumar Mukhopadhyay, Director of State Institute of Panchayats and Rural Development, Govt. of West Bengal. In fact the present work is his brainchild and he has been our constant source of inspiration and encouragement.

The draft of the present report was placed in a seminar on 31st May, 2001. In that seminar many Govt. officials of Panchayats and Rural Development Department, academicians and faculties of the Institute were present and deliberated. We are grateful to them for their comments and suggestions and we have tried our level best to accommodate these suggestions as far as possible.

Lastly, we must mention the names of Shri Sudip Bandopadhyay, Shri Dibakar Biswas, Shri Chinmay Biswas and Shri Monotosh Boral of the Institute for providing support services in bringing out this report.

Date : 12th October 2001

Biswajit Chatterjee

Dilip Kumar Ghosh

Chapter 1

Introduction

This report is about district development in the state of West Bengal. In any development report, the duality between a macro-perspective and the regional perspective becomes very important. For example, in the World Development Report published annually by the World Bank, or the Human Development Report published by the UNDP, we have the worldview as well as the country wise or region-wise view about the state of development, however defined. Usually, such reports by international agencies have specific focal themes in different years, and in choosing such themes they often employ alternative development indicators as suggested by researchers from time to time. In the present report, no such focal theme has been chosen and we also do not have a comprehensive macro-view about the West Bengal economy. This is due to a number of reasons. First of all, there is no State Development Report for the State of West Bengal as yet, and therefore no officially endorsed benchmark figures are obtainable for the state level for a number of indicators. What we have are information about the state level magnitudes as brought out by several central agencies and some state agencies. Secondly, often our choice of a specific focus on district development has been handicapped by the unavailability of comparable reliable data at the district level from the district statistical handbooks for the different districts of the state. We have, therefore, attempted to portray the

average development pattern of the districts in the state on the basis of whatever information at the district level that can be relied on and compared, are available from different sources. This may involve the problem of comparing the incomparable for a variety of indicators, as the state level or the district level data for some of them are not based on the same or similar methodologies that the central agencies use. This problem has compelled us to be selective in our choice of the variables, but taken together these variables capture some essential and commonly perceived features of development of the districts of West Bengal. We have also explained the methods of comparing and ranking of districts by alternative criteria in chapter 4 of the report. The implications of the report for the development policy for the districts in the state are summarized in the last chapter of the report.

1.1 Purpose of the study

The motivations behind this exercise of preparing the district development report for the State of West Bengal are as follows. In the first place, despite the institutional reform of introduction of three-tier panchayat system in West Bengal, the focal point of disbursement of development funds by the state government has been the district administration under the leadership of the Zilla Parishad. The implementation of various schemes takes place at the decentralised gram panchayat levels, but quite often these schemes are drawn up at the district level. The performance

of the districts in terms of alternative criteria of development is therefore essential in judging the efficacy of development administration in the state and in identifying the districts by criteria, which still require special attention and care from the state government. Secondly, use of alternative criteria helps us in identifying the extent of deprivation or otherwise by these criteria in the different districts, such that the scope for further public action in such areas or activities can be identified. For example, a district may be fairly advanced compared with others in terms of agricultural productivity but not in terms of access to sanitation, health care or educational facilities, and therefore ranking score by alternative criteria of development would indicate the need for special emphasis in certain well-specified directions. Finally, one may use these indicators in planning and therefore in allocation of funds under the district pool by the appropriate agencies of the government at the state as well as at the district levels.

1.2 Objective of the study

For sometimes past it was under active consideration to ascertain the relative position of the districts in the development panorama. But readily nothing was available to give a reply to such query. In this backdrop the present study is being undertaken with the following objectives :

- (i) to develop a composite district development index on the basis of relevant indicators,
- (ii) to suggest ways and means for its replicability in the district and sub district level, and

- (iii) to locate the relative position of the different districts with reference to specific area of development, for example social development, health and education, etc.

In this study relative ranking of districts within the state of West Bengal is made and no point of reference outside West Bengal has been used.

1.3 Data Source

As there exists dearth of authenticated published data for the districts, they had to be culled out from diverse sources. The currently available Statistical Abstract 1997-98 published by the Bureau of Applied Economics and Statistics, (henceforth Bureau) of the Government of West Bengal is of great use for this present study.

Economic Review published by the State Planning Board just before the placement of the State Budget presents a survey of performance in different sectors with reference to the previous year. Economic Review of different years are consulted for getting time series data. For example enrolment figures in primary education are taken from these reviews.

Health on the March published by the State Bureau of Health Intelligence, Govt. of West Bengal provides data on development of health care facilities. This is a publication of the Health Department containing official statistics. The number of health centres, medical colleges, hospitals alongwith the number of beds for indoor patients are taken from this publication. There are many other things in this document in respect of various programmes of the department including family welfare programmes.

As usual, Census Reports on the different issues are the mines of resources. The information on literacy rate, sanitation coverage, pacca road connectivity, rural water supply coverage of villages are taken from these reports. The information concerning scheduled castes and scheduled tribes are taken from the Primary Census Abstract for Scheduled castes and Scheduled tribes (series 26).

District Statistical Handbook (DSH) published by the Bureau for each district contains useful information. These publications provide block-disaggregated data apart from district level data. The number of doctors at the block level health system is collected from this handbook for each district. DSH contains information on different matters relevant to development of a district – for example, roads maintained by PWD and local bodies, small industries, villages electrified etc.

The agenda note of the meeting of State Level Bankers Committee provides data

on bank related indicators. The State Level Bankers Committee meeting is normally held twice a year. The Agenda note contains information on the performance of banks with reference to different criteria set for the banking activities.

The Department of Panchayat and Rural Development, Govt. of West Bengal publishes data on the performance of districts in different programmes implemented by the department. The official statistics thus documented are used in ranking the districts on the basis of utilisation of funds under the wage employment programmes administered by this department.

The Annual Report of a department provides a lot of information on the functioning and performance of the department. The Annual Reports of School Education and Higher Education Departments are the major source of education related data in the present study. □

Chapter 2

Development Perspectives

The tradition of development economics is rich with perceptions and paradigms about how the process of economic and social transformation in a given country or region through the process of economic development can be initiated and implemented and the well being of the people could be enhanced not only in principle, but also in practice. Different scholars working in the field of economic development and transition between economic regimes have shed light on these issues and lively debates have ensued not only in defining the concepts and categories in theory, but also the issues of their measurement and the choice of appropriate indices at appropriate levels of disaggregation to indicate the ends and means of development process and the societal well-being that such a process is supposed to achieve. While economic theory has helped us to identify the relevant variables at the micro and macro levels so that the evolving contours of the development process could be charted, government policies, market structures, and the economic and social institutions actually govern the temporal path of these variables, and therefore are as important as the endogenous variables identified. In what follows, we shall refrain from analysing in details the alternative paradigms of development as have been enunciated by scholars from time to time. Rather, we shall present snapshots of macro perspectives of development as can be distilled from these alternative paradigms, and try to identify the major issues that need be settled in

constructing development indicators in a region like the state of West Bengal, which is the subject of our study in this report.

In any economic system, whether capitalistic, based on wage-labour contract in a market economy, or socialistic, based on social ownership of the means of production, the issue of efficient utilisation of resources assume prime importance in the context of growth and accumulation of material wealth of the society or region. In terms of such perception, economic growth of a nation is considered *sine qua non* of economic progress and development, and such a process of growth is linked up with the saving investment behaviours in an economy, i.e., resource mobilisation, deployment and regeneration and in these processes, the emphasis on efficiency has been one important feature. Such an efficiency may be actually achieved if different markets are complete and are allowed to perform resource allocation not only at a point of time, but also inter-temporally. The moot point is whether growth of income and output that may ensue such a process of efficient resource allocation would be commensurate with the well-being of the relatively poorer sections of the population, given the asymmetry in the distribution of income, wealth and endowments in a society, which may be threatened to be aggravated. In the 1950s and 1960s, the adherents of balanced growth and unbalanced growth doctrines of economic development, as

well as the proponents of centralised planning, used to believe and propagate a 'trickle down' mechanism by which the process of growth automatically tackles the problem of distributive justice among the lower echelon of the population in any given nation. That euphoria burst its bubbles in the 1970s, when it was realised that poverty, malnutrition, hunger, lack of education and health facilities, and starvation and disease continue to plague a sizeable majority of the world population in the developing nations where the 'growth only' paradigm had run its full course during the 1950s and 1960s, with pro-active government policies and liberal foreign aid available from the developed nations. Something must have gone wrong either in delineating the development strategies or in functioning of the government in effectively strengthening the channels of delivery to the downtrodden.

The onus of development research as well as development policies from the 1970s onwards have been to identify these inadequacies and assess the success or otherwise of development programmes drawn up in terms of their effects on human capabilities and freedom to enjoy and enhance them in meaningful ways to ascertain the well-being of the people. Economic development, according to this changed perception, is viewed with much broader connotation than was initially comprehended by the materialistic 'growth only' paradigm. Expansion of social infrastructure like education, health, nutrition, gender parity, access to sanitation and drinking water, and socio-political empowerment in the form of grass root democracy spread to the weaker sections of the population, people's participation in civic, local bodies, legislatures or the parliament, are

now viewed as important constituents of development as conditions of material well-being or progress thereof connote. As a result, and with perceptive theoretical contributions from scholars like Amartya Sen, Partha Dasgupta and others acting as ideology, we find that ever since the 1990s, the UNDP in a big way has been suggesting methodologies for broadening the visions of development through the construction of alternative indices like the Human Development Index (HDI), Gender Development Index (GDI), Gender Empowerment Measure (GEM), the Human Poverty Index (HPI), and so on. These indices are meant to capture development and well-being of people from two perspectives. One is the *conglomerative* perspective, focusing on advances made by all groups in a society, and the other is the *derivational* perspective in which development is viewed by the impact of the development process vis-à-vis the deprived in a society. Thus, for instance, while the HDI looks at the development potential of a nation, and the attained level of well-being of its constituent population at a point of time, the HPI and the Capability Poverty Measure look at attributes reflecting deprivation in ability, including the command over material means of well-being, of people from the deprived sections of the population to live a productive and meaningful life. In each of these measures, efforts are made to address a specific facet of the development process, using a common approach but focusing on more representative set of variables in a consistent relationship to each other. Thus the human development approach, by focusing on capability expansion, highlights the importance of enlarging people's choices for raising their level of well-being. These choices, as reflected in a society's social and economic

attainments, can be infinite and variant over time and space, but in actual practice, some of these choices could be effected through economic growth as well as through larger political and social processes. This shift in the conceptualisation of the development process implies that the conventional preoccupation with obtaining a higher income growth as a development goal is desirable only so long as it is accompanied by an expansive set of desirable social outcomes for the concerned society. As a result of such a paradigm shift in the notion of development, these indices are now seriously considered by the development administrators also in assessing the success or otherwise of different development programmes. But methodological problems of computing these indices apart, there is often lack of availability of suitable data as are suggested by the conceptual formulations of some of these indices, at the required level of disaggregation, which forces amendments and modifications of such indicators, as is the case in India. The imperfect and very slow nature of evolution of our data system are perhaps the biggest obstacle for a change in the mindset of policy makers in developing countries like India, who often take refuge under the cover of the imperfect data system to avoid public scrutiny of the failure of the programmes they launch usually with much fanfare but with very little success rates among the targeted beneficiaries.

There has been a recent revival of the old trickle down theory of development by the proponents of the structural adjustment programmes for growth as a part of the Washington Consensus on development. The idea behind this thesis has been that growth effect dominates

the distribution effect in any observed change in head count ratio of poverty, and that growth promoting programmes in any sector of the economy can be unleashed effectively in a market-friendly framework of governance in a globalised world. This perception puts emphasis on growth promoting activities in different sectors of the economy mainly led by the actions of the private individuals optimising their respective objective functions, and the markets signaling the adjustments required for optimal allocation of scarce resources. The role of the government or the public sector is to monitor market failures, but in view of the possibility of government failures because of adverse selection and moral hazard problems, the scope for governmental interventions and regulations should be kept at a minimum, mainly in the field of infrastructural development. To assist the LDC governments in this gigantic task of promoting growth and downsizing their own roles, the consensus has been to provide a global architecture of help and governance such that resources do flow in such low income poverty-stricken and crisis prone economies to foster speedier economic growth and export orientation in tune with the globalisation process under way. The issue of distributive justice and enhancement of peoples' capabilities can be addressed only in a scenario of high growth so that faith in the trickle down mechanism is vindicated in this approach.

In India, we have experienced the shifts in development perceptions and policy regimes from time to time. At the beginning of our development plan, heavy industry dependent Mahalanobis strategy of planning was chosen, primarily on the basis of presumed strength of the trickle-down mechanism.

An alternative humanist development perspective called the Wage Goods approach to development was suggested by C. N. Vakil and P. R. Brahmananda, but Pandit Nehru's romanticism of Soviet Socialism together with the euphoria of the international funding agencies for the big-push strategy of industrialisation as the sine qua non of economic development of poor nations, had ensured the acceptance of the Mahalanobis strategy of development planning in our country pledging for the establishment of a 'socialist pattern of society'. The first U-turn in our development strategy took place in the middle of 1970s, when the actions on distribution were considered integral part of the strategies of growth, and explicit anti poverty programmes of various kinds were introduced with major funding by the central government and the state governments acting as primary implementing agencies. The issues of poverty, malnutrition, hunger, unemployment and the development of social infrastructure received priority in political and policy level discourses on development during this phase, which continued upto the end of 1980s. The second U-turn took place in 1991, when as per the tenors of the Washington Consensus, India opened the doors to globalisation, market-friendly reforms in her economic policies, downsizing the role of the state, adoption of structural adjustment policies for lifting the growth trajectory of the Indian economy, and enhancing the international competitiveness of her exports, while the issues of poverty eradication and alleviation of related endemic deprivations were relegated either to the trickle-down mechanism of growth in different sectors of the economy, or to the reduced form of government interventions in the name of targeting, and greater participation

of NGOs. The Indian economy is presently going through this phase of development perception in a globalised economic scenario of sanctions, standards, and concern for human rights under global governance and directions. The response of economic agents to the change in economic environment can be evaluated in terms of choice of alternative criteria and the picture that emerges can be viewed either from the national angle, or regional/state level or even the sub-regional or district levels. In this report, we shall be focusing on the nature and extent of development in the state of West Bengal with the districts as the units of analysis or exposition.

The Government of West Bengal, since 1977, has been propagating the use of an alternative model of development based on institutional reforms ensuring people's participation in the panchayats and local bodies, and introducing decentralised planning to effectively monitor and implement measures aimed at poverty alleviation, construction of social overheads, land reforms and empowering the people who had been historically deprived, like the backward castes and tribes, and the women. While there is some merit in such a claim to usher in institutional change related to the land and credit markets in the rural society of the state, and thus much of the progress in agricultural growth in the state in recent years have been attributed to such institutional change, ensuring development from below, in many areas the progress has remained only perfunctory and unsatisfactory, as in many cases the panchayats and other local bodies have become extension counters of some government departments, with very little effective autonomy to chart out alternative development programmes independent of

the design and control of the state government or even the central government. Many of the social progress measures that have been attempted through people's movement for freedom and expansion of capabilities have remained weak or marginal in their impacts, and in a globalised world, where the penetration of markets in different forms has threatened to sharpen asymmetries in rural and urban life in different parts of the country, there is urgent need to revamp the Panchayati Raj institutions in the progressive state of West Bengal. One of the fundamental difficulties in making our panchayats work as effective agents of socio-economic change in the changed economic environment, has been the absence of suitable recording system, which is responsible for adhocism in the various development programmes undertaken

and the consequent non-fulfillment of targets. As a result, we find that despite very tangible progress in the last quarter of the 20th century, the extent of deprivation for the population of West Bengal continues to be serious in terms of certain crucial indicators of progress and human development. There is also the problem of comparing the incomparable quite often, and arriving at a composite measure to portray the overall development performance of the state. The present report hopes to provide a framework for assessing the multiple dimensions of the state with districts as the unit of analysis, but we hope that the method could perhaps be extended further downwards and even village level performance could be assessed as per the methodologies suggested in this report. □

Chapter 3

Patterns of District Development

A comprehensive picture of the nature and pattern of development in the districts would depend on the choice of the canvas and the different indicators of development chosen help us in defining the canvas on which the picture is portrayed. Although the choice of the indicators may seem arbitrary, their choice is often prompted by the availability of relevant data at the district level. There may be debates regarding the appropriateness or otherwise of the indicators chosen, but

broadly speaking, there appears to be a consensus that economic growth, infrastructure and social development constitute important elements of the development process of a region in an economy, and accordingly, we have selected indicators which are classified into three groups - indicators of economic growth, indicators of infrastructure and indicators of social development. The following box summarizes the picture.

Growth indicators	Infrastructure development indicators	Social development indicators
Per capita income	Pacca Road connectivity	Sanitation coverage
Share of agriculture in District Domestic Product (DDP)	Total surfaced and unsurfaced roads	Rural water supply coverage
Share of manufacturing sector in DDP	Number of commercial bank branches and credit deposit ratio	Beds in hospital, Availability of doctors
Food grains productivity	Electricity coverage	Per school and per teacher number of students in primary, junior/high, secondary and higher secondary schools
Male Agricultural wage rate	Irrigation coverage	Number of colleges
Employment in small scale industries and factories		Literacy Rate - Total, male and female
Poverty aspects Fund utilisation in JRY and EAS.		Infant Mortality Rate Progress of Scheduled caste/tribe
Unemployment index		

3.1 Indicators of economic growth

In this study districtwise per capita income (at constant prices), share of agriculture and manufacturing sector in district domestic product are primarily considered as indicators of economic growth. Alongwith these indicators, growth of food grains productivity and wage rate of male agricultural labour, employment in secondary sector and overall unemployment in economy are considered for getting a comprehensive outlook of economic growth. The utilisation of funds earmarked for generating employment in the rural sector is also studied for getting an idea

about efficiency of development agencies.

As development is more than economic growth, the present study includes reflection on poverty. The district wise poverty aspect is studied from two angles namely, Human Poverty Index and Capability Poverty Measures.

3.1.1 Per capita Income

In table 1, districtwise per capita income (at constant prices) for all the districts of the state are presented for the period 1991-92 to 1995-96.

Table 1 : Per Capita Income (In Rupees) : Districtwise (at 1980 - 81 constant prices)

Sl. No.	District	1991-92		1992-93		1993-94		1994-95		1995-96		Rate of growth during 1991-92 to 1995-96
		PCI	RANK	PCI	RANK	PCI	RANK	PCI	RANK	PCI	RANK	
1.	Burdwan	2614.51	4	2662.30	3	2798.19	2	2995.53	3	3087.48	3	3.62
2.	Birbhum	1905.89	14	1996.52	13	2112.76	11	2237.13	13	2389.91	9	5.08
3.	Bankura	2284.54	7	2273.32	6	2357.58	7	2542.39	7	2761.94	5	4.39
4.	Midnapore	2322.39	6	2265.20	7	2394.72	6	2546.24	6	2694.13	6	3.20
5.	Howrah	2393.63	5	2406.94	5	2490.54	5	2681.23	5	2773.08	4	3.17
6.	Hooghly	2621.54	3	2579.08	4	2770.22	3	3036.19	2	3584.47	2	7.35
7.	24 Pgs. (N)	2147.52	9	2135.53	9	2249.18	9	2366.38	9	2351.22	10	1.89
8.	24Pgs. (S)	1607.99	17	1683.93	17	1739.41	18	1958.02	17	1928.77	17	3.98
9.	Calcutta	4108.19	1	4138.59	1	4265.20	1	4484.83	1	4581.35	1	2.30
10.	Nadia	1907.58	13	1913.48	14	2054.63	14	2257.87	10	2211.94	14	3.19
11.	Murshidabad	1943.22	12	1997.19	12	2073.68	13	2237.73	12	2245.36	12	3.11
12.	UttarDinajpur	1567.68	18	1677.14	18	1743.43	17	1844.74	18	1776.11	18	2.66
13.	Dakshin Dinajpur	2028.23	11	2012.37	10	2102.50	12	2237.92	11	2243.28	13	3.53
14.	Malda	1704.13	16	1686.24	16	1833.87	16	1963.30	16	1969.57	16	3.11
15.	Jalpaiguri	2216.01	8	2183.41	8	2280.29	8	2371.70	8	2464.27	8	2.24
16.	Darjeeling	2701.59	2	2755.76	2	2762.03	4	2704.90	4	2662.76	7	- 0.28
17.	Coochbehar	2035.38	10	2010.98	11	2151.90	10	2197.89	14	2316.97	11	2.78
18.	Purulia	1727.54	15	1841.23	15	1902.75	15	2083.19	15	2025.80	15	3.45

Source : Statistical Abstract, 1997-98, Govt. of West Bengal.

The rate of growth of per capita income during these five years is also calculated for seeing how the districts in the states are growing. For example, the rate of growth of per capita DDP in Hooghly is the highest while in Darjeeling district per capita income falls during the period. For example it was Rs. 2701.59 in 1991-92 and at the end of the year 1995-96 it stood at Rs. 2662.76. This signifies a reduction to the extent of 0.28 percent.

Percentage deviation of DDP and SDP

To find out the position of each district of the state of West Bengal relative to the state level average we use the

percentage deviation of per capita district domestic product (DDP) and per capita state domestic product (SDP). For calculating the percentage deviation of per capita DDP and per capita SDP (result in table 3) the figures of per capita net state domestic product are collected and given in Table 2. The rate of growth of per capita net SDP is also calculated to trace the space of economic growth because rise in SDP reflects the health of the economy. Table 2 shows that maximum change was registered in the year 1994-95. During the period 1991-92 to 1997-98 the rate of growth of per capita SDP is to the tune of 4.63 percent per annum.

Table 2 : Per Capita net State Domestic Product (In Rupees)

<i>Year</i>	<i>Per Capita net SDP (In Rupees)</i>	<i>Percentage change over the previous year</i>
1991-92	2267	
1992-93	2295	+1.23
1993-94	2419	+5.40
1994-95	2601	+7.52
1995-96	2704	+3.96
1996-97	2866	+5.99
1997-98	3002	+4.74

Source : Statistical Abstract, 1997-98, Govt. of West Bengal.

The percentage deviation of per capita DDP and per capita SDP is calculated on the basis of the formula :

$$\frac{DDP - SDP}{SDP} \times 100. \text{ In this way table 3 is generated.}$$

**Table 3 : Percentage deviation of Percapita DDP and Percapita SDP
(at constant prices, 1980-81) : Districtwise**

S. No.	District	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96
1.	Burdwan	15.33	16.00	15.67	15.17	14.18
2.	Birbhum	-15.93	-13.00	-12.66	-13.98	-11.61
3.	Bankura	-0.11	-0.94	-2.54	-2.25	2.14
4.	Midnapore	2.44	-1.30	-1.00	-2.10	-0.36
5.	Howrah	5.59	4.87	2.96	3.08	2.55
6.	Hooghly	15.64	12.37	14.52	16.73	32.56
7.	24 Parganas (N)	-5.27	-6.95	-7.02	-9.02	-13.04
8.	24 Parganas (S)	-29.07	-26.62	-28.09	-24.72	-28.66
9.	Calcutta	81.22	80.33	76.32	72.43	69.43
10.	Nadia	-15.85	-16.62	-15.06	-13.19	-18.19
11.	Murshidabad	-14.28	-12.97	-14.27	-13.97	-16.96
12.	Uttar Dinajpur	-30.85	-26.92	-27.93	-29.07	-34.31
13.	Dakshin Dinajpur	-10.53	-12.31	-13.08	-13.96	-17.03
14.	Malda	-24.83	-26.52	-24.18	-24.52	-27.16
15.	Jalpaiguri	-2.25	-4.86	-5.73	-8.81	-8.86
16.	Darjeeling	19.17	20.07	14.18	3.99	-1.52
17.	Coochbehar	-10.22	-12.37	-11.04	-15.49	-14.31
18.	Purulia	-23.80	-19.77	-21.34	-19.91	-25.08

Source : Statistical Abstract, 1997-98. Govt. of West Bengal.

The percentage deviation (Table 3) shows that in 1991 -92, of 18 districts only 6 have higher per capita DDP than the state figure. The numbers of districts having higher per capita DDP than the per capita SDP in the years 1992-93 to 1995-96 are given below :

1992 - 93	5
1993 - 94	5
1994 - 95	5
1995 - 96	5

From the table 3 it can be seen that Calcutta, Howrah, Hooghly and Burdwan districts consistently have better per capita DDP than the per capita SDP.

In Calcutta the percentage deviation of per capita DDP and per capita SDP is continuously falling from 1991-92 to 1995-96. The total reduction is to the extent of 8.56 percent over the period of five years. In case of Burdwan the fall in percentage deviation is noticed from the year 1993-94 - the extent of

reduction over the period of three years is to the extent of 8.34 percent. But in Hooghly district the percentage deviation is rising appreciably from the year 1993-94. Over the period of five years the extent of rise in percentage deviation in Hooghly is to the tune of 81.66 percent. This indicates that the health of the economy in the district is improving in a significant way. The case of Bankura is worth mentioning for its continuous improvement since 1993-94 to 1995-96 when the per capita DDP exceeds per capita SDP. The reverse trend is noticed

in Darjeeling district where the percentage deviation shows downward trend during the period 1993-94 to 1995-96 and ultimately in the year 1995-96 the per capita DDP went below the per capita SDP.

DDP Index

Following UNDP methodology, DDP index for each district is calculated for the periods 1991 - 92 to 1995 - 96. The index is expressed as value between 0 to 1 by applying the following formula.

$$\text{DDP Index} = \frac{\log(\text{actual}) - \log(\text{min})}{\log(\text{max}) - \log(\text{min})}$$

The index is developed on the basis of percapita DDP figures. Since for achieving a respectable level of human development, unlimited income is not required, the log scale of percapita DDP is used. The result is given in Table 3(a).

Table 3(a) : District Domestic Product Index

No.	District	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96
1.	Burdwan	0.536	0.525	0.538	0.552	0.585
2.	Birbhum	0.195	0.2	0.205	0.210	0.317
3.	Bankura	0.365	0.35	0.333	0.368	0.463
4.	Midnapore	0.414	0.35	0.358	0.368	0.439
5.	Howrah	0.439	0.4	0.410	0.421	0.463
6.	Hooghly	0.536	0.475	0.512	0.552	0.731
7.	24 Parganas (N)	0.317	0.275	0.282	0.263	0.292
8.	24 Parganas (S)	0.024	0.025	0	0.052	0.097
9.	Calcutta	1	1	1	1	1
10.	Nadia	0.195	0.15	0.179	0.210	0.219
11.	Murshidabad	0.219	0.2	0.205	0.210	0.243
12.	Uttar Dinajpur	0	0	0	0	0
13.	Dakshin Dinajpur	0.268	0.2	0.205	0.210	0.243
14.	Malda	0.073	0.025	0.051	0.052	0.097
15.	Jalpaiguri	0.365	0.3	0.307	0.289	0.341
16.	Darjeeling	0.560	0.55	0.512	0.421	0.439
17.	Coochbehar	0.268	0.2	0.230	0.184	0.268
18.	Purulia	0.097	0.125	0.102	0.131	0.146

The growth rate of DDP over the period 1991-92 to 1995-96 is calculated districtwise and presented in table 3(b). The highest rate is noticed in Hooghly district.

Table 3(b) : Growth rate of District Domestic Product during 1991-92 to 1995-96

Sl. No.	District	Growth rate (in percentage)	Rank
1.	Burdwan	6.97	6
2.	Birbhum	7.94	2
3.	Bankura	6.98	5
4.	Midnapore	6.45	10
5.	Howrah	6.51	9
6.	Hooghly	10.42	1
7.	24 Parganas (N)	5.75	14
8.	24 Parganas (S)	6.25	12
9.	Calcutta	6.02	13
10.	Nadia	7.50	3
11.	Murshidabad	6.73	7
12.	Uttar Dinajpur	6.57	8
13.	Dakshin Dinajpur	5.41	17
14.	Malda	7.27	4
15.	Jalpaiguri	5.44	16
16.	Darjeeling	1.92	18
17.	Coochbehar	5.67	15
18.	Purulia	6.44	11

3.1.2 Agricultural Sector

(i) Share of agriculture in DDP

The share of agriculture in DDP for the period 1991-92 to 1995-96 is given in table 4. Calcutta's position in respect of ranking of the districts is more or less the lowest because of its metropolitan character. The contribution of agriculture to DDP is the maximum in Uttar Dinajpur district throughout these five years. Coochbehar consistently occupies the second position. In the lower echelon the position of Purulia district remains more or less unchanged (it is in 12th for four years and 13th for one year i.e.

1991-92). In West Bengal, share of agriculture in DDP was 27.05 percent in the year 1995-96.

The SDP from the agricultural sector at 1980-81 prices increased from Rs. 4336.74 crores in 1992-93 to Rs. 4509.63 crores in 1993-94 – this indicates a growth of 3.99 percent. The increase of agriculture's share at a lower rate was due to highly erratic behavior of the monsoon in the year 1993-94. In view of the Economic Review 1994-95 of Govt. of West Bengal "while 9 of 17 districts received less than normal rainfall, some of the other districts registered higher than normal rainfall."

Table 4 : Share of Agriculture in District Domestic Product (1980-81 constant prices)

Sl. No.	District	1991-92				1992-93			
		Agri.	Total DDP	Ag/ DDP	Rank	Agri.	Total DDP	Ag/ DDP	Rank
1.	Burdwan	43791	159987	0.274	15	46319	166605	0.278	15
2.	Birbhum	19112	49196	0.388	8	21086	52568	0.401	7
3.	Bankura	27554	64055	0.430	3	27105	65383	0.415	6
4.	Midnapore	71172	195569	0.364	11	64835	194832	0.333	11
5.	Howrah	9626	90307	0.107	17	9853	92911	0.106	17
6.	Hooghly	37381	115341	0.324	12	34796	115793	0.301	13
7.	24 Parganas (N)	33232	158562	0.210	16	31123	162078	0.192	16
8.	24 Parganas (S)	25607	92324	0.277	14	28134	97583	0.288	14
9.	Calcutta	881	183376	0.005	18	1757	190095	0.009	18
10.	Nadia	31518	74457	0.423	4	31868	76670	0.416	5
11.	Murshidabad	34829	93270	0.373	10	36738	98271	0.374	9
12.	Uttar Dinajpur	14329	30651	0.467	1	15458	33760	0.458	1
13.	Dakshin Dinajpur	9958	24627	0.404	6	10742	24975	0.430	3
14.	Malda	18169	45532	0.399	7	17552	46244	0.380	8
15.	Jalpaiguri	25598	62797	0.408	5	26659	63342	0.421	4
16.	Darjeeling	13553	35542	0.381	9	12568	37129	0.338	10
17.	Coochbhar	20352	44645	0.456	2	19635	45016	0.436	2
18.	Purulia	11034	38784	0.284	13	13109	42097	0.311	12

Sl. No.	1993-94				1994-95				1995-96			
	Agri.	Total DDP	Ag/ DDP	Rank	Agri.	Total DDP	Ag/ DDP	Rank	Agri.	Total DDP	Ag/ DDP	Rank
1.	53974	179079	0.301	14	62320	196055	0.318	14	64246	206655	0.311	12
2.	23244	56743	0.410	6	25096	61287	0.409	7	27179	66784	0.407	4
3.	28344	68945	0.411	5	31842	75598	0.421	5	36142	83505	0.433	1
4.	71205	210378	0.338	11	79192	228473	0.347	10	88023	246913	0.356	10
5.	10760	98363	0.109	17	13798	108345	0.127	17	12205	114650	0.106	17
6.	40695	126917	0.321	12	49048	141946	0.346	11	68636	171005	0.401	6
7.	35464	175468	0.202	16	39685	189764	0.209	16	34301	193811	0.177	16
8.	27421	101735	0.270	15	36203	115586	0.313	15	26726	114918	0.233	15
9.	2687	201597	0.013	18	2022	218131	0.009	18	2109	229293	0.009	18
10.	36750	84511	0.435	3	43886	95336	0.460	1	38892	95876	0.406	5
11.	38871	104601	0.372	10	45025	115715	0.389	8	41850	119030	0.352	11
12.	16427	36131	0.455	1	18117	39360	0.460	1	15989	39015	0.410	3
13.	11416	26671	0.428	4	12589	29017	0.434	3	11111	29730	0.374	7
14.	20988	51621	0.407	7	23637	56724	0.417	6	21755	58408	0.372	8
15.	26420	67723	0.390	8	27713	72110	0.384	9	27771	76703	0.362	9
16.	14686	38111	0.385	9	12889	38223	0.337	12	11148	38535	0.289	14
17.	21807	49160	0.444	2	21678	51242	0.423	4	23204	55128	0.421	2
18.	13455	44304	0.304	13	16229	49398	0.329	13	14292	48921	0.292	13

Source : Statistical Abstract, 1997-98. Govt. of West Bengal.

N.B: Agri. = Agriculture

(ii) *Food grains productivity*

In table 5, food grains productivity figures for the period of 1993-94 to 1997-98 are presented. From this table it may be noticed that in the year 1995-96, in all the districts barring four the food grains productivity decreased in comparison to 1994-95 figures. The reason is pre-monsoon dry spell and then flood in most of the districts. The Economic Review 1996-97 made the following observation on this issue :

"... apart from three districts all the other districts in the state received less than normal rainfall during the pre-monsoon period The monsoon was normal to begin with, however, heavy precipitation accompanied by hailstorm during the last week of September resulted in 14 out of 18 districts receiving excess rainfall. The

level of all the rivers in the state rose alarmingly and there was heavy discharge of water from all the major reservoirs in the state, DVC, Mayurakshi and Kangsabati, in the last week of September. This coupled with the heavy on rush of water in the uncontrolled rivers in the state over a short span of time resulted in severe flood in 11 of 18 districts in the state. The flood was the severest of this decade and caused extensive damage to the standing kharif paddy, pulses, vegetables and other crops." (p-14).

Under the food grains, paddy, wheat, vegetables, cereals and pulses are included. As cropping intensity and food grains productivity have strong association (the correlation coefficient is found to be 0.55) the food grains productivity is considered here.

Table 5 : Food grains Productivity (Kg. / Hectare)

Sl. No.	District	1993-1994	Rank	1994-1995	Rank	1995-1996	Rank	1996-1997	Rank	1997-1998	Rank
1.	Burdwan	2701	1	2787	1	2702	1	2750	1	2916	2
2.	Birbhum	2205	5	2231	6	2094	7	2417	5	2714	3
3.	Bankura	2159	7	2314	5	2393	2	2442	4	2704	4
4.	Midnapore	1945	10	2124	9	1918	10	2303	6	4236	1
5.	Howrah	1834	11	1820	11	1492	14	1050	15	1929	12
6.	Hooghly	2456	3	2602	2	2280	3	2492	3	2638	5
7.	24 Parganas (N)	2426	4	2323	4	2201	4	2270	7	2179	9
8.	24 Parganas (S)	1599	13	1799	12	1559	12	1037	16	1466	15
9.	Nadia	2202	6	2189	8	2196	5	2256	8	2235	8
10.	Murshidabad	2071	8	2220	7	2115	6	2514	2	2370	6
11.	Uttar Dinajpur	1810	12	1767	13	1628	11	1096	14	1893	13
12.	Dakshin Dinajpur									2055	10
13.	Malda	1983	9	1933	10	1919	9	2202	9	2291	7
14.	Jalpaiguri	1278	16	1135	16	1221	16	1146	13	1300	17
15.	Darjeeling	2574	2	2501	3	1964	8	1831	10	1951	11
16.	Coochbehar	1360	15	1253	15	1269	15	1356	12	1340	16
17.	Purulia	1431	14	1620	14	1515	13	1507	11	1787	14

Source : Statistical Abstract, 1997-98, Govt. of West Bengal.

The rate of growth of food grains productivity in respect of the districts for the period from 1982-83 to 1997-98 are calculated and given in table 5(a) using a semi logarithmic trend equation: $Y_t = \alpha + \beta t$, where Y_t is food grains productivity in the districts and t denotes time (year) assuming values 1,

2, 3 etc. The growth rate is calculated using the formula $[\text{anti log } \hat{\beta} - 1] \times 100$. Then the ranking of the districts is made. Here α is autonomous level of production which is independent of time, β is the estimate of the response coefficient with respect to the time variable.

Table 5(a) : Rate of growth of food grains productivity in West Bengal : 1982-83 to 1997-98

Sl. No.	District	Growth rate (in percentage)	Rank
1.	Burdwan	3.40	10
2.	Birbhum	3.70	6
3.	Bankura	4.73	3
4.	Midnapore	4.08	4
5.	Howrah	1.67	16
6.	Hooghly	2.94	12
7.	24 Parganas (N)	3.45	9
8.	24 Parganas (S)	3.14	11
9.	Calcutta	-	-
10.	Nadia	3.86	5
11.	Murshidabad	4.94	2
12.	Uttar Dinajpur	5.14	1
13.	Dakshin Dinajpur	-	-
14.	Malda	2.05	15
15.	Jalpaiguri	3.51	8
16.	Darjeeling	3.63	7
17.	Coochbehar	2.22	14
18.	Purulia	2.24	13

(iii) Irrigation coverage

Irrigation coverage includes the irrigation sources created by the government departments and the installations taken up through private initiatives. The spread of irrigation potential is a major plank of the development strategy of the state government. The thrust of the state government is on the growth of minor irrigation potential. The underlying reason is that "minor irrigation has higher

utilisation of potential created than larger irrigation systems and because it is also land holding specific" (Economic Review, Govt. of West Bengal, 1994-95). From the "Profile of Districts" published by the Centre for Monitoring Indian Economy in October 2000, the data on gross irrigated area as percentage of gross cropped area in the year 1995 is taken up and presented in table 5(b). The districts are ranked on the basis of the percentage coverage.

Table 5(b) : Gross Irrigated area as percentage of Gross cropped area (1995)

Sl. No.	District	Percentage	Rank
1.	Burdwan	47.17	1
2.	Birbhum	30.18	2
3.	Bankura	16.22	7
4.	Midnapore	11.62	8
5.	Howrah	8.90	9
6.	Hooghly	27.48	3
7.	24 Parganas (N)	22.85	4
8.	24 Parganas (S)	3.14	13
9.	Nadia	17.19	6
10.	Murshidabad	20.22	5
11.	Uttar Dinajpur	5.17	11
12.	Dakshin Dinajpur	5.17	11
13.	Malda	8.29	10
14.	Jalpaiguri	0.24	16
15.	Darjeeling	3.40	12
16.	Coochbehar	2.96	14
17.	Purulia	1.27	15

Source : Profile of Districts, Published by CMIE, October 2000.

(iii) Fertiliser consumption

Fertiliser consumption in the state has been rising even though the prices are increasing. In table 6, the fertilizer consumption per thousand hectares of

land is calculated for the year 1997-98. Then the districts are ranked on the basis of the value of the ratio NPK/NCA. In per unit hectare of land, the quantum of fertilizer used is the highest in Purulia followed by Bankura district

Table 6 : Consumption of Fertilisers in West Bengal by district (N.P.K. in tonnes, N.C.A. in thousand hectares).

Sl. No.	District	1997-1998				Net cropped area	NPK/NCA	Rank
		N	P	K	Total NPK			
1.	Burdwan	61536	27779	18584	107899	475.67	0.00441	13
2.	Birbhum	33902	16671	9806	60379	331.11	0.00548	10
3.	Bankura	22122	13502	8194	43818	358.27	0.00818	2
4.	Midnapore	75690	31069	22093	128852	838.77	0.00651	7
5.	Howrah	26399	12298	9739	48436	75.5	0.00156	16
6.	Hooghly	52160	22973	14097	89230	227.94	0.00255	15
7.	24 Parganas (N)	36099	15104	11788	62991	258.47	0.00410	14
8.	24 Parganas (S)	28080	13114	10046	51240	397.35	0.00775	4
9.	Nadia	35367	16583	11609	63559	293.15	0.00461	12
10.	Murshidabad	34719	16714	10259	61692	408.3	0.00662	6
11.	Dinajpur (U & D)	31620	14628	8074	54322	443.99	0.00817	3
12.	Malda	25302	13137	8542	46981	286.59	0.00610	8
13.	Jalpaiguri	24984	11922	6067	42973	322.83	0.00751	5
14.	Darjeeling	11959	8072	4648	24679	144.71	0.00586	9
15.	Coochbehar	26486	13953	7286	47725	249.09	0.00522	11
16.	Purulia	19895	12340	8395	40630	353.32	0.00870	1

Source : Statistical Abstract, 1997-1998, Govt. of West Bengal

In table 6(a) year-wise fertilizer consumption in the state is given for a first hand view of the trend. The state government always made efforts to sustain a rising trend in fertiliser

consumption in the state. In the early nineties the decontrol of fertiliser prices and the resultant rise in fertiliser prices had restricted the consumption of fertilisers in the state.

Table 6(a) : Fertiliser Consumption in West Bengal (In lakh MT)

Year	Nitrogenous (N)	Phosphate (P)	Potassic (K)	Total NPK	Changes over previous year (In percent)
1990-91	4.11	2.06	1.34	7.53	
1991-92	3.87	2.10	1.57	7.55	(+) 0.26
1992-93	4.25	2.13	0.94	7.31	(-) 3.18
1993-94	4.25	1.83	1.37	7.45	(+) 1.91
1994-95	4.52	1.78	1.24	7.54	(+) 1.21
1995-96	5.12	1.95	1.40	8.47	(+) 12.33
1996-97	5.28	2.25	1.43	8.96	(+) 5.78
1997-98	5.46	2.60	1.69	9.75	(+) 8.82
1998-99	5.80	3.06	1.92	10.78	(+) 10.56

Source : *Economic Review of Govt. of West Bengal for different years*

The performance of the state of West Bengal in the field of agricultural growth since 1982-83 has been quite impressive compared to the earlier decades of 1960s and 1970s. It is clear from table 5(a) above, that during 1982-83 to 1997-98, the districts of Murshidabad, Uttar Dinajpur, Birbhum, Bankura, Midnapore, Nadia and even Jalpaiguri have recorded higher rate of growth of food productivity than the recorded long run national average growth rate of 3.5 percent in the agricultural sector. It is often suggested that this spurt is mainly technology induced in the sense that spread of green revolution to the districts in the form of increased fertiliser consumption per hectare and enhanced irrigation coverage have led to a systematic rise in cropping intensity and yield per hectare. Others point to the importance of institutional reform

measures introduced by the State Government since the early 1980s, like recording of sharecroppers, distribution of surplus land among the landless peasants, and the introduction of three-tier decentralised rural administration by the elected panchayats who were made the exclusive agency for implementing the rural development programmes including the rural infrastructure. It is a matter of judgment and debate whether technology or institution is the prime mover of agricultural growth in the State of West Bengal, but whatever be the reason(s), the outcome has positive impact on the state of development in the districts of the State. Apart from indicating a rise in incomes of the cultivators and peasants, and increased food security of the rural people consequent upon the rise in food grains productivity, the rise in the wage rate

of the male agricultural labourers also indicates relative improvement of this poor group in the overall growth process of agrarian economy in the state. In the following section (3.1.3) we present the behaviour of average daily wage rates for the male agricultural labourers during 1993-94 to 1998-99 in the districts of West Bengal.

3.1.3 Male Agricultural Wage Rate

In table 7 districtwise average daily wage rate for the male agricultural field

labourers for the year 1993-94 to 1998-99 are given. The West Bengal average was Rs.28.36 in 1993-94, Rs.29.71 in 1994-95, Rs.31.47 in 1995-96, Rs.39.41 in 1996-97, Rs.42.54 in 1997-98 and Rs.49.96 in 1998-99. The rate of growth of daily wage rate over the period is 12.69 per annum. The progressive increase in the wage rate of the male agricultural field labourers is attributed to better implementation of various wage employment programmes at government initiative.

Table 7 : Agricultural Wage Rate for male field labourers, West Bengal (In Rupees)

Sl.	District	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
1.	Burdwan	35.58	36.22	38.14	41.12	44.11	51.79
2.	Birbhum	21.68	24.3	25.66	34.09	38.69	44.96
3.	Bankura	27.05	28.31	30.32	37.33	40.68	48.50
4.	Midnapore	27.55	28.64	30.92	36.79	41.68	49.43
5.	Howrah	31.00	32.92	34.89	43.77	46.16	54.80
6.	Hooghly	32.51	34.25	-	39.55	43.43	50.99
7.	24 Parganas (N)	30.07	30.84	32.92	38.68	43.96	49.99
8.	24 Parganas (S)	38.13	40.56	42.65	48.43	51.84	59.93
9.	Calcutta	-	-	-	-	-	-
10.	Nadia	25.72	27.46	31.04	38.92	42.5	48.71
11.	Murshidabad	25.42	27.18	29.25	39.58	42.00	48.06
12.	Uttar & Dakshin Dinajpur	24.28	24.37	26.44	37.22	40.82	47.09
13.	Malda	24.18	25.93	27.78	36.32	38.4	46.01
14.	Jalpaiguri	28.33	29.00	-	45.66	46.1	51.69
15.	Darjeeling	36.67	37.75	39.59	48.07	49.27	62.75
16.	Coochbehar	24.40	26.47	28.12	36.22	39.21	46.16
17.	Purulia	22.00	22.17	23.37	31.50	32.69	39.08

Source : Department of Agriculture, Government of West Bengal.

In table 7(a) the rate of growth of wage rate for the sub-periods 1993-94 to 1995-96 and 1996-97 to 1998-99 are presented districtwise and the difference

between the rates of growth observed in two phases are calculated to see relative change in the rates of growth of the agricultural wage rate.

Table 7(a) : Relative change in agricultural wage rate (male) over two period of time

Sl. No.	District	Rate of growth of agricultural wage rate during the period of 1993-94 to 1995-96	Rate of growth of agricultural wage rate during the period of 1996-97 to 1998-99	The difference between Col (4) and Col (3)
1.	Burdwan	2.40	8.65	6.25
2.	Birbhum	6.12	10.63	4.51
3.	Bankura	4.03	9.97	5.94
4.	Midnapore	4.08	11.45	7.37
5.	Howrah	3.72	8.40	4.68
6.	Hooghly	1.78	9.64	7.86
7.	24 Parganas (N)	3.16	9.74	6.58
8.	24 Parganas (S)	3.95	7.91	3.96
9.	Nadia	6.89	8.38	1.49
10.	Murshidabad	5.02	7.14	2.12
11.	Uttar & Dakshin Dinajpur	2.96	8.84	5.88
12.	Malda	4.96	8.89	3.93
13.	Jalpaiguri	0.79	4.40	3.61
14.	Darjeeling	2.65	10.18	7.53
15.	Coochbehar	5.08	9.15	4.07
16.	Purulia	2.07	8.02	5.95

The relative change in the wage rate is found to be maximum in Darjeeling district followed by Midnapore. In general the trend is that rate of growth of the wage rate is more in South Bengal districts in comparison to North Bengal districts. In Nadia district the relative change over

the two sub periods is minimum, which implies that the wage rate increase is slow there. Alongwith this the rate of growth of agricultural wage rate for male field labourers over the period 1993-94 to 1998-99 are calculated districtwise (Table 7b).

Table 7(b) : Rate of growth of agricultural wage rate for male field labourers : 1993-94 to 1998-99 (In percentage)

Sr. No.	District	Percentage	Rank
1.	Burdwan	7.54	16
2.	Birbhum	16.44	1
3.	Bankura	12.79	10
4.	Midnapore	12.82	9
5.	Howrah	12.39	11
6.	Hooghly	8.98	15
7.	24 Parganas (N)	11.36	12
8.	24 Parganas (S)	9.34	14
9.	Calcutta	-	-
10.	Nadia	14.46	4
11.	Murshidabad	14.67	3
12.	Uttar & Dakshin Dinajpur	16.02	2
13.	Malda	14.25	6
14.	Jalpaiguri	14.41	5
15.	Darjeeling	11.08	13
16.	Coochbehar	14.11	7
17.	Purulia	13.19	8

The maximum rate of growth of agricultural wage rate over the period 1993 to 1999 was noticed in Birbhum district. From the tables 5(a) and 7(b) it can be observed that mostly in the districts where the growth rate of food grains productivity is higher, the rate of growth of agricultural wage is also higher. The rank correlation between these two variables is found to be 0.4265.

3.1.4 Manufacturing Sector

(i) Share of Manufacturing Sector in DDP

The share of manufacturing sector in DDP for the period 1991-92 to 1995-96 is presented in table 8. The manufacturing sector takes into account both the registered and unregistered units. In the registered manufacturing sector the SDP at constant prices showed a marginal decline from Rs. 2245.02 crores in 1991-92 to Rs. 2214.39 crores in 1992-93.

According to the Economic Review 1993-94 published by the Govt. of West Bengal " this decline is related to the decline in industrial production in the state because of the severe recession in the industrial sector in the country as a whole. The SDP in unregistered manufacturing sector however increased from Rs. 1221.08 crores in 1991-92 to Rs. 1232.36 crores in 1992-93 - in percentage term 0.92 percent. The setting up of large number of units mostly in the tiny and cottage industries sector especially under IRDP (Integrated Rural Development Programme) contributed to this increase" (Economic Review, 1993-94 of Govt. of West Bengal). From table 8 it can be seen that Howrah retained the first position among 18 districts throughout the five years period. On the other hand in Coochbehar district the share of manufacturing sector in DDP remained the lowest. Most of the districts in North Bengal may be identified as industrially backward.

Table 8 : Share of manufacturing sector in DDP (at 1980-81 constant prices) : 1991 - 96

Sl. No.	District	1991-92				1992-93			
		Total Mnf.	Total DDP	Mnf./DDP	Rank	Total Mnf.	Total DDP	Mnf./DDP	Rank
1.	Burdwan	1531	159987	0.197	4	31604	166605	0.190	+
2.	Birbhum	4248	49196	0.086	15	4382	52568	0.083	14
3.	Bankura	6246	64055	0.098	13	6442	65383	0.099	12
4.	Midnapore	26593	195569	0.136	7	27332	194832	0.014	7
5.	Howrah	38653	90307	0.428	1	39015	92911	0.420	1
6.	Hooghly	30214	115341	0.262	3	30432	115793	0.263	2
7.	24 Parganas (N)	42142	158562	0.266	2	42625	162078	0.263	2
8.	24 Parganas (S)	9665	92324	0.105	11	9779	97583	0.100	10
9.	Calcutta	30968	183376	0.169	6	31407	190095	0.165	6
10.	Nadia	7373	74457	0.099	12	7625	76670	0.099	12
11.	Murshidabad	16634	93270	0.178	5	17215	98271	0.175	5
12.	Uttar Dinajpur	799	30651	0.026	18	1953	33760	0.058	17
13.	Dakshin Dinajpur	3087	24627	0.125	8	2055	24975	0.082	15
14.	Malda	5131	45532	0.113	9	5301	46244	0.115	8
15.	Jalpaiguri	6171	62797	0.098	13	6364	63342	0.100	10
16.	Darjeeling	2733	35542	0.077	16	2807	37129	0.076	16
17.	Coochbehar	2545	44645	0.057	17	2632	45016	0.058	17
18.	Purulia	4341	38784	0.112	10	4465	42097	0.106	9

Sl. No.	1994-95				1995-96				1996-97			
	Total Mnf.	Total DDP	Mnf./DDP	Rank	Total Mnf.	Total DDP	Mnf./DDP	Rank	Total Mnf.	Total DDP	Mnf./DDP	Rank
1.	32504	179079	0.182	4	35041	196055	0.179	4	38737	206655	0.187	4
2.	4459	56743	0.079	14	4794	61287	0.078	15	5064	66784	0.076	16
3.	6555	68945	0.095	12	7048	75598	0.093	11	7450	83505	0.089	13
4.	27853	210378	0.132	7	29954	228473	0.131	7	31832	246913	0.129	7
5.	40023	98363	0.407	1	43116	108345	0.398	1	47151	114650	0.411	1
6.	31243	126917	0.246	3	33664	141946	0.237	3	36934	171005	0.216	3
7.	43691	175468	0.249	2	47059	189764	0.248	2	51297	193811	0.265	2
8.	10022	101735	0.099	10	10795	115586	0.093	11	11760	114918	0.102	10
9.	32162	201597	0.160	6	34632	218131	0.159	6	37587	229293	0.164	6
10.	7753	84511	0.092	13	8334	95336	0.087	13	8767	95876	0.091	12
11.	17498	104601	0.167	5	18805	115715	0.163	5	19762	119030	0.166	5
12.	2000	36131	0.055	17	2150	39360	0.055	18	2263	39015	0.058	17
13.	2079	26671	0.078	15	2235	29017	0.077	16	2369	29730	0.080	15
14.	5392	51621	0.104	8	5796	56724	0.102	8	6107	58408	0.105	9
15.	6477	67723	0.096	11	6964	72110	0.097	10	7361	76703	0.096	11
16.	2861	38111	0.075	16	3077	38223	0.081	14	3275	38535	0.085	14
17.	2676	49160	0.054	18	2876	51242	0.056	17	3024	55128	0.055	18
18.	4548	44304	0.103	9	4891	49398	0.099	9	5190	48921	0.106	8

Mnf => Manufacturing.

Source : Statistical Abstract, 1997-98, Govt. of West Bengal

(i) *SSI Units*

In West Bengal the state government always makes endeavour to foster the growth of cottage and small-scale industries because of its employment potentiality and its capability to spread through a wide network. The Directorate of Cottage and Small-scale industries of

the State Government has the system of registering these small-scale industries and providing necessary support so that these units can flourish in near future. The districtwise number of cottage and small-scale industries and the per unit employment in these SSI units so registered are given in Table 9 and Table 9(a).

Table 9 : Number of small scale industrial units in districts

Sl. No.	District	March 1993	March 1994	March 1995	March 1996	March 1997	March 1998
1.	Burdwan	35498	36952	38780	40336	42974	44778
2.	Birbhum	14600	14835	15187	15591	16042	16375
3.	Bankura	13167	13868	14817	15441	16534	17459
4.	Midnapore	39548	41042	42571	44047	45972	47191
5.	Howrah	43657	45028	46721	48390	50151	51973
6.	Hooghly	23919	24531	25110	25911	26816	27885
7.	24 Parganas (N)	30210	30214	32596	35154	37035	39186
8.	24 Parganas (S)	10145	10175	11555	12762	14130	15193
9.	Calcutta	1565	1501	1607	1465	2302	
10.	Nadia	20781	21373	21903	22453	23220	23726
11.	Murshidabad	19873	20598	21276	22939	24682	25870
12.	Uttar Dinajpur	9175	9523	9731	10041	10734	11272
13.	Dakshin Dinajpur				187		
14.	Malda	11352	11559	11767	12130	12547	13020
15.	Jalpaiguri	18645	19251	19844	20515	21250	21774
16.	Darjeeling	12873	13127	13289	13511	14051	14434
17.	Coochbehar	6800	6893	6999	7139	7386	7631
18.	Purulia	12905	13232	13408	14107	14755	15289

Source : District Statistical Handbook for different districts, 1998.

Table 9 (a) : Per unit employment in small scale industrial units in districts (in number)

Sl. No.	District	1994	1995	1996	1997	Rank
1.	Burdwan	5.67	5.66	5.69	5.71	11
2.	Birbhum	6.93	6.95	7.00	6.99	4
3.	Bankura	5.38	5.26	5.21	5.20	14
4.	Midnapore	5.94	5.88	5.84	5.82	8
5.	Howrah	6.55	6.51	6.47	6.43	5
6.	Hooghly	7.95	7.92	7.91	7.95	1
7.	24 Parganas (N)	4.70	5.93	5.92	5.92	7
8.	24 Parganas (S)	7.71	7.48	7.44	7.47	2
9.	Calcutta	7.12	7.72	5.91	7.13	3
10.	Nadia	5.99	5.96	5.95	5.92	7
11.	Murshidabad	4.42	4.37	4.33	4.40	16
12.	Uttar Dinajpur	5.47	5.47	5.46	5.45	12
13.	Dakshin Dinajpur					
14.	Malda	5.74	5.74	5.75	5.74	10
15.	Jalpaiguri	4.93	4.98	5.03	5.09	15
16.	Darjeeling	6.05	6.07	6.05	6.00	6
17.	Coochbehar	5.28	5.26	5.24	5.25	13
18.	Purulia	5.73	5.70	5.79	5.79	9

Source : District Statistical Handbook (1998) or different districts.

(ii) Registered Factories

"West Bengal once industrially the foremost state in India is striving to regain its former glory" says the Annual Report, 1998 - 99 of Commerce and Industries Department, Govt. of West Bengal. For achieving the goal the state government always patronizes the case of setting up industrial units in this state. According to the Incentive Scheme

introduced by the state govt. for industrialization of the economy, the districts are arranged in three groups, viz. A, B, C on the basis of the industrialization achieved. Information is collected on the districtwise distribution of registered factories and per unit employment therein during the period 1994 to 1997. Table 10 and Table 10(a) depict the situation.

Table 10 : Districtwise distribution of registered factories.

Sl. No.	District	1994	1995	1996	1997
1.	Burdwan	613	633	633	679
2.	Birbhum	124	129	134	134
3.	Bankura	114	122	128	129
4.	Midnapore	191	195	198	203
5.	Howrah	2194	2223	2281	2332
6.	Hooghly	467	472	490	499
7.	24 Parganas (N)	4919	4997	5151	5256
8.	24 Parganas (S)				
9.	Calcutta	920	923	947	947
10.	Nadia	166	166	166	166
11.	Murshidabad	22	22	22	22
12.	Uttar Dinajpur	47	50	60	61
13.	Dakshin Dinajpur				
14.	Malda	32	33	33	33
15.	Jalpaiguri	392	403	414	414
16.	Darjeeling	234	238	244	244
17.	Coochbehar	22	24	27	27
18.	Purulia	74	74	64	65

Source : District Statistical Handbook for different districts, 1998.

Table 10(a) : Per unit employment in registered factories (in number)

Sl. No.	District	1994	1995	1996	1997	Rank
1.	Burdwan	206.32	201.38	171.28	161.02	3
2.	Birbhum	37.88	38.21	35.95	35.95	12
3.	Bankura	27.88	29.97	26.44	26.38	15
4.	Midnapore	127.20	125.46	135.04	134.25	4
5.	Howrah	71.02	70.34	66.73	65.89	8
6.	Hooghly	221.89	229.00	225.53	222.21	1
7.	24 Parganas (N)	84.65	83.47	79.25	78.19	6
8.	24 Parganas (S)					
9.	Calcutta	21.00	21.18	20.57	20.57	16
10.	Nadia	79.79	79.79	76.34	76.34	7
11.	Murshidabad	168.50	168.50	190.72	190.72	2
12.	Uttar Dinajpur	54.83	41.60	48.00	49.29	10
13.	Dakshin Dinajpur					
14.	Malda	31.59	31.18	31.54	31.54	13
15.	Jalpaiguri	54.61	53.69	64.55	64.55	9
16.	Darjeeling	46.61	46.21	47.27	47.27	11
17.	Coochbehar	40.00	37.79	31.41	31.41	14
18.	Purulia	67.47	67.47	81.36	80.78	5

Source : District Statistical Handbook (1998) for different districts.

The ranking of the districts are made with reference to Tables 9(a) and 10(a) and on the basis of the latest year figures.

3.1.5 Unemployment Index

In the absence of detailed districtwise unemployment figures an attempt has been made to get an approximation of unemployed persons. From 1991 census, districtwise percentage of non-workers in the productive age group 15 - 59 years are calculated (Table 11). According to the census definition, work may be defined as participation in any economically productive activity with or

without compensation, wages or profit. Thus the percentage of non-workers in the productive age group may give an estimate for the unemployed. We arrange Census data for non-workers in a tabular form. From table 11 it can be seen that in Purulia district the percentage of non-workers in the productive age group is the lowest. The highest figure is in North 24 Parganas district. Since in the welfare perspective of development, unemployment of labour is a negative criterion, we use reverse ranking of districts by the proportion of non-workers in the active age group of working population.

Table 11 : Non workers in 15 - 59 Age group (1991 census)

Sl. No.	District	Total Population in 15 - 59 Age group	Total Non Worker in 15 - 59 Age group	Percentage of Non Workers	Rank
1.	Burdwan	3540176	1816165	51.30	11
2.	Birbhum	1433478	662121	46.19	7
3.	Bankura	1605415	687053	42.79	4
4.	Midnapore	4597294	1959013	42.61	3
5.	Howrah	2192569	1190216	54.28	16
6.	Hooghly	2588148	1333772	51.53	12
7.	24 Parganas (N)	4255146	2341240	55.02	17
8.	24 Parganas (S)	3023634	1565272	51.77	13
9.	Calcutta	2959986	1598776	54.01	15
10.	Nadia	2133494	1120610	52.52	14
11.	Murshidabad	2486775	1167362	46.94	9
12.	Uttar Dinajpur	1045444	461935	44.18	5
13.	Dakshin Dinajpur	651706	287959	44.18	5
14.	Malda	1385735	585728	42.27	2
15.	Jalpaiguri	1556066	698830	44.91	6
16.	Darjeeling	764786	353968	46.28	8
17.	Coochbehar	1168794	554896	47.47	10
18.	Purulia	1249063	377479	30.22	1

Source : 1991 Census Report.

It can be seen from the table 11 that Purulia has the highest rank by employment criterion and North 24 Parganas has the lowest rank. In West Bengal according to 1991 census, there are 3,86,37,709 persons in 15 - 59 years

age group out of total population 6,80,77,965 of the state - in percentage this is equivalent to 56.75 percent. Of the total population in 15-59 years age group at the state level 48.56 percent are non-workers.

3.1.6 Utilisation of fund in Wage Employment Programmes

In tables 12 and 13, the fund utilization pattern in centrally sponsored wage employment programmes like Jawahar Rozgar Yojana (JRY) and Employment Assurance Scheme (EAS) during the

period of 1994-95 to 1998-99 are presented. On the basis of the percentage of expenditure of the available fund the districts are ranked. As the schemes are being implemented in rural Bengal, Calcutta is automatically excluded.

Table 12 : Utilisation of fund in JRY

District	1994 - 95		1995 - 96		1996 - 97		1997 - 98		1998 - 99	
	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank
Burdwan	85.09	10	83.10	7	69.32	8	66.48	8	78.46	3
Birbhum	87.45	9	79.47	9	71.81	6	43.30	17	75.40	8
Bankura	94.10	3	93.23	2	55.09	16	65.57	9	77.13	4
Midnapore	92.09	5	88.26	5	70.45	7	85.02	4	75.53	7
Howrah	67.69	14	57.36	15	63.42	11	60.18	12	50.77	15
Hooghly	93.31	4	79.83	8	60.45	13	75.94	6	74.89	9
24-Parganas (N)	88.95	7	60.89	13	76.81	4	59.16	13	54.04	14
24-Parganas (S)	83.09	11	64.50	12	56.80	14	52.70	16	32.73	17
Nadia	88.68	8	74.36	11	64.20	10	72.03	7	38.88	16
Murshidabad	90.30	6	93.89	1	50.73	17	58.14	14	83.0	2
Uttar Dinajpur	82.60	12	92.12	4	56.02	15	63.07	11	66.71	13
Dakshin Dinajpur	95.10	2	83.90	6	76.49	5	93.00	1	68.16	12
Malda	63.64	16	52.95	16	91.91	1	57.61	15	77.05	5
Jalpaiguri	98.68	1	92.49	3	80.46	2	82.97	5	71.04	11
Darjeeling	61.97	17	75.67	10	63.14	12	85.23	3	75.88	6
Cooch Behar	80.02	13	58.67	14	66.90	9	85.66	2	84.39	1
Purulia	64.88	15	45.50	17	80.20	3	65.05	10	74.73	10

Source : Panchayat and Rural Development Department, Govt. of West Bengal.

Both JRY and EAS are employment generation programme in the rural areas. JRY was started in the year 1989-90 and EAS in the year 1993-94. Apart from employment generation both the programmes have the objective of creation of infrastructural assets and consequential benefits to the poor. The fund utilization pattern therefore indicates the relative performance of the districts in respect of these programmes.

Of these two wage employment programmes, EAS has specific objective

to provide 100 days employment to the rural poor during lean season. This programme was initially introduced in 128 blocks of the state. As regard the funding pattern of the scheme Government of India contributes 80 percent and the State Government 20 percent. EAS was extended to all the districts (except Calcutta) in phased manner. For example, in 1994-95 the scheme was extended to 129 blocks. Ultimately by the year 1997-98 all the blocks (341) of the state are brought under EAS.

Table 13 : Utilisation of fund in EAS

District	1994 - 95		1995 - 96		1996 - 97		1997 - 98		1998 - 99	
	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank	Expenditure to available fund (%)	Rank
Burdwan	68.05	10	32.52	14	63.56	7	59.11	11	73.34	4
Birbhum	50.67	14	44.03	12	64.87	6	56.92	12	53.08	10
Bankura	90.19	4	92.75	3	62.38	8	69.69	7	65.33	7
Midnapore	100.00	1	69.86	7	46.46	12	75.64	3	74.76	2
Howrah	-	-	-	-	-	-	54.52	13	29.60	15
Hooghly	74.53	7	63.38	9	52.26	10	38.68	15	57.45	8
24-Parganas (N)	95.33	2	99.88	1	38.55	14	40.15	14	35.57	14
24-Parganas (S)	61.25	12	66.52	8	14.49	15	32.41	16	20.52	17
Nadia	-	-	-	-	-	-	83.55	1	21.09	16
Murshidabad	86.37	5	90.91	2	70.36	5	30.19	17	39.68	13
Uttar Dinajpur	52.78	13	41.67	13	60.18	9	69.46	8	46.73	12
Dakshin Dinajpur	95.28	3	75.52	6	46.50	11	74.74	4	70.57	5
Malda	71.72	8	78.24	5	43.54	13	73.11	5	75.38	1
Jalpaiguri	74.67	6	82.16	4	93.55	1	72.76	6	56.31	9
Darjeeling	63.75	11	47.98	11	75.71	2	79.58	2	47.57	11
Cooch Behar	-	-	-	-	73.33	4	63.10	9	74.44	3
Purulia	70.29	9	51.79	10	75.46	3	61.62	10	65.91	6

Source : Panchayat and Rural Development Department, Govt. of West Bengal.

In West Bengal the panchayat bodies are entrusted with the implementation of different centrally sponsored rural development programmes. For EAS, the implementation authority initially was decentralized upto the block tier. But from the year 1998-99 the State Government extended it further and the gram Panchayats are also involved in the implementation process. So far the performance of the districts are concerned, in case of JRY it is not consistent at all. For example in 1994-95 the rank of Jalpaiguri was 1 and in 1995-96 Murshidabad was in the top.

In the year 1998-99 Jalpaiguri was in the 11th position. As JRY was being implemented by all three tiers of the panchayat system the performance of a district depends very much on the activities of the panchayat bodies. In case of EAS, in 1994-95 Midnapore was in rank 1, while in 1995-96 Midnapore's position slipped to 7th. Again in 1996-97 Jalpaiguri was in rank 1 while in 1998-99, the district came to the rank 9. If the districts are ranked on the basis of utilisation of fund allotted under EAS and JRY taken together the following picture emerges :

Sl. No.	District	Rank	Sl. No.	District	Rank
1.	Burdwan	3	10.	Murshidabad	12
2.	Birbhum	9	11.	Uttar Dinajpur	13
3.	Bankura	5	12.	Dakshin Dinajpur	7
4.	Midnapore	4	13.	Malda	2
5.	Howrah	15	14.	Jalpaiguri	10
6.	Hooghly	8	15.	Darjeeling	11
7.	24 Parganas (North)	14	16.	Cooch Behar	1
8.	24 Parganas (South)	17	17.	Purulia	6
9.	Nadia	16			

3.1.7 Poverty

One acid test of the success of the development programmes in a given region is the extent of poverty and associated deprivations. Poverty is a complex phenomenon with multiple dimensions, which cannot perhaps be comprehended by the use of a single homogeneous criterion applicable to all societies and regions at all times. The inherent pluralism of the concept of poverty has given rise to alternative forms of conceptualisation and measurement of the deprivations which have not only income, but also social, cultural, political and even physiological dimensions, relevant for a given society or region. The UNDP in its successive Annual Reports on Human Development have been emphasizing the need to comprehend alternative indicators of deprivations based on poor access to education, health, drinking water, sanitation, gender inequality and even inadequate societal and institutional arrangements for ventilating the freedom of the people. One therefore gets concepts like Human Poverty Index, Gender Empowerment Index and Human Development Index, apart from the traditional notions like the Head Count

ratio and the Gini coefficient in poverty studies. Attempts to quantify the incidence of poverty therefore naturally involve a study of the level and pattern of individuals' personal consumption as well as their access to provisions to social interventions that together determine the entitlements through which his/her basic needs can be met and capabilities enhanced. This would require detailed information at appropriate levels of disaggregation, and non-availability of such data over time as well as over cross section of the population, often forces the analysts to make ad hoc judgments and compromises while constructing indices for poverty and deprivations at the chosen level of disaggregation. Because of the above-mentioned constraint on data availability, our effort to gauge the extent of poverty in the districts of West Bengal shall have to rely on indirect correlates and modified indices.

Before we take up the construction of appropriate district-wise indices of poverty and deprivations in West Bengal, certain general observations may be noted. First of all, the major database for poverty studies in India has been provided by the household consumer

expenditure surveys conducted by the National Sample Survey Organisation (NSSO) every five years on the basis of large samples, and every year on the basis of thin samples. One major issue in the poverty studies in India has been the choice of the poverty line to demarcate the poor from the non-poor, and the exact estimates of the incidence of poverty depend on the location of the poverty line and the methods and norms underlying it. The idea of a basic minimum calorie requirement and the estimation of the cost of the diet that satisfy these requirements were the subject of intense debate among the researchers and policy makers during 1960s and 1970s, and this debate continues even today, although in a different form. Second, the use of all-India poverty line, as was done by the Planning Commission in initial years, does not reveal true pictures about the incidence and severity of poverty across the states, and the Lakdawala Committee (popularly known as the Expert Group) has recommended the use of state-specific poverty lines and state-specific expenditure distributions to estimate the percentage and the number of poor in different states of India and arrived at the all-India head count ratios (HCR) for rural and urban areas as weighted averages for the state-specific HCRs. The Modified Expert Group Methodology that is now adopted as the official consensus approach of the Planning Commission differs from the Expert Group Method on two counts :

(a) it drops Consumer Price Index of Urban Non-Manual Employees (CPIUE), and uses only the Consumer Price Index for Industrial Workers (CPIIW) with 1960-61 as base to update urban poverty lines across the states, and

(b) it uses the revised population figures so that the number of poor people in each state in the rural areas is slightly different even if the rural HCRs are identical as per the Expert Group and the Modified Expert Group Methodologies.

As per the Expert Group estimates, the incidence of poverty in 1993 - 94 has been substantially lower in most states in both rural and urban areas compared to the estimates in the early 1970s. In fact, there has been an uniform declining tendency in HCRs since the early 1980s, and debates regarding methodologies of estimation or the representative nature of samples chosen (thin vs. large, to be precise) notwithstanding, such declines have been found more in rural areas than in urban areas, and are by and large more growth driven than distribution-induced. For the state of West Bengal, the incidence of poverty in both rural and urban areas have registered substantial decline after 1983, but one cannot check whether such a decline have been uniform or not across the districts of the state. The necessary pre-requisite for estimation of the incidence of poverty at the district level is the availability of data on the distribution of consumption expenditure per capita per month at the district levels, but for the state of West Bengal such data do not exist. The NSS consumption expenditure distribution across households by MPCE classes in rural and urban areas do not give districtwise breakup. Only if the NSS state sample is mingled with central samples, can one perhaps try to obtain some estimates of consumption expenditure distribution at the district level so as to enable estimates of various indices on the incidence and severity of poverty in the districts of West Bengal. There is no estimate for urban

consumption expenditures at the district levels beyond 1976 - 77, and only some recent estimates of the number of BPL (below poverty line) families and the HCRs for the rural areas of the districts are obtainable from the Department of Panchayats and Rural Development, Government of West Bengal for 1993 - 94 as well as 1997, although the results of the surveys preceding these estimates

are considered suspect even by sympathetic government officials on many grounds.

While our purpose in this report has not been to evaluate the above mentioned BPL surveys for 1993 - 94 and 1997-98, certain interesting features emerge from these estimates given in table 14 below.

Table 14 : Rural Families Below Poverty Line in Districts of West Bengal : 1993 -94 and 1997 -98

Sl. No.	District	1993 - 1994			1997 - 1998			Change in no. of BPL families	Change in HCR between two periods		
		No. of BPL Families	Rank	HCR (%)	No. of BPL Families	Rank	HCR (%)				
01.	Burdwan	376681	3	43.16	9	467238	2	51.87	4	24.04	20.18
02.	Birbhum	182028	14	40.30	14	273583	10	50.38	5	50.30	25.01
03.	Bankura	290698	6	62.61	4	297452	9	55.52	3	2.32	- 11.32
04.	Midnapur	534748	1	40.49	12	609837	1	39.68	13	14.04	- 2.00
05.	Howrah	170917	15	40.78	11	173674	14	35.89	14	1.61	- 11.99
06.	Hooghly	225401	10	38.66	15	321199	8	47.75	6	42.50	23.51
07.	24 Pdns. (N)	361943	4	48.38	6	377771	5	45.77	9	4.37	-5.39
08.	24 Pdns. (S)	418900	2	43.01	10	422744	3	43.40	11	0.92	0.90
09.	Nadia	270395	7	47.05	7	338615	6	43.45	10	25.23	-7.65
10.	Murshidabad	292494	5	37.02	16	404377	4	40.46	12	38.25	9.29
11.	U. Dinajpur	224490	11	40.46	13	184306	7	47.06	7	48.05	27.73
12.	D. Dinajpur					148057		56.30	2		
13.	Malda	213309	12	46.53	8	271292	11	47.03	8	27.18	1.07
14.	Jalpaiguri	206202	13	49.91	5	177590	13	32.95	16	-13.87	-33.98
15.	Darjeeling	75909	16	73.88	1	64473	16	34.24	15	-15.06	-53.65
16.	Coochbehar	255586	9	63.06	3	259250	12	68.50	1	-1.43	8.63
17.	Purulia	259885	8	70.70	2	126838	15	31.44	17	-51.19	-55.53
	West Bengal	4389686		45.37		4918296		44.75		12.04	-1.37

Source : Panchayat and Rural Development Department, Government of West Bengal - BPL surveys of 1993 - 94 and 1997-98.

Note : Since West Dinajpur has been bifurcated after 1993, the ranking of BPL families by the two parts of Dinajpur would affect ranking by unity.

Since the ranks of many districts have changed considerably between the two survey periods, and the HCRs for most of the districts exhibit sharp upward tendency in between, while the West Bengal average HCR for rural areas has fallen as per the NSS estimates of 50th round (large) and 53rd round (thin sample though) quite sharply, the above estimates of the incidence of poverty among rural households in the districts of West Bengal, are suspect and hence we do not prefer to use either the estimates or the ranking of the districts based on such estimates in our attempt to portray the development performance of the districts. We prefer to use alternative criteria or methods to gauge the extent of poverty and associated deprivations in the districts, as are discussed below.

The NSSO has been publishing the distribution of household consumption expenditure, and the mean per capita monthly per capita consumption expenditure for rural and urban areas of the states of India almost on a regular basis. The Planning Commission has recently estimated the poverty lines for rural and urban areas of West Bengal separately on the basis of 55th Round of Consumption Expenditure Survey conducted by the NSSO for 1999-2000, using the distribution based on '30 days recall period'. This was also done in earlier round surveys based on large samples. To what extent, does the per capita district domestic product of the different districts of West Bengal deviate from the poverty line norm estimated by the Planning Commission? This has been analysed below.

The advantage of this calculation is straightforward. The per capita DDP gives an overall picture of both rural and urban areas of the district, which

indicates maximum command over consumption possibilities and hence living standards of the households provided they do not save. Our experience shows that even if this extreme assumption is made, most of the districts fail to attain the average poverty line level of per capita expenditure of the State as estimated by the NSSO. If separate DDP figures are available for rural and urban areas, one can calculate the percentage shortfall in the rural and urban living standards from the corresponding poverty lines of the districts separately, because the NSSO gives separate estimates of rural and urban poverty lines for all the states including West Bengal.

According to the state specific poverty estimates for 1999-2000 by the Planning Commission, Govt. of India, in case of West Bengal the poverty line is Rs. 350.17 per capita per month expenditure in the rural areas and Rs. 409.22 per capita per month in the urban areas (Saxena, N. C.: 2001). From this, the state specific poverty line is calculated through weighted average giving weights according to the share of rural and urban population in the total population of the State. Here it is found to be 72 percent rural population and 28 percent urban population. The State Specific Poverty Line for West Bengal as a whole is calculated to be Rs. 376.70 per capita income per month. The distance between monthly per capita income per month [i.e. DDP per capita in monthly terms] and the State Specific Poverty Line for each district are calculated and presented in table 14(a). The rank of a district helps to observe the relative position of deprivation of the districts in terms of the State Specific Poverty Line. Calcutta is at the top because the monthly per capita income here is above the State Specific Poverty Line.

Table 14(a) : Distance between Monthly Per Capita income and State Specific Poverty Line

Sr. No.	District	Estimated MPC (in Rupees) 1999-2000	Distance (in Rupees)	Distance in percentage	Rank
1.	Burdwan	294.58	-82.12	-27.88	3
2.	Birbhum	237.75	-138.95	-58.44	7
3.	Bankura	266.50	-110.20	-41.35	4
4.	Midnapore	254.92	-121.78	-47.77	6
5.	Howrah	264.08	-112.62	-42.65	5
6.	Hooghly	362.34	-14.36	-3.96	2
7.	24 Parganas (N)	219.41	-157.29	-71.68	11
8.	24 Parganas (S)	194.42	-182.28	-93.75	16
9.	Calcutta	424.26	+47.56	+11.21	1
10.	Nadia	220.08	-156.62	-71.16	9
11.	Murshidabad	217.19	-159.61	-73.48	12
12.	Uttar Dinajpur	172.71	-203.99	-118.11	18
13.	Dakshin Dinajpur	209.85	-166.85	-79.51	14
14.	Malda	193.01	-183.69	-95.17	17
15.	Jalpaiguri	226.17	-150.53	-66.60	8
16.	Darjeeling	220.02	-156.68	-71.21	10
17.	Coochbehar	216.05	-160.65	-74.35	13
18.	Purulia	201.60	-175.10	-86.85	15

Note : State Specific Poverty Line (percapita permonth) is calculated to be Rs. 376.70.

As the proportion of agricultural labourer in total main workers is an important factor influencing the poverty scenario, we present in table 14(b) districtwise share of agricultural labourers. Then the

rank correlation on the basis of table 14(a) and 14(b) are calculated and found to be 0.3741. This implies positive influence of the proportion of agricultural labourer on poverty.

Table 14 (b) : Share of Agricultural Labourer in Total Workers, 1991

Sl. No.	District	Total Workers 1991	Agricultural Workers 1991	Share of Agricultural Workers (In percentage)	Rank
1.	Burdwan	17,98,130	5,51,937	30.69	13
2.	Birbhum	7,77,482	2,90,722	37.39	17
3.	Bankura	9,21,591	3,10,273	33.67	14
4.	Midnapore	25,35,520	6,43,923	25.40	6
5.	Howrah	10,65,322	1,57,253	14.76	3
6.	Hooghly	13,31,144	3,54,402	26.62	9
7.	24 Parganas (N)	20,53,312	3,52,981	17.19	5
8.	24 Parganas (S)	14,91,195	4,44,692	29.82	12
9.	Calcutta	14,44,968	3,028	0.21	1
10.	Nadia	11,09,831	3,04,969	27.47	10
11.	Murshidabad	14,24,489	4,17,180	29.28	11
12.	Uttar Dinajpur	630039	2,22,272	35.28	16
13.	Dakshin Dinajpur	392751	138560	35.28	16
14.	Malda	8,34,408	2,88,987	34.63	15
15.	Jalpaiguri	8,82,769	1,49,548	16.94	4
16.	Darjeeling	4,38,248	51,782	11.81	2
17.	Coochbehar	6,63,424	1,72,764	26.04	8
18.	Purulia	7,86,425	2,00,205	25.46	7
Total	West Bengal	20581048	50,55,478	24.56	

Source : 1991 Census Report.

(i) *Capability Poverty Measures*

So far we have concentrated on the aspect of income poverty alone. But there exist other dimensions of deprivations which are not captured by income alone. Deprivations due to inadequate access to health facilities and insufficient educational opportunities also connote serious deprivations to human capital and therefore constrain true development of the population and society at large. In order to capture these 'other' dimensions of development or lack therefore, we use the Capability Measures of Poverty (CPM) and the

index of Human Poverty as are developed by the UNDP in accordance with the insights of valuable theoretical research by peers of development economics, viz, Professor Amartya Sen, late Mahabub-ul-Haque and others. It may be noted that our estimates of both the CPM and HPI for the districts of West Bengal are at best approximations as we have had to modify the original indices because of non-availability of relevant data for some relevant variables. But despite the compromises made, our calculations do exhibit fairly clearly the different dimensions of poverty and related deprivations that still exist in the districts

of West Bengal, which are often glossed over in aggregative analysis. These indices can be easily refined when the data in the required form are available by the government or its institutions who are the custodians of such data preservation and their procurement from time to time. In fact, if the data are preserved in the required format at the block or the village levels, calculations of CPM or HPI can be made there too. This may be taken up in future while updating this report.

The Capability Poverty Measures (CPM)

is a multi-dimensional measure of human deprivation. This measure was introduced by UNDP in the year 1996. Following UNDP methodology slightly modified CPM is calculated for each district of West Bengal. This modification becomes necessary, as disaggregated district data for under nourished children are not available. Here the index is calculated on the basis of the simple average of (i) the percentage of women who have undergone non-institutional deliveries and (ii) female illiteracy rate. The result is given in Table 14(c).

Table 14 (c) : Ranking of Districts on the basis of Modified Capability Poverty Measures

Sr. No.	District	Non institutional deliveries (%) (1998)	Female illiteracy rate (%) (2001)	CPM (%)	Rank
1.	Burdwan	48.0	38.07	43.03	10
2.	Birbhum	31.5	47.79	39.64	17
3.	Bankura	33.7	50.20	41.95	9
4.	Midnapore	45.20	35.37	40.28	8
5.	Howrah	28.10	29.07	28.58	2
6.	Hooghly	31.60	32.28	31.94	5
7.	24 Parganas (N)	35.00	27.87	31.43	4
8.	24 Parganas (S)	52.00	40.27	46.13	11
9.	Calcutta	7.8	22.05	14.92	1
10.	Nadia	22.5	39.40	30.95	3
11.	Murshidabad	60.3	51.67	55.98	14
12.	Uttar Dinajpur	76.4	62.84	69.62	18
13.	Dakshin Dinajpur	58.40	44.88	51.64	12
14.	Malda	70.3	58.33	64.31	17
15.	Jalpaiguri	64.5	47.10	55.80	13
16.	Darjeeling	39.60	36.08	37.84	6
17.	Coochbehar	69.70	42.96	56.33	15
18.	Purulia	64.7	62.85	63.77	16

Note : Ranking is made from the least value of CPM.

(ii) Human Poverty Index

Human Poverty Index extends the concept of Capability Poverty Measures to other dimensions. This index was also developed by UNDP in the year 1997. Here an attempt has been made to develop HPI for the districts. But owing

to non availability of the district data for the survival deprivation (represented by the percentage of people not expected to survive upto the age of 40 years) a modified HPI was calculated on the basis of knowledge deprivation and deprivation in economic provisioning. Though HPI has some limitations, yet it

may be considered to be useful in the measurement of poverty (Chelliah and Sudarshan, 1999).

The deprivation of knowledge is measured by weighted arithmetic mean of rate of illiteracy and children of 6-14 years not attending schools (2/3 weights

are attached to illiteracy and 1/3rd to not attending schools). 1991 figures are considered because no districtwise stable data are available for the recent years. In table 14(d) districtwise knowledge deprivation scenario is presented. The districts are ranked on the basis of least deprivation.

Table 14 (d) : Knowledge deprivation

Sl. No.	District	illiteracy (%) (1991) (2)	Not attending school (6-14 years) as on 1991 (%) (3)	Average of (2) and (3)	Rank
1.	Burdwan	48.16	43.72	46.64	6
2.	Birbhum	60.69	57.00	59.43	12
3.	Bankura	56.63	47.82	53.63	8
4.	Midnapore	42.94	36.71	40.82	2
5.	Howrah	42.53	40.61	41.88	4
6.	Hooghly	43.12	38.97	41.71	3
7.	24 Parganas (N)	43.30	41.53	42.70	5
8.	24 Parganas (S)	55.37	52.54	54.40	10
9.	Calcutta	29.82	27.50	29.03	1
10.	Nadia	56.21	50.20	54.17	9
11.	Murshidabad	69.74	64.98	68.12	16
12.	Uttar Dinajpur	72.54	65.24	70.05	17
13.	Dakshin Dinajpur	62.00	65.24	63.10	15
14.	Malda	71.79	67.11	70.20	18
15.	Jalpaiguri	63.15	48.65	58.22	11
16.	Darjeeling	51.03	43.11	48.34	7
17.	Coochbehar	62.87	58.36	61.33	13
18.	Purulia	54.76	55.89	61.74	14

Provisioning deprivation indicates deprivation from decent standard of living. For example here deprivation from access to health services, safe water and electricity are considered. In table

14(e) health services deprivation is calculated by taking arithmetic mean of children not fully immunised and the percentage of non-institutional deliveries.

Table 14(e) : No access to Health Services

Sl. No.	District	Children not fully immunised (%)	Deliveries outside institutions (%)	No access to health services (%)
1.	Burdwan	48.20	48.00	48.10
2.	Birbhum	65.10	31.50	48.30
3.	Bankura	32.70	33.70	33.20
4.	Midnapore	54.00	45.20	49.60
5.	Howrah	43.90	28.10	36.00
6.	Hooghly	32.20	31.60	31.90
7.	24 Parganas (N)	34.40	35.00	34.70
8.	24 Parganas (S)	40.60	52.00	46.30
9.	Calcutta	17.10	7.80	12.45
10.	Nadia	31.10	22.50	26.80
11.	Murshidabad	60.60	60.30	60.45
12.	Uttar Dinajpur	71.50	76.40	73.95
13.	Dakshin Dinajpur	59.50	58.40	58.95
14.	Malda	61.10	70.30	65.70
15.	Jalpaiguri	38.00	64.50	51.25
16.	Darjeeling	39.20	39.60	39.40
17.	Coochbehar	50.20	69.70	59.95
18.	Purulia	62.00	64.70	63.35

In table 14(f) the percentage of people not having access to safe drinking water and electricity in the districts are given. By taking simple arithmetic mean of health services deprivation and

deprivation from safe drinking water and electricity, the percentage of people having deprivation from economic provisioning are calculated.

Table 14(f) : No access to safe drinking water and Electricity

Sl. No.	District	Non coverage of safe drinking water (1991) (%)	Electricity coverage not made (1991) (%)	No access to Water and Electricity (1991) (%)
1.	Burdwan	0.04	0.17	0.10
2.	Birbhum	0.05	0.04	0.04
3.	Bankura	0.08	2.22	1.15
4.	Midnapore	0.06	0.06	0.61
5.	Howrah	0.04	0	0.02
6.	Hooghly	0.02	0	0.01
7.	24 Parganas (N)	0.02	0.29	0.15
8.	24 Parganas (S)	0.14	0.64	0.39
9.	Calcutta	0	0	0
10.	Nadia	0.04	0.07	0.05
11.	Murshidabad	0.07	0.26	0.16
12.	Uttar Dinajpur	0.00	1.96	0.98
13.	Dakshin Dinajpur	0.00	4.66	2.33
14.	Malda	0.10	0.19	0.14
15.	Jalpaiguri	0.06	0.14	0.10
16.	Darjeeling	0.28	3.56	1.92
17.	Coochbehar	0.11	0.08	0.09
18.	Purulia	0.42	3.21	1.81

Note : Average population in a village = 1750

If knowledge deprivation be P1 and deprivation from provisioning be P2 then modified HPI is calculated on the basis of a formula :

$$\text{modified HPI} = \{(P1^2) + (P2^2) - 2\}^{1/2}$$

The result is given in table 14(g) and the districts are ranked on the basis of the least value of HPI. Calcutta naturally comes on the top and the North Bengal districts are in the lower echelon.

Table 14 (g) : Modified Human Poverty Index

Sl. No.	District	Knowledge	Provisioning	Modified HPI	Rank
1.	Burdwan	46.64	24.10	52.48	6
2.	Birbhum	59.43	24.17	64.14	12
3.	Bankura	53.63	17.17	56.29	9
4.	Midnapore	40.82	25.10	47.89	5
5.	Howrah	41.88	18.01	45.57	3
6.	Hooghly	41.71	15.95	44.63	2
7.	24 Parganas (N)	42.70	17.42	46.09	4
8.	24 Parganas (S)	54.40	23.34	59.18	10
9.	Calcutta	29.03	6.22	29.65	1
10.	Nadia	54.17	13.42	55.78	8
11.	Murshidabad	68.12	30.30	74.54	16
12.	Uttar Dinajpur	70.05	37.46	79.42	18
13.	Dakshin Dinajpur	63.10	30.64	70.13	15
14.	Malda	70.20	32.92	77.52	17
15.	Jalpaiguri	58.22	25.67	63.61	11
16.	Darjeeling	48.34	20.66	52.55	7
17.	Coochbehar	61.33	30.02	68.27	13
18.	Purulia	61.74	32.58	69.29	14

3.2 Indicators of Infrastructure Development

Infrastructure development is a pre-condition for any development process. In this study under the head of infrastructure, road connectivity, banking network, electricity coverage and irrigation facilities are taken into account. For logical continuity irrigation coverage is presented in section 3.1.2.

3.2.1 Road Network

The road network in the rural areas of the state is developed and maintained by Public Works Department, Public Works Department (Road) and Zilla Parishads.

For the present study information are collected in respect of PWD and PWD (Road) department and Zilla Parishads. They are presented in Table 15 to Table 18. The road network is classified under two broad heads - surfaced and unsurfaced where surfaced indicates metalled road and unsurfaced signifies all weather road (constructed by bricks or through jhama consolidation). PWD department in general does not take up unsurfaced road. This type of road is developed and maintained by the Zilla Parishad itself or the panchayat bodies of its lower tier. Three years data are collected where from this can be corroborated (Table 15).

Table 15 : Length of Surfaced Roads (in Kilometer) maintained by PWD and Z.P.

Sl. No.	District	1996			1997			1998		
		PWD	ZP	Total Surfaced	PWD	ZP	Total Surfaced	PWD	ZP	Total Surfaced
1.	Burdwan	1950	388	2318.00	1929	1505	3434.0	1932	306	2238.00
2.	Birbhum	984	913	1897.00	984	913	1897	984	927	1911.00
3.	Bankura	1033	436.64	1469.64	1033	756.6	1789.60	1035	439.84	1474.84
4.	Midnapore	1876	1408	3284.00	1878	2574	4452.00	1846	1408	3254.00
5.	Howrah	540	248	788.00	540	248	788.00	540	498.72	1038.72
6.	Hooghly	1101	1797	2898.00	1100	2123	3223.00	1100	2188	3288.00
7.	24 Parganas (N)	2376	1625.5	4001.50	2376	1299.5	3675.50	2381	2494	4875.00
8.	24 Parganas (S)									
9.	Calcutta	0	0	0.00	0	0	0.00	0	0	0.00
10.	Nadia	936	338.5	1274.50	935	771.86	1706.86	937	354.01	1291.01
11.	Murshidabad	1114	452	1566.00	1114	1719	2833.00	1114	475.54	1589.54
12.	Uttar Dinajpur	859	131.6	990.60	860	351.82	1211.82	860	104.65	964.65
13.	Dakshin Dinajpur									
14.	Malda	593	444	1037.0	595	393	988.00	595	568.81	1163.81
15.	Jalpaiguri	1272	163	1435.00	1285	330	1615.00	1285	466.39	1751.39
16.	Darjeeling	527	600	1127.00	482	1678	2160.00	482	602	1084.0
17.	Coochbehar	662	70	732.00	662	1075	1737.00	662	112	774.00
18.	Purulia	976	580.52	1556.52	797	2589.13	3386.13	797	550	1347.00

Source : Statistical Abstract, 1997-98. Govt. of West Bengal..

In some districts like Burdwan, Jalpaiguri, Cooch Behar, Uttar and Dakshin Dinajpur (erstwhile West Dinajpur) PWD is bearing larger portion of maintenance of the surfaced roads.

From the District Census (1991) Handbook (Part A) information on pacca

road connectivity of the villages in a district is available. In the Census report the villages are arranged on the basis of their distances from the nearest town. The districts are ranked here on the basis of the total coverage of road [Table 15(a)].

Table 15(a) : Pacca Road Connectivity in villages (1991 census)

Sl. No.	District	Coverage of Villages (%)	Rank	Sl. No.	District	Coverage of Villages (%)	Rank
1.	Burdwan	27.77	11	10.	Nadia	35.18	5
2.	Birbhum	17.43	14	11.	Murshidabad	28.57	10
3.	Bankura	21.12	13	12.	Uttar Dinajpur	23.97	12
4.	Midnapore	12.35	16	13.	Dakshin Dinajpur		
5.	Howrah	54.77	2	14.	Malda	32.78	6
6.	Hooghly	32.21	7	15.	Jalpaiguri	50.68	3
7.	24 Parganas (N)	57.94	1	16.	Darjeeling	31.94	8
8.	24 Parganas (S)	37.56	4	17.	Coochbehar	30.03	9
9.	Calcutta	-	-	18.	Purulia	14.70	15

The West Bengal average in respect of pacca road connectivity in 1991 was around 30 percent. Thereafter the things are changing fast. For example, in 1998 of the total roads in Burdwan district 63

percent are surfaced and the remaining unsurfaced. For getting a comparative idea, the length of unsurfaced roads is also taken into account.

Table 16 : Length of Unsurfaced Roads (in Kilometer) maintained by PWD and Z.P.

Sl. No.	District	1996			1997			1998		
		PWD	ZP	Total Surfaced	PWD	ZP	Total Surfaced	PWD	ZP	Total Surfaced
1.	Burdwan	9	1400	1409.00	9	1505	1514.00	6	1308	1314.00
2.	Birbhum	11	337	348.00	11	338	349.00	11	338	349.00
3.	Bankura	43	756	799.00	43	756.6	799.60	41	756.6	797.60
4.	Midnapore	141	2574	2715.00	141	2574	2715.00	137	2574	2711.00
5.	Howrah	0	1199	1199.00	0	1199	1199.00	0	948.68	948.68
6.	Hooghly	0	3584	3584.00	0	3832	3832.00	0	4249	4249.00
7.	24 Parganas (N)	20	1309.5	1329.50	20	1299.5	1319.50	15	2388	2403.00
8.	24 Parganas (S)									
9.	Calcutta	0	0	0.00	0	0	0.00	0	0	0.00
10.	Nadia	38	773.36	811.36	38	771.86	809.86	36	754.24	790.24
11.	Murshidabad	70	1726	1796.00	70	1719	1789.00	70	1702.94	1772.94
12.	Uttar Dinajpur	46	381.82	427.82	46	351.82	397.82	46	207.47	253.47
13.	Dakshin Dinajpur									
14.	Malda	15	408	423.00	15	393	408.00	15	364.5	379.50
15.	Jalpaiguri	11	330	341.00	11	330	341.00	11	156	167.00
16.	Darjeeling	4	1675	1679.00	4	1678	1682.00	4	1678	1682.00
17.	Coochbehar	366	1075	1441.00	366	1075	1441.00	366	1033	1399.00
18.	Purulia	13	2460.23	2473.23	13	2589.13	2602.13	13	2619	2632.00

Source : Statistical Abstract, 1997-98. Govt. of West Bengal..

Of the unsurfaced roads in Howrah and Hooghly the Zilla Parishad maintains all the roads. In Cooch Behar district, however, the PWD department shares around twenty five percent of the maintenance of the unsurfaced roads.

The road length per 100 square kilometer

of the area of a district is calculated for each district (except Calcutta) and the result is placed in Table 17 for the surfaced roads and in Table 18 for the unsurfaced roads. Calcutta does not come in the picture because in Calcutta all roads are surfaced and PWD department does not maintain the roads.

Table 17 : Road Length per 100 Square Kilometer of area : Surfaced

Sl. No.	District	1996		1997		1998	
		Road Length (In Km.)	Rank	Road Length (In Km.)	Rank	Road Length (In Km.)	Rank
1.	Burdwan	33.00	5	48.89	7	31.87	7
2.	Birbhum	41.74	3	41.97	9	42.05	3
3.	Bankura	21.35	14	25.99	13	21.43	14
4.	Midnapore	23.32	11	31.62	10	23.11	11
5.	Howrah	53.71	2	53.71	4	70.80	2
6.	Hooghly	92.02	1	102.34	1	104.41	1
7.	24 Parganas (N)	28.47	8	26.15	12	34.69	4
8.	24 Parganas (S)						
9.	Calcutta	-	-	-	-	-	-
10.	Nadia	32.45	6	43.46	8	32.87	6
11.	Murshidabad	29.41	7	53.21	5	29.86	9
12.	Uttar Dinajpur	18.47	15	22.59	15	17.99	15
13.	Dakshin Dinajpur						
14.	Malda	28.21	9	26.88	11	31.66	8
15.	Jalpaiguri	23.04	12	25.93	14	28.12	10
16.	Darjeeling	35.79	4	68.59	2	34.42	5
17.	Coochbehar	21.61	13	51.28	6	22.85	12
18.	Purulia	24.90	10	54.17	3	21.55	13

The ranking of districts is made on the basis of the road length per 100 square kilometer of the total geographical area of the district. Hooghly district has the maximum road length.

Table 18 : Road Length per 100 Square Kilometer of area : Unsurfaced

Sl. No.	District	1996		1997		1998	
		Road Length (In Km.)	Rank	Road Length (In Km.)	Rank	Road Length (In Km.)	Rank
1.	Burdwan	20.05	8	21.55	9	18.71	7
2.	Birbhum	7.66	2	7.68	3	7.68	3
3.	Bankura	11.61	6	11.62	6	11.62	5
4.	Midnapore	19.28	7	19.28	7	19.25	8
5.	Howrah	81.73	14	81.73	14	64.66	14
6.	Hooghly	113.81	15	121.68	15	134.93	15
7.	24 Parganas (N)	9.32	4	9.39	4	17.10	6
8.	24 Parganas (S)						
9.	Calcutta	-	-	-	-	-	-
10.	Nadia	20.66	9	20.62	8	20.12	9
11.	Murshidabad	33.73	10	33.60	10	33.30	10
12.	Uttar Dinajpur	7.98	3	7.42	2	4.72	2
13.	Dakshin Dinajpur						
14.	Malda	11.51	5	11.10	5	10.32	4
15.	Jalpaiguri	5.48	1	5.48	1	2.68	1
16.	Darjeeling	53.32	13	53.41	13	53.41	13
17.	Coochbehar	42.54	12	42.54	12	41.30	11
18.	Purulia	39.56	11	41.63	11	42.10	12

3.2.2 Commercial Banking

(i) Branch Network

The number of commercial bank branches in the districts in the years from 1993 to 1999 are collected and put in Table 19. The expansion of commercial bank branches will help to enhance the opportunities of getting bank credit.

Table 19 reflects that in four districts, e.g. Birbhum, Murshidabad, Uttar Dinajpur and Purulia no branch of commercial banks was opened during the period 1993 to 1999. However in Calcutta not only the number of bank branches is the maximum but also the rate of expansion of bank branches is the highest.

Table 19 : Commercial Bank Branches in districts

Sl. No.	District	1993	1994	1995	1996	1997	1998	1999
1.	Burdwan	361	363	363	363	365	367	369
2.	Birbhum	174	174	174	174	174	174	174
3.	Bankura	164	164	164	165	165	165	166
4.	Midnapore	473	474	475	477	478	478	478
5.	Howrah	211	211	211	213	215	217	217
6.	Hooghly	241	245	247	247	247	247	248
7.	24 Parganas (N)	342	345	347	350	352	360	370
8.	24 Parganas (S)	231	233	233	233	234	234	234
9.	Calcutta	917	919	921	932	945	965	969
10.	Nadia	179	180	181	181	181	181	181
11.	Murshidabad	220	220	220	220	220	220	220
12.	Uttar Dinajpur	84	84	84	84	84	84	84
13.	Dakshin Dinajpur	61	61	61	61	61	62	62
14.	Malda	141	141	141	141	142	143	143
15.	Jalpaiguri	123	133	134	134	135	135	136
16.	Darjeeling	98	100	101	102	103	103	105
17.	Coochbehar	109	110	110	110	110	110	110
18.	Purulia	112	112	112	112	112	112	112

Source : State Level Bankers Committee Meeting Agenda Notes.

In Table 19(a) the rate of expansion of commercial bank branches during the seven-year period in different districts

are shown. During this period the rate of expansion for the state is calculated at 0.46 percent.

Table 19(a) : Rate of expansion of commercial bank branches during the period 1993 – 1999.

Sl. No.	District	Rate of expansion (in percentage)	Sl. No.	District	Rate of expansion (in percentage)
1.	Jalpaiguri	1.51	10.	24 Parganas (South)	0.18
2.	24 Parganas (North)	1.17	11.	Bankura	0.17
3.	Darjeeling	1.02	12.	Nadia	0.16
4.	Calcutta	0.81	13.	Midnapore	0.15
5.	Hooghly	0.41	14.	Cooch Behar	0.13
6.	Howrah	0.40	15.	Birbhum	0
7.	Burdwan	0.32	16.	Murshidabad	0
8.	Dakshin Dinajpur	0.23	17.	Uttar Dinajpur	0
9.	Malda	0.20	18.	Purulia	0

The number of bank branches per lakh population in the district is calculated for all 18 districts and presented in table 19(b). The purpose of this exercise is to rank the districts on the basis of a common denominator. The estimates of population for the respective years from 1994 to 1998 are taken from the Bureau of Applied Economics and Statistics, Govt. of West Bengal. From table 19(b)

it can be seen that the number of bank branches per lakh population is declining in every district except South 24 Parganas where in the year 1998 it increased marginally. This is mainly due to the huge population increase not commensurate with the bank-branch expansion. The ranking of the districts is made on the basis of the figures in 1998.

Table 19(b) : Number of Bank Branches per lakh population

Sl. No.	District	1994	1995	1996	1997	1998	Rank by the latest year
1.	Burdwan	5.58	5.48	5.36	5.27	5.18	5
2.	Birbhum	6.41	6.29	6.16	6.04	5.92	3
3.	Bankura	5.56	5.47	5.41	5.32	5.23	4
4.	Midnapore	5.33	5.23	5.13	5.05	4.95	7
5.	Howrah	5.28	5.16	5.09	5.02	4.96	6
6.	Hooghly	5.29	5.23	5.12	5.02	4.92	8
7.	24 Parganas (N)	4.36	4.27	4.19	4.10	4.11	12
8.	24 Parganas (S)	3.96	3.93	3.89	3.87	3.83	16
9.	Calcutta	19.17	18.66	18.35	18.09	17.95	1
10.	Nadia	4.32	4.23	4.12	4.01	3.91	14
11.	Murshidabad	4.31	4.20	4.10	3.99	3.90	15
12.	Uttar Dinajpur	3.99	3.88	3.77	3.66	3.55	17
13.	Dakshin Dinajpur	4.76	4.65	4.55	4.45	4.43	10
14.	Malda	4.94	4.82	4.69	4.60	4.52	9
15.	Jalpaiguri	4.43	4.36	4.25	4.19	4.09	13
16.	Darjeeling	16.68	16.29	15.91	15.60	15.23	2
17.	Coochbehar	4.77	4.67	4.58	4.48	4.39	11
18.	Purulia	4.77	4.68	4.59	4.51	4.43	10

(ii) *Credit Deposit Ratio*

The credit-deposit ratio reflects the bank's willingness to advance loans. In Table 20, CD Ratio of the districts for the period 1995 to 1999 are presented. It can be observed from this table that the CD Ratio is declining in every district

of the state. The state figure is declining from 54.4 in 1995 to 54.1 in 1996, then to 50.0 in 1997 to 46.1 in 1998 and 45.0 in 1999. The rate of decline over the period 1995 to 1999 is 3.45 percent per annum. The ranking of districts on the basis of the latest available figures is made.

Table 20 : Districtwise credit deposit ratio (from March 1995 to March 1999)

Sr. No.	District	March 1995	March 1996	March 1997	March 1998	March 1999	Rank
1.	Burdwan	29.6	29.4	27.3	25.1	22.6	12
2.	Birbhum	36.9	36.4	33.5	30.2	28.2	7
3.	Bankura	30.1	28.7	26.1	25.5	23.0	10
4.	Midnapore	34.7	31.8	29.1	25.7	22.7	11
5.	Howrah	23.0	21.7	20.9	19.1	18.5	16
6.	Hooghly	26.4	23.9	21.2	19.9	22.5	13
7.	24 Parganas (N)	20.5	17.9	16.0	13.9	17.2	17
8.	24 Parganas (S)	24.0	22.9	20.2	18.4	15.7	18
9.	Calcutta	72.6	77.9	70.7	65.3	70.2	1
10.	Nadia	27.2	26.8	26.6	23.2	21.0	14
11.	Murshidabad	33.9	36.5	35.9	30.7	28.7	6
12.	Uttar Dinajpur	47.8	45.9	39.0	32.4	31.3	3
13.	Dakshin Dinajpur	37.4	36.7	34.7	31.9	30.7	4
14.	Malda	20.9	37.3	34.0	29.8	27.3	8
15.	Jalpaiguri	46.6	36.2	31.8	24.2	29.5	5
16.	Darjeeling	31.0	31.6	28.3	25.1	24.5	9
17.	Coochbchar	52.2	51.5	48.1	40.2	41.0	2
18.	Purulia	30.2	29.3	25.9	23.0	20.5	15

Source : State Level Bankers Committee Meeting Agenda Notes.

The declining trend of CD Ratio is a likely pointer to the unwillingness of the banking sector to advance loans in this state. Calcutta's position is at the top and the last position is occupied by South 24 Parganas district. Throughout the period 1995-1999, of 18 districts only Calcutta is above the state average. In tune with the purpose of the present

study further attempt is not made to go into the detail of the implications of low CD Ratio.

Per hectare availability of agricultural credit for the districts except Calcutta are calculated and presented in Table 20(a).

Table 20 (a) : Per hectare availability of Agricultural Credit (In Rupees)

Sl. No.	District	1998 - 1999	Rank	1997 - 1998	Rank
1.	Burdwan	914.06	3	1376.36	1
2.	Birbhum	195.48	15	319.79	12
3.	Bankura	831.13	4	616.23	6
4.	Midnapore	1286.19	2	1087.76	3
5.	Howrah	520.43	7	1144.30	2
6.	Hooghly	1745.91	1	881.64	4
7.	24 Parganas (N)	762.87	5	575.09	7
8.	24 Parganas (S)	345.82	10	330.41	11
9.	Nadia	452.16	8	619.43	5
10.	Murshidabad	311.32	11	468.46	8
11.	Uttar Dinajpur	197.33	14	186.68	13
12.	Dakshin Dinajpur	400.45	9	371.76	9
13.	Malda	279.43	12	330.83	10
14.	Jalpaiguri	719.45	6	185.41	14
15.	Darjeeling	46.98	7	115.62	17
16.	Coochbehar	211.17	13	164.08	16
17.	Purulia	166.10	16	174.06	15
	West Bengal	633.60		589.97	

Source : State Level Bankers Committee Meeting Agenda Notes.

3.2.3 Electricity Coverage

Electricity coverage is an indicator of infrastructure development in the state. In Table 21 villages brought under electrification during the period from 1993 - 94 to 1997 - 98 are presented vis a vis total number of villages in the districts. As Calcutta agglomeration is urban in character, it is not considered here. According to Economic Review of Govt. of West Bengal for the year 1993-94, "power supply position in the state

continued to improve throughout the year with significant increase in generation by all power agencies in the state". Power is a very important ingredient for industrial expansion. With the continuous spreading of electricity to the villages from year to year, at least in two districts of the state (excluding Calcutta) it becomes possible to extend one hundred percent coverage. The districts are Howrah and Hooghly.

Table 21 : Villages Electrified in West Bengal : 1993 - 1998

Sl. No.	District	Total Villages	1993 - 1994	1994 - 1995	1995 - 1996	1996 - 1997	1997 - 1998	Percent Coverage in 1997-1998
1.	Burdwan	2488	2346	2372	2374	2395	2395	96.26
2.	Birbhum	2232	2213	2213	2213	2213	2219	99.42
3.	Bankura	3565	2315	2347	2364	2369	2398	67.26
4.	Midnapore	10474	4937	5025	5147	5208	5241	50.04
5.	Howrah	734	734	734	734	734	734	100.00
6.	Hooghly	1897	1897	1897	1897	1897	1897	100.00
7.	24 Parganas (N)	1600	1482	1489	1497	1497	1506	94.12
8.	24 Parganas (S)	2119	1726	1726	1728	1729	1733	81.78
9.	Nadia	1248	1233	1233	1233	1233	1233	98.80
10.	Murshidabad	1918	1782	1786	1789	1792	1797	93.69
11.	Uttar Dinajpur	1511	1226	1226	1226	1226	1227	81.20
12.	Dakshin Dinajpur	1534	1104	1105	1107	1108	1110	72.36
13.	Malda	1641	1596	1596	1596	1596	1596	97.26
14.	Jalpaiguri	734	713	713	713	720	720	98.09
15.	Darjeeling	620	506	506	506	506	506	81.61
16.	Coochbehar	1139	1125	1125	1125	1128	1128	99.03
17.	Purulia	2456	1480	1531	1536	1541	1546	62.95

Source : (i) District Statistical Handbook, West Bengal..

(ii) District Statistical Handbook of different districts published by Bureau of Applied Economics and Statistics, Govt. of West Bengal, 1998.

The ranking of districts are made on the basis of the percentage coverage of villages in the year 1997 - 98. The overall scenario of the state during this period indicates that of 37910 villages by the end of the year 1997 - 98 it became

possible to extend electrification to 77.34 percent villages of the state. The districts are arranged below on the basis of their rank value in electricity coverage to the villages.

District	Rank Value	District	Rank Value
Howrah, Hooghly	1	Murshidabad	9
Birbhum	2	24 Parganas (S)	10
Coochbehar	3	Darjeeling	11
Nadia	4	Uttar Dinajpur	12
Jalpaiguri	5	Dakshin Dinajpur	13
Malda	6	Bankura	14
Burdwan	7	Purulia	15
24 Parganas (N)	8	Midnapore	16

3.3 Indicators of Social Development

In this section, social development in the districts are viewed through sanitation and drinking water coverage, health and education. All the four attributes as a whole reflects the extent of social development in a district. In the health sector five indicators are considered. These are availability of doctors in government health system, availability of beds in the government hospitals, infant mortality rate, proportion of under weight babies and the extent of safe delivery. In education, general stream is considered only for want of reliable and stable data. School enrolment, number of schools, number of teachers, numbers of colleges, male and female literacy rates are considered for presenting the state of development in districts. For reflecting the existing amenities in schools, a table is incorporated showing the drinking water and sanitation facilities.

3.3.1 Sanitation Coverage

Access to sanitation facilities (provision for latrine) is an important factor which governs the quality of life of the people. The all-India picture in this respect is not at all encouraging, since as per the estimates of the NSS 54th round survey on Drinking Water, Sanitation and

Hygiene, more than 80 percent of the rural and more than 25 percent of the urban households do not have access to sanitation (latrine) facilities although such an access has improved from 11 to 17.5 percent in rural, and from 68.2 to 74.5 percent in urban areas between 1988 and 1998. However, the performance of the states like Assam and Kerala are impressive in this regard. In Assam, 98 percent of the urban and 75 percent of the rural households have access to sanitation facilities, whereas the corresponding percentages for Kerala are 95 and 77, respectively. In West Bengal, the 1998 estimates by the NSSO indicate that 76.4 percent of the rural households and 15.2 percent of urban households do not have access to sanitation facilities. Since no such estimates are available from the NSS for the different districts of West Bengal, we have to fall back upon the 1991 Census figures in respect of access to toilets in the districts of West Bengal, as reported in table 22 below.

Table 22 shows that in Calcutta the coverage is the maximum. Within the rural areas, the coverage is maximum in North 24 Parganas district. Again the coverage is better in urban areas than in the rural areas. At the time of ranking the districts the total coverage (pulling rural and urban together) is considered.

Table 22 : Access to Toilets in West Bengal by District (Percent of Household)

District	Rural	Urban	Total	Rank
Burdwan	15.32	60.58	32.12	7
Birbhum	6.79	49.8	10.69	14
Bankura	3.94	47.69	7.62	17
Midnapore	4.74	56.61	10.22	15
Howrah	13.6	77.9	47.93	3
Hooghly	21.34	82.87	41.89	4
24-Parganas (N)	28.33	86.84	58.72	2
24-Parganas (S)	13.7	70.87	22.38	9
Calcutta	-	94.98	94.98	1
Nadia	22.71	75.51	35.17	6
Murshidabad	8.36	51.11	12.94	12
West Dinajpur	6.15	75.45	14.05	11
Malda	7.84	71.55	12.6	13
Jaipauri	15.43	72.25	24.96	8
Darjeeling	27.23	69.03	39.21	5
Cooch Behar	9.69	83.36	15.3	10
Purulia	3.27	53.91	8.22	16

Source: 1991 Census Report.

In West Bengal intensive sanitation programme was initiated in Midnapore district in the year 1990 with the basic objective of ensuring safe health to the rural community at large. A study on "Impact assessment of Rural Sanitation Programme in West Bengal" by ORG Centre for Social Research in the year 1998 (report published in the year 2000) observed that "the programme in its current state of maturity, endeavours to delve into the finer elements of sanitary behavior of the community". At the end of the year 1997-98 the coverage has been enhanced to around 30 percent from the average of 12.26 percent. The ORG study pointed out that about 45 percent latrine owners identified improved health and hygiene condition, a result of latrine use. Therefore toilet facility within the house is an important contributory factor towards healthy life and a clean environment, and there exists considerable scope for improvement

through different programmes of public action.

3.3.2 Rural Water Supply

Although the Seventh Fifth Year Plan aimed at providing safe drinking water to all sections of the population, the objective remains still unfulfilled even today. The 54th round survey by the NSSO in 1998 on Drinking Water, Sanitation and Hygiene in India (published in July 1999) indicate the trends in the provision of safe drinking water across the states in India, but no districtwise information is obtainable from this source.

Piped water, hand pumps and tube wells provide safe sources of drinking water in our country. According to the NSSO 54th round survey mentioned above, access to piped water has declined during the 1990s in general and in urban areas in particular where it has declined from 72.1 to 70.1 percent during the

decade. In the rural areas, access to piped water has recorded an improvement between 1988 and 1993, followed by a marginal decline from 18.9 percent to 18.7 percent between 1993 and 1998. The second best sources of tube wells and hand pumps have however recorded an impressive growth – dependence on tube wells and hand pumps as source of safe drinking water has increased from 17.2 to 21.3 percent in urban areas and from 39.1 to 50.1 percent in rural areas between 1988 and 1998. Further, the proportion of households going outside the house premises to fetch drinking water has gone up between 1993 and 1998, although it declined during 1988 to 1993, indicating an increase in time and energy spent on fetching water. As per the 1998 estimates, still 4.9 per cent of the urban households and 13 percent of the rural households suffer from insufficiency of drinking water. Number of rural households reporting insufficiency of drinking water ranges from 30.4 per cent in Kerala to 3.7 percent in Punjab, whereas in the urban areas, the range is between 30.1 per cent in Andhra Pradesh and 1.8 percent in Assam. In West Bengal, the proportions of households reporting insufficiency of drinking water facilities are 6.2 percent in rural and 2.9 percent in urban areas,

which are much better than the all India average pictures. However, as in the all India pattern, the proportions of drinking water obtained from piped sources, tube wells and hand pumps are declining in the state as well indicating inefficiency in the management of water supply schemes and their poor maintenance.

To assess the performance of the districts with respect to provisioning and access to safe drinking water, we need district level disaggregated data about reported insufficiency distance to be covered to fetch water, extent of purchase and sourcewise dependence of drinking water, as well as their nature of ownership, public as well as private. Unfortunately, we do not have such detailed information. What we have are the information about rural water supply in the districts by spot sources. We have collected the information (as on 1.4.1998) on the available spot sources of drinking water in each district.

The number of population per spot source is calculated taking the population figures of 1991 census. On the basis of the result the districts are ranked. The district where the number of people per spot source is the least comes first in the serial. On this count, Purulia is at the top and Darjeeling the last.

Table 23 : Rural Water Supply (as on 01.04.1998)

District	Rural Population (1991 Census)	No. of Spot Sources	No. of Population per Spot Sources	Rank
Burdwan	3927613	14079	278.97	11
Birbhum	2326101	10739	216.60	5
Bankura	2572587	12453	206.58	4
Midnapore	7510917	22837	328.89	14
Howrah	1880530	6829	275.37	10
Hooghly	2996979	14132	212.07	6
24 Parganas (N)	3551581	11640	305.12	12
24 Parganas (S)	4954653	13348	371.19	16
Calcutta	—	—	—	—
Nadia	2980279	13099	227.52	7
Murshidabad	4245802	17814	238.34	9
Uttar Dinajpur	1673754	8114	206.28	3
Dakshin Dinajpur	1036699	5116	202.64	2
Malda	2450495	7914	309.64	13
Jalpaiguri	2342296	6518	359.36	15
Darjeeling	903859	1791	504.67	17
Coochbehar	2001648	8681	230.58	8
Purulia	2014571	10810	186.36	1

Alongwith the creation of spot sources, the coverage of villages as in the districts is also taken into account. The coverage figures indicates (Table 24) that in

provisioning drink water supply the performance of the state is noteworthy. The districts are ranked on the basis of the coverage of the total number of inhabited villages in a district.

Table 24 : Drinking Water Supply : Coverage of villages

District	Total Number of inhabited villages	Coverage of villages in percentage	Rank
Burdwan	2488	99.04	7
Birbhum	2232	99.28	5
Bankura	3565	98.74	8
Midnapore	10474	97.24	12
Howrah	734	99.59	3
Hooghly	1897	99.63	2
24 Parganas (N)	1600	99.50	4
24 Parganas (S)	2119	96.13	13
Nadia	1248	99.28	5
Murshidabad	1918	98.38	11
Uttar Dinajpur	3045	99.97	1
Dakshin Dinajpur	3045	99.97	1
Malda	1641	98.54	10
Jalpaiguri	734	99.18	6
Darjeeling	620	98.55	9
Coochbehar	1139	98.74	8
Purulia	2456	95.15	14

Source : 1991 Census Report.

Table 24 shows that all the far-flung villages of most of the districts (11 out of 17) are provided with drinking water facilities. The ranking of districts exhibits that in the erstwhile West Dinajpur the coverage of villages is the maximum.

3.3.3 Availability of Doctors

Due to dearth of information on the number of doctors in the State Health System (beginning from the lowest unit in primary health centre at the village

level to the medical colleges in urban areas), information on availability of doctors at the block level are collected. On the basis of this information and the rural population of the district, number of doctors per lakh of population is computed and presented in Table 25. The ranking of the districts is made on the basis of this result. For the state at the block level health system the availability of doctor is to the extent of 3.97 per one lakh population.

Table 25 : Availability of Doctors under State Government Health System in Blocks

District	Block Population 1991	Total No. of Doctors	No. of Doctors per one lakh population	Rank
Burdwan	3927613	157	3.997	8
Birbhum	2326101	152	6.53	3
Bankura	2572587	112	4.35	6
Midnapore	7510917	301	4.01	7
Howrah	1880530	115	6.11	4
Hooghly	2996979	138	4.60	5
24 Parganas (N)	3551581	96	2.70	14
24 Parganas (S)	4954653	131	2.64	15
Nadia	2980279	114	3.82	10
Murshidabad	4245802	91	2.14	17
Uttar Dinajpur	1673754	51	3.05	12
Dakshin Dinajpur	1036699	29	2.79	13
Malda	2450495	62	2.53	16
Jalpaiguri	2342296	81	3.46	11
Darjeeling	903859	103	11.39	1
Coochbehar	2001648	80	3.996	9
Purulia	2014571	146	7.25	2
<i>West Bengal</i>	<i>49370364</i>	<i>1959</i>	<i>3.97</i>	

Source : District Statistical Handbook for different districts.

3.3.4 Availability of Beds

Information on availability of beds in different tiers of the State Government Health System are collected and presented in tables 26 and 26(a). Table 26 relates to the level from the district headquarter to the sub divisional level. Below sub divisional level are presented in table 26(a). Down the sub divisional

level there are rural hospitals and block primary health center at the block level (both are mutually exclusive) and primary health centre at the sub block level. The State Government has great concern for the health sector and is making efforts to intensify the activities in this sector towards achieving the goal of health for all.

**Table 26 : Number of Hospitals and Beds available upto the Subdivision level
(As on March, 1998)**

No.	District	College		District Hospital		General		Sub-Divisional	
		No.	Beds	No.	Beds	No.	Beds	No.	Beds
1	Burdwan	1	1105	0	0	0	0	4	769
2	Birbhum	0	0	1	520	1	300	2	375
3	Bankura	1	940	0	0	1	550	1	230
4	Midnapore	0	0	1	541	3	643	5	1031
5	Howrah	0	0	1	510	8	580	1	210
6	Hooghly	0	0	1	540	3	344	3	760
7	24-Pgs. (North)	0	0	1	306	11	1020	3	750
8	24-Pgs. (South)	0	0	1	600	1	15	1	125
9	Calcutta	4	6278	0	0	23	6322	0	0
10	Nadia	0	0	1	475	7	3211	1	171
11	Murshidabad	0	0	1	616	3	350	3	750
12	Uttar Dinajpur	0	0	1	300	0	0	1	68
13	Dakshin Dinajpur	0	0	1	300	0	0	0	0
14	Malda	0	0	1	500	1	30	0	0
15	Jalpaiguri	0	0	1	610	2	160	1	225
16	Darjeeling	1	580	1	258	2	384	3	720
17	Cooch Bihar	0	0	1	600	1	120	4	488
18	Purulia	0	0	1	506	3	268	0	0

Source : *Health on the March, 1997-98. Published by State Bureau of Health Intelligence, Govt. of West Bengal.*

From the view point of availability of beds, in rural hospitals it is on an average around 40, in BPHC slightly more than 14 and in PHC more or less 6. For bringing more and more people under the institutional health care services, the state government is intensifying on strengthening of health centres in rural

areas (health centres include rural hospital, BPHC and PHC). At the end of the year 1997-98 in the state there are 1266 health centres with the provision of 12592 beds. In addition there are 8126 sub centres for giving outdoor assistance only.

Table 26(a) : Beds in Rural Hospital, Block Primary Health Centre(BPHC) and Primary Health Centre(PHC) (As on March , 1998)

Sl. No.	District	Rural Hospital				BPHC				PHC			
		No.	No. of Beds	Average	Rank	No.	No. of Beds	Average	Rank	No.	No. of Beds	Average	Rank
1.	Burdwan	6	270	45.00	2	29	415	14.31	8	103	567	5.50	8
2.	Birbhum	4	190	47.50	1	15	310	20.67	1	58	338	5.83	4
3.	Bankura	5	180	36.00	12	17	315	18.53	2	68	368	5.41	9
4.	Midnapore	13	475	36.54	11	41	517	12.61	12	138	787	5.70	5
5.	Howrah	4	175	43.75	4	11	140	12.73	11	41	254	4.97	12
6.	Hooghly	8	315	39.37	8	9	121	13.44	9	60	385	6.42	2
7.	24 Parganas (N)	7	235	33.57	13	15	192	12.80	10	52	294	5.65	7
8.	24 Parganas (S)	12	520	43.33	5	18	225	12.50	13	63	357	5.67	6
9.	Nadia	8	340	42.50	6	9	110	12.22	14	49	324	6.61	1
10.	Murshidabad	8	300	37.50	9	19	276	14.53	6	71	419	5.90	3
11.	Uttar Dinajpur	2	85	42.50	6	7	80	11.43	15	23	108	4.69	14
12.	Dakshin Dinajpur	2	55	27.50	15	5	75	15.00	5	19	80	4.21	16
13.	Malda	6	238	39.67	7	10	150	15.00	5	35	204	5.83	4
14.	Jalpaiguri	6	265	44.16	3	8	115	14.37	7	38	194	5.10	11
15.	Darjeeling	3	110	36.67	10	8	145	18.12	3	19	100	5.26	10
16.	Coochbehar	1	30	30.00	14	11	115	10.45	16	29	142	4.90	13
17.	Purulia	1	30	30.00	14	19	325	17.10	4	53	232	4.38	15
	Total	96	3813	39.72		251	3626	14.45		919	5153	5.61	

Source : Health on the March, 1997-98. Published by State Bureau of Health Intelligence, Govt. of West Bengal.

The overall scene in respect of availability of beds in the state health system is presented in table 27. Taking estimated population figures as on March, 1998 (done by Bureau) availability

of beds per 10,000 population is calculated separately for each district. Then the ranking of districts is made. For obvious reason Calcutta is at the top.

Table 27 : Availability of Beds in State Govt. health system per ten thousand population

Sl. No.	District	Estimated Population as on 1st March 1998	Total No. of Beds	Availability of Beds	Rank
1	Burdwan	7078741	3126	4.42	10
2	Birbhum	2936346	2033	6.92	5
3	Bankura	3151825	2583	8.19	4
4	Midnapore	9662238	3994	4.13	12
5	Howrah	4377503	1869	4.27	11
6	Hooghly	5018040	2465	4.91	7
7	24-Pgs. (North)	8829462	2797	3.17	15
8	24-Pgs. (South)	6097452	1842	3.02	16
9	Calcutta	5375497	12600	23.44	1
10	Nadia	4627481	4631	10.01	3
11	Murshidabad	5640351	2711	4.81	8
12	Uttar Dinajpur	2362248	641	2.71	17
13	Dakshin Dinajpur	1399740	510	3.64	13
14	Malda	3164965	1122	3.54	14
15	Jalpaiguri	3300410	1569	4.75	9
16	Darjeeling	1535917	2297	14.95	2
17	Cooch Bihar	2503270	1495	5.97	6
18	Purulia	2527415	1241	4.91	7

Source : (i) *Statistical Abstract 1997-98 for estimated population.*

(ii) *Health on March, 1997 - 98.*

3.3.5 Infant Mortality Rate

Infant mortality rate (IMR) is an accepted indicator for social development. From 1991 census districtwise IMR are collected and presented in table 27(a). In 1991, the state figure was 62. Due to non-availability of district-disaggregated data for the period after 1991 census, the

census data are used. The districts are ranked on the basis of the reverse of IMR as lower IMR means better health status. That is the district with least IMR comes first in ranking. Here, Calcutta is at the top of ranking. IMR is considered because data on life expectancy are not available for the districts.

Table 27 (a) : Districtwise Infant Mortality Rate (1991 Census)

Sl. No.	District	Infant Mortality Rate	Rank
1.	Burdwan	61	6
2.	Birbhum	87	13
3.	Bankura	63	7
4.	Midnapore	73	8
5.	Howrah	45	2
6.	Hooghly	47	3
7.	North 24 - Pgs.	77	10
8.	South 24 - Pgs.	76	9
9.	Calcutta	28	1
10.	Nadia	80	12
11.	Murshidabad	77	10
12.	Uttar Dinajpur	89	14
13.	Dakshin Dinajpur	89	14
14.	Malda	96	15
15.	Jalpaiguri	79	11
16.	Darjeeling	58	5
17.	Coochbehar	98	16
18.	Purulia	55	4

The Infant Survival Rate for each district is calculated as : 100 minus IMR. Then following the UNDP methodology for calculating dimension index, Infant Survival Index for every district is calculated by using the following formula :

$$\text{Infant Survival Index} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

The result is given in table 27(b).

Table 27 (b) : Infant Survival Index

Sl. No.	District	Survival Index	Rank	Sl. No.	District	Survival Index	Rank
1.	Burdwan	0.528	6	10.	Nadia	0.257	12
2.	Birbhum	0.157	13	11.	Murshidabad	0.3	10
3.	Bankura	0.5	7	12.	Uttar Dinajpur	0.128	14
4.	Midnapore	0.357	8	13.	Dakshin Dinajpur	0.128	14
5.	Howrah	0.757	2	14.	Malda	0.028	15
6.	Hooghly	0.728	3	15.	Jalpaiguri	0.271	11
7.	North 24 - Pgs.	0.3	10	16.	Darjeeling	0.571	5
8.	South 24 - Pgs.	0.314	9	17.	Coochbehar	0	16
9.	Calcutta	1	1	18.	Purulia	0.614	4

3.3.6 Under weight babies and safe delivery

The proportion of underweight babies is an useful indicator in social development. The impact of health infrastructure can be assessed from the extent of underweight babies. But it is very difficult to get reliable disaggregated data. Reproductive Child Health Care Survey (1998) provides districtwise data in this respect. They are used here (Table 27c).

In respect of the data on under weight babies, Health on the March, 1999 mentioned that the data of ten districts e.g. Burdwan, Calcutta, Dakshin Dinajpur, Howrah, Jalpaiguri, Malda, Murshidabad, North and South 24 Parganas and Uttar Dinajpur relate to the percentage of women reporting underweight babies. As there is no other published data, they are taken here inspite of consequent error.

Table 27(c) : Under Weight babies and percentage of safe delivery

Sl. No.	District	Under Weight babies (in percentage)	Rank	Safe delivery (in percentage)	Rank
1	Burdwan	7.1	6	52.0	9
2	Birbhum	42.0	17	68.5	4
3	Bankura	31.0	15	66.3	6
4	Midnapore	35.0	16	54.8	10
5	Howrah	10.3	8	71.9	3
6	Hooghly	21.0	10	68.4	5
7	24 Parganas (N)	9.5	7	65.0	7
8	24 Parganas (S)	5.6	4	48.0	11
9	Calcutta	15.1	9	92.2	1
10	Nadia	23.0	11	77.5	2
11	Murshidabad	5.6	4	39.7	13
12	Uttar Dinajpur	0.4	1	23.6	18
13	Dakshin Dinajpur	5.9	5	41.6	12
14	Malda	4.4	3	29.7	17
15	Jalpaiguri	3.0	2	35.5	14
16	Darjeeling	24.0	12	60.4	8
17	Coochbehar	27.0	13	30.3	16
18	Purulia	28.0	14	35.3	15

Note : Under weight baby -> weight less than 2.5 Kg.

Source : Health on the March, 1999.

Rapid household survey under RCH Programme - Key indicators.

The underlying reason for such unhealthy symptoms is huge illiteracy within women of 15-49 years of age - this age group is accepted as reproductive age group. According to 1991 census figures around

52.73 percent women of this age group are illiterate. In table 27(d) the districtwise figures are given. In the North Bengal districts the rate is very high.

Table 27(d) : Share of illiterate females in total females of the reproductive age group (15 - 49 years)

Sl. No.	District	Total of 15 - 49 age group	Illiterate females of 15 - 49 age group	Share	Rank
1.	Burdwan	14,68,099	6,22,291	42.39	6
2.	Birbhum	6,15,398	3,86,525	62.81	10
3.	Bankura	6,80,882	4,32,478	63.52	11
4.	Midnapore	19,87,888	8,19,638	41.23	4
5.	Howrah	8,89,169	3,56,674	40.11	3
6.	Hooghly	10,80,224	4,48,449	41.51	5
7.	24 Parganas (N)	17,81,040	7,10,008	39.86	2
8.	24 Parganas (S)	12,81,996	7,56,314	58.99	9
9.	Calcutta	11,31,562	2,97,862	26.32	1
10.	Nadia	8,99,258	4,90,313	54.52	8
11.	Murshidabad	10,67,238	7,59,005	71.12	14
12.	Uttar Dinajpur	4,50,006	3,30,145	73.36	15
13.	Dakshin Dinajpur	2,80,524	2,05,805	73.36	15
14.	Malda	6,04,415	4,61,756	76.40	16
15.	Jalpaiguri	6,73,773	4,62,657	68.67	13
16.	Darjeeling	3,29,404	1,74,932	53.10	7
17.	Coochbehar	5,03,446	3,44,510	68.43	12
18.	Purulia	5,29,391	4,21,299	79.58	17
	West Bengal	1,62,53,713	85,70,270	52.73	

Source : 1991 Census Report.

3.3.7 Education

In the words of the Education Commission (1991) set up by the Govt. of West Bengal, "The most wide ranging changes since 1977 in the educational landscape in the state have been in the sphere of primary education". While

establishing new primary schools in the state, attention is equally being given on areas with the predominance of marginalised section of the community. From the statement below growth of primary schools can be visualized.

Number of primary schools in West Bengal

1973	39132
1978	42659
1986	48456
1992 - 1993	51021
1996 - 1997	51021
1997 - 1998	51021
1998 - 1999	52123

Therefore, over a period of twenty-seven years around 33 percent increase in the number of primary schools was

registered. As regards the enrolment of students in the primary education it is ever expanding. Year wise figure for enrolment corroborates this assertion.

1973	1978	1986	1992-1993	1996-1997	1997-1998	1998-1999
54,61,939	57,77,77,591	68,83,911	101,17,000	90,06,000	88,07,732	89,48,677

Source : *Economic Review of Govt. of West Bengal for different years.*

Next to primary education, in West Bengal 10+2 pattern of school education follows. The secondary stage is again divided into two stages, viz Junior High which terminates in class VIII and two years thereafter for the completion of the secondary stage. The secondary stage ends with the first public examination in the life of a student who enters and completes the secondary education. The secondary education is followed by two years of Higher

Secondary education completed through a public examination at the end of the second year. In junior high school there are classes from VI to VIII while in all higher secondary schools there are classes from VI to XII. For this reason separate figure for high and higher secondary schools are not available. In table 28, the numbers of schools in the state for the year 1998-99 (the latest year for which data are available) are presented according to their type.

Table 28 : Number of Schools (General Education) in West Bengal by district (1998-1999)

District	Primary	Rank	Junior High	Rank	High and Higher Secondary	Rank
Burdwan	3855	3	181	4	723	4
Birbhum	2503	10	97	12	346	11
Bankura	3399	5	123	8	368	10
Midnapore	9630	1	528	1	1007	2
Howrah	2247	11	134	7	468	7
Hooghly	2728	8	162	5	576	6
24-Parganas (N)	4255	2	292	2	1164	1
24-Parganas (S)	3852	4	287	3	578	5
Calcutta	1418	15	103	10	767	3
Nadia	2670	9	119	9	385	9
Murshidabad	3109	6	152	6	399	8
Uttar Dinajpur	1306	17	46	17	126	18
Dakshin Dinajpur	1316	16	37	18	142	16
Malda	2009	12	90	13	246	12
Jalpaiguri	1948	13	71	15	236	13
Darjeeling	1161	18	49	16	138	17
Cooch Bchar	1732	14	77	14	186	15
Purulia	2985	7	100	11	221	14

Source : *Directorate of School Education, Govt. of West Bengal.*

From the table 28 it can be seen that sheer on the basis of the number of schools available all North Bengal districts belong to the lower echelon, in respect of all types of schools.

(i) *Enrolment in schools*

The student's enrolment in different stages of education is considered as an indicator of development because more enrolment means greater opportunities for enlightenment. From 1998 - 1999 figures (Table 29) in respect of enrolment, total enrolment in the stage of primary education is 89,48,677 while it goes down to 28,43,016 in class VI to VIII stage and then to 15,46,598 in case of IX - XII stage. Therefore the dropout number in between first stage and second stage is 61,05,661 - in

percentage term it is 68.23. The dropout number in between second stage and third stage is 12,96,418 - in percentage term 45.60. In table 29 number of students per school is calculated for three types of schools. While in case of the primary schools, in Purulia number of students per school is the lowest, that is more primary schools are there. In the case of Junior/High School there are more schools in South 24 Parganas districts in relation to the enrolled students. Again in the case of High and Higher Secondary schools, the number of students per school in Burdwan district is the lowest. In Calcutta the ratio between the number of students and number of schools is very high in all three types of schools because of heavy concentration of entrants there.

Table 29 : Number of Students (General Education) in West Bengal by district (1998-1999)

District	Class I to V	Primary School	Per School No. of Students	Class VI to Class VIII	Junior (High) School	Per School No. of Students	Class IX to Class XII	High & H.S. School	Per School No. of Students
Burdwan	645652	3855	167.48	282819	181	1562.54	96380	723	133.31
Birbhum	377464	2503	150.80	101910	97	1050.62	47123	346	136.19
Bankura	428440	3399	126.05	103837	123	844.20	54090	368	146.98
Midnapore	1302777	9630	135.28	390931	528	740.40	197050	1007	195.68
Howrah	412708	2247	183.67	132973	134	992.34	108776	468	232.43
Hooghly	579792	2728	212.53	201486	162	1243.74	91976	576	159.68
24 Parganas (N)	905254	4255	212.75	318702	292	1091.45	227135	1164	195.13
24 Parganas (S)	857509	3852	222.61	206599	287	719.86	95624	578	165.44
Calcutta	337069	1418	237.71	242998	103	2359.20	196461	767	256.14
Nadia	480662	2670	180.02	185652	119	1560.10	112670	385	292.65
Murshidabad	674914	3109	217.08	131705	152	866.48	81351	399	203.89
Uttar Dinajpur	226560	1306	173.48	58631	46	1274.59	22054	126	175.03
Dakshin Dinajpur	204598	1316	155.47	45016	37	1216.65	22368	142	157.52
Malda	359507	2009	178.95	97185	90	1079.83	45914	246	186.6
Jalpaiguri	381525	1948	195.85	124095	71	1747.82	43343	236	183.66
Darjeeling	156472	1161	134.77	62402	49	1273.51	25395	138	184.02
Cooch Behar	338440	1732	195.40	75126	77	975.66	37974	186	204.16
Purulia	279334	2985	93.58	80949	100	809.49	40914	221	185.13

Source : Directorate of School Education, Govt. of West Bengal.

(ii) *Pupil-Teacher Ratio*

The pupil teacher ratio for the districts for each stage of education is calculated and presented in table 30. As mentioned by the Education Commission (1991), "the student-teacher ratio in primary

schools, according to official claim is 40:1; the government's intention is to bring it down further to 30:1". But the figures for 1998-1999 presented in Table 30 show that in no districts the student-teacher ratio at the primary stage is near 30:1.

Table 30 : Number of Teachers (General Education) in West Bengal by district (1998-1999)

District	Class I to V Students	No. of teachers	Per Teacher No. of Student	Rank	Class VI to VIII Students	No. of teachers	Per Teacher No. of Students	Rank	Class IX to XII Students	No. of Teachers	Per Teacher No. of Students	Rank
Burdwan	645652	12218	52.84	14	282819	1531	184.73	3	96380	11244	8.57	13
Birbhum	377464	6261	60.29	8	101910	842	121.03	11	47123	4023	11.71	8
Bankura	428440	9204	46.55	17	103837	954	108.84	14	54090	5328	10.15	12
Midnapore	1302777	21265	61.26	7	390931	4744	82.41	17	197050	14051	14.02	7
Howrah	412708	8250	50.03	15	132973	1160	114.63	13	108776	4946	21.99	1
Hooghly	579792	9060	63.99	6	201486	1507	133.70	7	91976	8967	10.26	11
24 Parganas (N)	905254	13055	69.34	3	318702	2418	131.80	9	227135	13572	16.73	3
24 Parganas (S)	857509	11174	76.74	2	206599	2579	80.11	18	95624	6173	15.49	5
Calcutta	337069	6085	55.39	11	242998	1060	229.24	1	196461	12444	15.78	4
Nadia	480662	7160	67.13	4	185652	1032	179.90	4	112670	6085	18.51	2
Murshidabad	674914	8654	77.99	1	131705	1254	105.03	15	81351	7254	11.21	9
Uttar Dinajpur	226560	4010	56.50	10	58631	364	161.07	5	22054	2695	8.18	16
Dakshin Dinajpur	204598	3755	54.49	12	45016	308	146.16	6	22368	2172	10.30	10
Malda	359507	6299	57.07	9	97185	776	125.24	10	45914	3073	14.94	6
Jalpaiguri	381525	7016	54.38	13	124095	563	220.42	2	43343	5253	8.25	15
Darjeeling	156472	3335	46.92	16	62402	467	133.62	8	28340	3419	8.29	14
Cooch Behar	338440	5132	65.95	5	75126	655	114.70	12	37974	8853	4.29	17
Purulia	279334	7138	39.13	18	80949	815	99.32	16	40914	4934	8.29	14

Source : Directorate of School Education, Govt. of West Bengal.

From Table 30, it can be seen that at the junior high level pupil-teacher ratio is very high but it decreases appreciably at the secondary and higher secondary stages.

(iii) Number of Colleges

The Department of Higher education, Govt. of West Bengal generally classifies the colleges into ten types on the basis of the subject matters of studies there. These are general degree colleges (where graduate level teaching are imparted), B. Ed/PGBT colleges, Physical education colleges, Law colleges, Music and Art colleges, Engineering and

Medical colleges, Technical colleges and special type of institutions. Except general degree colleges, all other colleges have very specialised area and their frequencies are also very limited. Considering this aspect, in the present study only general degree colleges are taken up. The number of general degree colleges for the period 1994-95 to 1997-98 is given in table 31. The ranking of the districts is made on the basis of the number of general degree colleges in the year 1997-98 (the latest year for which information is available). From the ranking it is obvious that Calcutta stands at the top.

Table 31 : Districtwise number of General degree colleges (1994-98)

No.	District	1994 - 95	1995 - 96	1996 - 97	1997 - 98	Rank
1.	Burdwan	22	22	24	24	5
2.	Birbhum	10	10	10	10	11
3.	Bankura	12	12	12	12	10
4.	Midnapore	32	32	32	32	3
5.	Howrah	16	16	16	16	7
6.	Hooghly	22	23	23	23	6
7.	24 Parganas (N)	33	34	35	35	2
8.	24 Parganas (S)	21	22	25	25	4
9.	Calcutta	65	65	65	65	1
10.	Nadia	13	13	13	13	9
11.	Murshidabad	14	14	15	15	8
12.	Uttar Dinajpur	3	4	5	5	14
13.	Dakshin Dinajpur	4	4	4	4	15
14.	Malda	5	7	7	8	13
15.	Jalpaiguri	9	9	10	10	11
16.	Darjeeling	11	12	12	12	10
17.	Coochbehar	7	7	9	9	12
18.	Purulia	9	9	9	9	12
	West Bengal	308	315	326	327	

Source : Annual Report, Department of Higher Education, Govt. of West Bengal.

(iv) Literacy Rate

On the basis of the Census 2001 Report the total literacy, male and female literacy rate of the districts are

calculated and presented in Table 32. Then ranking of districts is made on that basis separately for male and female. In both the cases Calcutta remains at the top.

Table 32 : Distribution of Literates by Sex and Districts

Sl. No.	District	Total Literacy		Male Literacy		Female Literacy		Male / Female Ratio
		Rate	Rank	Rate	Rank	Rate	Rank	
1.	Burdwan	71.60	6	79.30	8	61.93	7	1.28
2.	Birbhum	62.16	11	71.57	15	52.21	13	1.37
3.	Bankura	63.84	10	77.21	9	49.80	14	1.55
4.	Midnapore	75.17	2	85.25	1	64.63	5	1.32
5.	Howrah	77.64	3	83.68	4	70.93	3	1.18
6.	Hooghly	75.59	5	83.05	5	67.72	4	1.23
7.	24 Parganas (N)	78.49	4	84.35	2	72.13	2	1.17
8.	24 Parganas (S)	70.16	8	79.89	7	59.73	9	1.34
9.	Calcutta	81.31	1	84.07	3	77.95	1	1.08
10.	Nadia	66.55	9	72.67	14	60.06	8	1.21
11.	Murshidabad	55.05	16	61.40	16	48.33	15	1.27
12.	Uttar Dinajpur	48.63	18	59.27	17	37.16	17	1.59
13.	Dakshin Dinajpur	64.46	12	73.30	13	55.12	11	1.33
14.	Malda	50.71	17	59.24	18	41.67	16	1.42
15.	Jalpaiguri	63.62	14	73.64	12	52.90	12	1.39
16.	Darjeeling	72.87	7	81.28	6	63.92	6	1.27
17.	Coochbehar	67.21	13	76.83	10	57.04	10	1.35
18.	Purulia	56.14	15	74.18	11	37.15	18	1.99
	<i>West Bengal</i>	<i>69.22</i>		<i>77.58</i>		<i>60.22</i>		<i>1.29</i>

Source : 2001 Census Report.

UNDP in its Human Development Report 2001, developed Education Index by using Adult Literacy rate and Gross Enrolment Ratio.

As the data for these two parameters are not available, Total Literacy Rate and attendance of the children of 6-14 years of age are taken for calculating Total Literacy Index and Gross Enrolment Index for the districts using UNDP dimension index. The formula used is

$$\text{Total Literacy Index} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

Then giving 2/3 weights to Total Literacy Index and 1/3 weight to Gross Enrolment Index, the Education Index is developed.

Thus the Education Index = 2/3 (Total Literacy Index) + 1/3 (Gross Enrolment Index). The result is given in table 32(a).

Table 32 (a) : Education Index

	District	Education Index	Rank
1.	Burdwan	0.665	7
2.	Birbhum	0.361	13
3.	Bankura	0.472	10
4.	Midnapore	0.797	4
5.	Howrah	0.815	3
6.	Hooghly	0.787	5
7.	24 Parganas (N)	0.824	2
8.	24 Parganas (S)	0.562	8
9.	Calcutta	1	1
10.	Nadia	0.508	9
11.	Murshidabad	0.149	16
12.	Uttar Dinajpur	0.016	18
13.	Dakshin Dinajpur	0.339	14
14.	Malda	0.042	17
15.	Jalpaiguri	0.461	11
16.	Darjeeling	0.696	6
17.	Coochbehar	0.453	12
18.	Purulia	0.248	15

(v) *Drinking water and sanitation facilities in schools*

Education is an important component of developed and enlightened life. It is now generally recognised that deprivations with respect to either educational attainments or educational facilities indicates serious drawbacks of the development process under way in a given locality or region. Such deprivations also connote loss of freedom and liberties of the present generation of population towards a well-conceived standard of living in the future generation and therefore educational attainments do reflect the nature and

quality of human capital formation in a given society. Usually, health is a separate and important aspect of development with different connotations of well-being. But sanitation and drinking water facilities within educational institutions indicate the extent of minimum facilities of decent living to which our children are exposed while undergoing training for knowledge expansion. Fortunately, for our purpose, we have some districtwise data regarding the extent of drinking water and toilet facilities within the schools in West Bengal. The picture is not at all encouraging as the following table 32(b) reveals.

Table 32 (b) : Percentage of schools having Drinking Water and Toilet Facilities.

Sl. No.	District	Schools having Drinking Water Facilities				Schools having Toilet Facilities				Urinal facilities for Girls (%)			
		R	U	T	Rank	R	U	T	Rank	R	U	T	Rank
1.	Burdwan	76.68	77.96	76.97	3	33.21	61.07	39.37	5	0.28	0.59	0.35	18
2.	Birbhum	41.24	50.45	41.63	16	17.64	55.86	19.24	15	12.08	26.13	12.67	12
3.	Bankura	57.10	50.24	56.72	11	17.15	39.13	18.37	16	10.41	20.29	10.95	15
4.	Midnapore	76.30	76.61	76.32	5	19.61	68.23	21.55	13	13.91	24.02	14.62	8
5.	Howrah	42.41	56.98	48.42	14	39.62	68.23	51.43	3	16.39	28.80	21.52	4
6.	Hooghly	74.63	75.54	74.82	6	43.24	76.88	50.22	4	21.29	38.84	24.93	3
7.	24 Parganas (N)	79.99	72.06	76.44	4	39.63	68.26	52.45	2	18.51	33.25	25.11	2
8.	24 Parganas (S)	50.66	73.35	52.47	12	34.25	75.15	37.51	6	17.60	37.60	19.16	5
9.	Calcutta	-	86.13	86.13	1	-	87.36	87.36	1	-	38.13	38.13	1
10.	Nadia	82.84	61.37	79.18	2	35.72	44.87	37.29	7	16.12	22.13	17.15	6
11.	Murshidabad	57.04	55.26	56.85	10	26.19	48.16	28.60	8	15.22	21.32	15.88	7
12.	Uttar Dinajpur	35.88	66.38	38.19	17	13.91	35.34	15.54	17	7.91	20.69	8.88	17
13.	Dakshin Dinajpur	71.27	84.04	72.21	7	19.29	42.55	21.00	14	10.03	23.40	11.81	14
14.	Malda	45.58	44.29	45.50	15	19.90	50.00	21.85	12	13.09	22.86	13.72	11
15.	Jalpaiguri	59.97	75.75	62.14	9	22.22	51.83	26.29	10	11.98	27.91	14.17	10
16.	Darjeeling	25.66	61.60	32.43	18	17.73	66.24	29.87	9	9.70	33.76	14.23	9
17.	Coochbehar	63.91	77.58	65.12	8	23.57	50.30	25.94	11	11.46	24.85	12.65	13
18.	Purulia	51.39	57.46	51.75	3	14.22	37.02	15.54	17	9.49	24.31	10.35	16
	West Bengal	62.36	72.36	64.24		25.78	66.71	33.45		12.94	28.71	15.90	

Note : Here the ranks are made by total of the respective facilities. R - Rural, U - Urban, T - Total
 Source : Sixth All India Education Survey; West Bengal, vol.I, 1997.

Two important messages follow from the above table. First, the extent of deprivation due to the lack of drinking water facilities, and absence of urinals in the schools in the different districts of West Bengal are quite stark and absence of the second facility for the girl students in these schools are of quite shameful proportions. Second, there exist considerable inter-district variations regarding these facilities in the schools of West Bengal, and this deprivation, as well as disparity is larger in the rural areas compared to the urban areas. This is quite understandable in view of the overall urban bias in the development efforts and infrastructure creation in the state. Although we do

not have comparative figures for these facilities or absence thereof in private schools vis-à-vis government schools, the deprivations of minimum facilities within the schools of such high order point to the inadequacies in investment in creating such facilities which have significant bearing on the quality of environment in which school education takes place in the districts of the state. We do not however use the ranks in this table for our combined ranking of the districts, because these deprivations like the absence of any other facilities in the school, are functions of low volume of investment in building the social infrastructure for human development in the state, and educational attainment

indicators are functions of all such facilities or absence thereof. Since in our overall ranking we have used district domestic product per capita, it would be superfluous to include per student public investment on drinking water and sanitation facilities inside the schools as separate additional indicators in overall ranking of the districts. But the extent of deprivations on these two counts is too glaring to be ignored.

3.3.8 Relative Social Progress

For ascertaining the progress of Scheduled Caste and Scheduled Tribe

communities this indicator has been developed. The indicator is composed of literacy rate of SC/ST, work participation rate (WPR) of male SC/ST, WPR of female SC/ST and benefits of employment from the government sponsored wage employment programme (this is measured in terms of employment generation for SC/ST vis-a-vis total employment generation). On individual indicator the districts are ranked. From tables 33 to 35 the ranking of districts are made with respect to the indicators.

(i) Literacy

Table 33 : Scheduled Castes and Scheduled Tribes Literacy Rate (1991 Census)

Sl. No.	District	Percentage	Rank
1.	Burdwan	27.93	10
2.	Birbhum	20.09	18
3.	Bankura	23.04	17
4.	Midnapore	39.88	3
5.	Howrah	36.63	5
6.	Hooghly	31.66	9
7.	24 Parganas (N)	42.24	2
8.	24 Parganas (S)	39.76	4
9.	Calcutta	49.66	1
10.	Nadia	35.95	6
11.	Murshidabad	25.12	12
12.	Uttar Dinajpur	23.55	15
13.	Dakshin Dinajpur	23.54	14
14.	Malda	23.26	16
15.	Jalpaiguri	27.81	11
16.	Darjeeling	35.44	7
17.	Coochbehar	33.23	8
18.	Purulia	23.72	13

Source : Primary Census Abstract Scheduled Castes & Scheduled Tribes, series 26.
Part II-B (ii), West Bengal., 1991 Census.

Table 33 is developed on the basis of the figures available from 1991 census volume for SC/ST. As in the case of general population, here also the literacy rate among SC/ST is the highest in Calcutta. In calculating the literacy rate, the scheduled casts and scheduled tribe population are pooled together.

(ii) *Work Participation Rate*

The Work Participation Rate of SC/ST male and female (Table 34) is calculated by using the formula :

$$\text{WPR (male)} = \frac{\text{Total main worker (Male)}}{\text{Total male population}} \times 100$$

In Calcutta, WPR for both male and female are less than the districts – because in rural areas SC/ST persons participate in work in increasing manner. According to census terminology (1991), a person is categorized as worker when he or she has participated in any economically productive activity at any time during the reference period (last one year).

Table 34 : Work Participation Rate : Male and Female of SC/ST population (1991 Census)

Sl. No.	District	Male		Female	
		WPR (in percentage)	Rank	WPR (in percentage)	Rank
1.	Burdwan	50.19	15	17.04	8
2.	Birbhum	53.71	5	16.82	10
3.	Bankura	52.67	7	26.59	1
4.	Midnapore	51.08	11	20.77	4
5.	Howrah	50.32	14	4.08	17
6.	Hooghly	52.31	8	16.98	9
7.	24 Parganas (N)	50.40	13	6.33	15
8.	24 Parganas (S)	48.60	17	3.51	16
9.	Calcutta	52.16	9	8.57	13
10.	Nadia	51.16	10	6.33	15
11.	Murshidabad	53.05	6	10.21	12
12.	Uttar Dinajpur	56.50	1	17.23	7
13.	Dakshin Dinajpur	56.49	2	17.31	6
14.	Malda	54.01	4	18.92	5
15.	Jalpaiguri	50.05	15	14.23	11
16.	Darjeeling	49.00	16	21.45	3
17.	Coochbehar	54.28	3	6.82	14
18.	Purulia	50.55	12	26.41	2

(iii) *Participation in Wage Employment Programme*

The participation of SC/ST in wage employment programmes sponsored by the government is assessed through their share in total employment generation under the programmes. The ranking of the districts are made on the basis of the share of SC/ST as in 1998 -1999.

Table 35 : Employment Generation under JRY and EAS : Share of SC/ST : 1998-1999

Sl. No.	District	JRY		EAS	
		Share (in percentage)	Rank	Share (in percentage)	Rank
1.	Burdwan	66.36	3	70.30	1
2.	Birbhum	45.64	11	44.84	11
3.	Bankura	56.87	8	55.01	8
4.	Midnapore	23.60	17	23.44	17
5.	Howrah	31.74	14	33.68	16
6.	Hooghly	63.54	4	59.37	6
7.	24 Parganas (N)	38.01	12	40.00	13
8.	24 Parganas (S)	25.86	15	43.37	12
9.	Nadia	46.18	10	33.69	15
10.	Murshidabad	24.18	16	37.85	14
11.	Uttar Dinajpur	56.50	9	48.77	9
12.	Dakshin Dinajpur	59.10	7	62.41	4
13.	Malda	36.75	13	45.96	10
14.	Jalpaiguri	59.99	6	62.18	5
15.	Darjeeling	60.84	5	57.00	7
16.	Coochbehar	66.76	1	69.18	2
17.	Purulia	66.63	2	67.03	3

Source : *Panchayat and Rural Development, Govt. of West Bengal.*

Chapter 4

In search of a combined indicator

In the last two chapters, we have analysed the nature of development in the districts of West Bengal by a number of criteria or indices. Separately as well as jointly, these indicators denote different dimensions of progress in the districts as well as the extent of endemic deprivations that persist for the population of these districts. Aggregation of all these dimensions is not easy on three counts. First, any aggregation rule is bound to be arbitrary and may be contested on one ground or the other. Second, there are positive dimensions as well as negative dimensions, and they do not necessarily cancel out in the aggregate, because some of the dimensions are inherently qualitative in nature and cannot or should not be mixed up with purely quantitative dimensions in a simple straightjacket fashion. Third, more than one indicator portrays some of the dimensions of deprivation and development, and among the indicators there are also overlaps and correlations. Some of these correlations are also important by their own right in a macro perspective, so that it is difficult to include or exclude indicators on the basis of their correlation coefficient alone. One has to pick up the more important indicators such that major aspects of development and deprivations in the districts are indeed captured in the aggregate composite index. There is also the question of the choice of weights, which are appropriate in a given situation, and the test of decomposition that a good aggregative index must satisfy. While these issues are important

subjects of analytical research in applied development economics, for practical purpose, the combined indicator must also be simple and comprehensible to the practitioners of development administration, so that the various developmental schemes could be effectively implemented and targeted to the designated beneficiaries.

The UNDP has suggested the use of Human Development Index (HDI) to capture the broad pattern of development in a region, which cannot be comprehended, by the use of income criterion alone. The UNDP has also suggested the use of two separate indices, namely GDI and GEM to comprehend the extent of gender discrimination and the empowerment of women in a given society. In this study, we restrain from calculating Gender Related Development Index (GDI) and Gender Empowerment Measure (GEM) for the districts of West Bengal for the simple reasons that measures undertaken in the state to uplift the status of women in society and to give them adequate representation in the different decision making bodies of the administrative machinery are relatively recent and their impacts remain still very meager and marginal, so that such indices, if constructed for the districts, would give only some idea of inter-district variations in these dimensions, rather than a comprehensive state of development for the women in our society. We therefore present below the districtwise HDI for the state of West Bengal.

The UNDP, in its attempt to construct the human development index has considered three major dimensions of human development: (a) long and healthy life, as measured by life expectancy at birth; (b) knowledge, as measured by the adult literacy rate (with two third weight) and the gross enrolment in primary, secondary and tertiary stage (with one third weight), and (c) a decent standard of living as measured by GDP per capita.

In this study, an attempt is made to build up Human Development Index for each district of the State on the basis of data available. For example, as disaggregated district level data on life expectancy at birth is not available, Infant Survival Rate for each district is calculated as 100 minus the Infant Mortality Rate as given in the census 1991 and the Infant Survival Index is calculated on the basis of Dimension Index Formula developed by UNDP. The formula is

$$\text{Dimension Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

Similarly, in the absence of district level gross enrolment ratio, attendance of children of 6-14 years of age group in schools are taken as proxy. The Education Index is developed on the basis of the following formula :

$$\text{Education Index} = \frac{2}{3} (\text{Total Literacy Index}) + \frac{1}{3} (\text{Gross Enrolment Index}),$$

where both the Total Literacy Index and Gross Enrolment Index are calculated as per the Dimension Index referred to above.

Again, instead of GDP index here DDP index is developed, using the formula mentioned in section 3.1.1 above.

On the basis of Infant Survival Index, Education Index and DDP Index, Human Development Index for each district is developed by simple average of these three dimension indices. The formula is

$$\text{HDI} = \frac{1}{3} (\text{Infant Survival Index}) + \frac{1}{3} (\text{Education Index}) + \frac{1}{3} (\text{DDP Index})$$

There may be some errors in our estimate of HDI due to the non-availability of data for the uniform years. For example, in developing Education Index, total literacy rate in the year 2001 is taken and school attendance by children of 6-14 years of age are taken up for the year 1991 due to non availability of data. In calculating HDI, the DDP index for the latest year (1995-96) is taken up. This is however an integral part of the imperfect data system that we have.

The Human Development Index thus calculated for the districts is given in the Table 36.

Table 36 : Districtwise Human Development Index of West Bengal

District	Education Index	Infant Survival Index	DDP Index	HDI	Rank
Burdwan	0.665	0.528	0.585	0.593	4
Birbhum	0.361	0.157	0.317	0.278	13
Bankura	0.472	0.500	0.463	0.479	7
Midnapore	0.797	0.357	0.439	0.531	6
Howrah	0.815	0.757	0.463	0.678	3
Hooghly	0.787	0.728	0.731	0.749	2
24pgs(N)	0.824	0.300	0.292	0.472	8
24pgs(S)	0.562	0.314	0.097	0.325	12
Calcutta	1.000	1.000	1.000	1.000	1
Nadia	0.508	0.257	0.219	0.328	11
Murshidabad	0.149	0.300	0.243	0.231	16
Uttar Dinajpur	0.016	0.128	0.000	0.048	18
Dakshin Dinajpur	0.339	0.128	0.243	0.237	15
Malda	0.042	0.028	0.097	0.056	17
Jalpaiguri	0.461	0.271	0.341	0.358	9
Darjeeling	0.696	0.571	0.439	0.569	5
Coochbehar	0.453	0.000	0.268	0.240	14
Purulia	0.248	0.614	0.146	0.336	10

The use of HDI as the sole comprehensive index of economic and social development in the districts of West Bengal has the following limitations. First, the districts of a State are likely to map a more similar pattern of growth than the States within a country, and therefore comparing the HDIs only among the districts does not convey much. Secondly, by construction, the HDI concentrates on only three dimensions of development and deprivation, whereas our analysis in Chapter 3 above has used several indicators in different dimensions to capture the nature and extent of development in the districts of West Bengal and therefore it is not prudent to ignore the implications of all such

indicators and concentrate on the three components of HDI alone. The canvas of development and deprivation in the districts of West Bengal would remain grossly incomplete if we choose to ignore the implications of several other dimensions that the HDI ignores. Also, it would be naive to extend the framework of HDI in a mechanical manner in order to capture the other dimensions of development in the districts. For this reason, in our search for an average and yet comprehensive indicator of district development in the state of West Bengal, we prefer to use an alternative methodology, which is simple and all encompassing at the same time. This is presented below.

Let R_{ij} be the rank of the j^{th} observation by the i^{th} attribute, e.g. ranking of district Midnapore by district domestic product or by literacy rate. Then, define S_j

$S_j = \sum R_{ij}$ as the score of the j^{th} observation taking the ranks by all such relevant attributes.

Ranking the j^{th} observation by its score would give us a comprehensive relative picture of the j^{th} observation in the sample. One may use total such score as the basis of comparison or the average score defined over

$N = \sum i$ i.e. $\bar{S}_j = S_j / \sum_1^n i$. The higher

number indicates lower rank and lower number indicates higher rank. The use of score as an index would be appropriate if one is interested in overall assessment, which is based on heterogeneous judgment (Sen, Amartya : 1980). A state/district/block, which ranks high in

terms of educational attainments, may be vitiated by the prevalence of disease or absence of health care provisions or due to the backwardness of infrastructure. A comprehensive score as the basis of ranking tries to capture the summary picture. It is advisable to normalize such scores over the number of attributes, because, we are interested in assessing the average development performance of the district, which is contributed by several factors. This will also help us to moderate the influence of extreme backwardness score on the overall score if the district in general shows good performance in terms of a number of indicators.

In this backdrop, ranking of 18 districts in the state is done. In total there are 19 attributes for the districts having rural component. For Calcutta there are 12 attributes. The attributes are given in the table below :

List of attributes

Sl.	Abbreviation	Attributes	Sl.	Abbreviation	Attributes
1.	Pci	Percapita income	10.	Roadconn	Pacca Road Connectivity
2.	I'gprod	Rate of growth of food grains productivity	11.	Surfroad	Surfaced road per 100 sq. kilometer of area
3.	Agwr	Rate of growth of agricultural wage rate	12.	Unsurfroad	Unsurfaced road per 100 sq. kilometer of area
4.	Fundeasjry	Utilisation of fund in FAS and JRY	13.	Agcredit	Per hectare availability of agricultural credit
5.	Hpi	Human Poverty Index	14.	Toilet	Access to toilet
6.	Agworker	Share of Agricultural worker in Total worker	15.	Bcd	Bed per ten thousand of population
7.	Factemp	Per unit employment in registered factories	16.	IMR	Infant Mortality Rate
8.	SSIemp	Per unit employment in SSI unit	17.	Uwbabies	Percentage of under weight babies
9.	Unindex	Unemployment index	18.	Eduindex	Education Index
			19.	College	Number of colleges

The overall ranking shows that Calcutta is at the top of all the districts, followed by Hooghly and North 24 Parganas. The average index score in this exercise comes out to be 8.624. As many as 9 districts have index score below this average score i.e. they are more developed in comparison to the other

districts. Except Darjeeling and Jalpaiguri all other North Bengal districts are above the average score i.e. they are less developed. The result is given in Table A.

According to the ranking exercise made in Table A the following result emerges :

Rank	District	Rank	District
1.	Calcutta	10.	24 Parganas (South)
2.	Hooghly	11.	Bankura
3.	24 Parganas (North)	12.	Murshidabad
4.	Midnapore	13.	Birbhum
5.	Burdwan	14.	Dakshin Dinajpur
6.	Howrah	15.	Malda
7.	Darjeeling	16.	Cooch Behar
8.	Jalpaiguri	17.	Purulia
9.	Nadia	18.	Uttar Dinajpur

After this exercise, by replacing Human Poverty Index (HPI), rank value on the basis of Capability Poverty Measures (CPM) is taken and the districts are

ranked again. The result shows that the first two districts and the last four districts remain unchanged. The ranking of the districts are given below:

Rank	District	Rank	District
1.	Calcutta	9.	24 Parganas (South)
2.	Hooghly	10.	Bankura, Dakshin Dinajpur
3.	Midnapore	11.	Birbhum
4.	24 Parganas (North)	12.	Murshidabad
5.	Burdwan, Darjeeling	13.	Malda, Cooch Behar
6.	Howrah	14.	Purulia
7.	Nadia	15.	Uttar Dinajpur
8.	Jalpaiguri		

An attempt is also made for ranking of the districts (except Calcutta) on the basis of eight sub groups. The sub groups are growth, agriculture, industry, economic infrastructure, relative social progress (ranking of districts on the basis of the position of scheduled caste and scheduled tribes), rural water supply

and sanitation, health and education. In tables B to J the results are given. This sub group index helps to understand the weak areas in the development of a district. In the box below, the first and the last district are given in respect of each subgroup.

Group	Sub Group	District
Growth	Hooghly	24 Parganas (South)
Agriculture	Bankura	Howrah
Industry	Hooghly	Bankura
Economic Infrastructure	Hooghly	Uttar Dinajpur
Relative Social Progress	Cooch Behar	Howrah
Rural Water Supply and Sanitation	Hooghly	Midnapore
Health	Darjeeling	Malda
Education	24 Parganas (North)	Purulia

A summary table showing ranking of districts in each sub group is also provided. This table will help to identify the strength and weakness of a district.

Summary Table of Sub Group Ranking

No.	District	Growth	Agriculture	Industry	Economic Infra-structure	Relative social progress	Rural and Sanitation	Health	Education
1.	Burdwan	3	5	5	3	5	7	7	7
2.	Birbhum	6	4	6	4	10	6	6	10
3.	Bankura	2	1	13	11	7	9	5	13
4.	Midnapore	4	2	3	9	9	14	10	4
5.	Howrah	4	11	4	5	14	4	2	3
6.	Hooghly	1	7	1	1	4	1	3	2
7.	24 Parganas (N)	6	9	4	2	10	5	11	1
8.	24 Parganas (S)	12	6	2	6	13	13	13	6
9.	Nadia	7	7	5	7	11	5	4	5
10.	Murshidabad	6	3	8	8	12	11	10	9
11.	Uttar Dinajpur	11	6	9	16	7	3	14	14
12.	Dakshin Dinajpur	9	4	9	15	3	2	12	11
13.	Malda	8	5	10	10	8	12	15	12
14.	Jalpaiguri	5	8	11	12	8	9	9	9
15.	Darjeeling	9	7	7	8	6	10	1	8
16.	Coochbehar	7	10	12	13	1	8	13	10
17.	Purulia	10	5	5	14	2	10	8	15

Table A

Sl. No.	District	Per (1)	Exprod (2)	Agwr (3)	Fundless (4)	Hpl (5)	Ag-worler (6)	Fact emp (7)	SSlcmg (8)	Unindn (9)	Revdcom (10)	Suffron (11)	Unsurvnc (12)
1.	Burdwan	3	10	16	3	6	13	3	11	11	11	7	7
2.	Birbhum	9	6	1	9	12	17	12	4	7	14	3	3
3.	Bankura	5	3	10	5	9	14	15	14	4	13	14	5
4.	Midnapore	6	4	9	4	5	6	4	8	3	16	11	8
5.	Howrah	4	16	11	15	3	3	8	5	16	2	2	4
6.	Hooghly	2	12	15	8	2	9	1	1	12	7	1	15
7.	24 Parganas (N)	10	9	12	14	4	5	6	7	17	1	4	6
8.	24 Parganas (S)	17	11	14	17	10	12	6	2	13	4	4	6
9.	Kolkata	1	0	0	0	1	1	16	3	15	0	0	0
10.	Nadia	14	5	4	16	8	10	7	7	14	5	6	9
11.	Murshidabad	12	2	3	12	16	11	2	16	9	10	9	10
12.	Uttar Dinajpur	18	1	2	13	18	16	10	12	5	12	15	2
13.	Dakshin Dinajpur	13	1	2	7	15	16	10	12	5	12	15	2
14.	Malda	16	15	6	2	17	15	13	10	2	6	8	4
15.	Jalpaiguri	8	8	5	10	11	4	15	15	6	3	10	1
16.	Darjeeling	7	7	13	11	7	2	6	6	8	8	5	13
17.	Coochbehar	11	14	7	1	13	8	13	13	10	9	12	11
18.	Purulia	15	13	8	6	14	7	9	9	1	15	13	12

Sl. No.	Agreemnt (13)	Teile (14)	Bad (15)	Inr (16)	Dybabies (17)	Enlinder (18)	Chllnge (19)	Total Score (20)	Inde (21)	Rank (22)
1.	3	7	10	6	6	7	5	145	7.631	5
2.	15	14	5	10	17	13	12	183	9.631	13
3.	4	17	4	6	15	10	10	177	9.315	11
4.	2	15	12	7	16	4	3	143	7.526	4
5.	7	3	11	2	8	3	7	150	7.894	6
6.	1	4	7	3	10	5	6	121	6.368	2
7.	5	2	15	8	7	2	2	136	7.157	3
8.	10	9	16	8	4	8	4	175	9.210	10
9.	0	1	1	1	9	1	1	51	4.250	1
10.	8	6	3	9	11	9	9	160	8.421	9
11.	11	12	8	8	4	16	8	179	9.421	12
12.	14	11	17	10	1	18	14	209	11.00	18
13.	9	11	13	10	5	14	15	187	9.842	14
14.	12	13	14	11	3	17	13	197	10.368	15
15.	6	8	9	9	2	11	11	152	8.000	8
16.	17	5	2	5	12	6	10	150	7.895	7
17.	13	10	6	11	13	12	12	199	10.473	16
18.	16	16	7	4	14	15	12	206	10.842	17

Table B

Sub Group : Growth

Sl. No.	District	Per Capita DDP	Share of Mfg. in DDP	Share of Agri. in DDP	Total Score	Index	Rank
1.	Burdwan	2	4	12	18	6.0	3
2.	Birbhum	8	15	4	27	9.0	6
3.	Bankura	4	12	1	17	5.66	2
4.	Midnapore	5	6	10	21	7.00	4
5.	Howrah	3	1	17	21	7.00	4
6.	Hooghly	1	3	6	10	3.33	1
7.	24 Parganas (N)	9	2	16	27	9.00	6
8.	24 Parganas (S)	16	9	15	40	13.33	12
9.	Nadia	13	11	5	29	9.67	7
10.	Murshidabad	11	5	11	27	9.00	6
11.	Uttar Dinajpur	17	16	3	36	12.00	11
12.	Dakshin Dinajpur	12	14	7	33	11.00	9
13.	Malda	15	8	8	31	10.33	8
14.	Jalpaiguri	7	10	9	26	8.67	5
15.	Darjeeling	6	13	14	33	11.00	9
16.	Coochbehar	10	17	2	29	9.67	7
17.	Purulia	14	7	13	34	11.33	10

Table C

Sub Group : Agriculture

Sl. No.	District	Productivity	Consumption	Score	Index	Rank
1.	Burdwan	2	13	15	7.50	5
2.	Birbhum	3	10	13	6.50	4
3.	Bankura	4	2	6	3.00	1
4.	Midnapore	1	7	8	4.00	2
5.	Howrah	12	16	28	14.00	11
6.	Hooghly	5	15	20	10.00	7
7.	24 Parganas (N)	9	14	23	11.50	9
8.	24 Parganas (S)	15	4	19	9.50	6
9.	Nadia	8	12	20	10.00	7
10.	Murshidabad	6	6	12	6.00	3
11.	Uttar Dinajpur	13	3	16	8.00	6
12.	Dakshin Dinajpur	10	3	13	6.50	4
13.	Malda	7	8	15	7.50	5
14.	Jalpaiguri	17	5	22	11.00	8
15.	Darjeeling	11	9	20	10.00	7
16.	Coochbehar	16	11	27	13.50	10
17.	Purulia	14	1	15	7.50	5

Table D

Sub Group : Industry

No.	District	Per unit employment in Registered Factories	Per unit employment Small Scale Industries	Total Score	Index	Rank
1.	Burdwan	3	11	14	7.00	5
2.	Birbhum	12	4	16	8.00	6
3.	Bankura	15	14	29	14.5	13
4.	Midnapore	4	8	12	6.00	3
5.	Howrah	8	5	13	6.5	4
6.	Hooghly	1	1	2	1.0	1
7.	24 Parganas (N) *	6	7	13	6.5	4
8.	24 Parganas (S)	6	2	8	4.00	2
9.	Nadia	7	7	14	7.0	5
10.	Murshidabad	2	16	18	9.0	8
11.	Uttar Dinajpur *	10	12	22	11.00	9
12.	Dakshin Dinajpur	10	12	22	11.00	9
13.	Malda	13	10	23	11.5	10
14.	Jalpaiguri	9	15	24	12.00	11
15.	Darjeeling	11	6	17	8.5	7
16.	Coochbehar	14	13	27	13.5	12
17.	Purulia	5	9	14	7.00	5

Table E

Sub Group : Economic Infrastructure

	Connectivity	Total Surfaced Road	Total Un surfaced Road	No. of Commercial Bank Branches Per one Lakh Population	Electricity Coverage	Irrigation Coverage	Total Score	Index	Rank
Burdwan	11	4	8	4	7	1	35	5.83	3
Birbhum	14	5	13	2	2	2	38	6.33	4
Bankura	13	8	10	3	14	7	55	9.17	11
Midnapore	16	3	2	6	16	8	51	8.50	9
Howrah	2	13	9	5	1	9	39	6.50	5
Hooghly	7	2	1	7	1	9	21	3.50	1
24-Pgs (N)	1	1	4	11	8	4	29	4.83	2
24-Pgs (S)	4	1	4	15	10	13	47	7.83	6
Nadia	5	10	11	13	4	6	49	8.17	7
Murshidabad	10	7	5	14	9	5	50	8.33	8
Uttar Dinajpur	12	14	14	16	12	11	79	13.17	16
Dakshin Dinajpur	12	14	14	9	13	11	73	12.17	15
Malda	6	11	12	8	6	10	53	8.83	10
Jalpaiguri	3	6	15	12	5	16	57	9.50	12
Darjeeling	8	12	6	1	11	12	50	8.33	8
Coochbehar	9	15	7	10	3	14	58	9.67	13
Purulia	15	9	3	9	15	15	66	11.00	14

Table F**Sub Group : Relative Social Progress**

No.	District	Rate	Male	Female	Generation In JRY	Generation in EAS	Score	Index	Rank
1.	Burdwan	10	15	8	3	1	37	7.4	5
2.	Birbhum	18	5	10	11	11	55	11	10
3.	Bankura	17	7	1	8	8	41	8.20	7
4.	Midnapore	3	11	4	17	17	52	10.40	9
5.	Howrah	5	14	17	14	16	66	13.20	14
6.	Hooghly	9	8	9	4	6	36	7.20	4
7.	24 Parganas (N)	2	13	15	12	13	55	11	10
8.	24 Parganas (S)	4	17	16	15	12	64	12.8	13
9.	Nadia	6	10	15	10	15	56	11.20	11
10.	Murshidabad	12	6	12	16	14	60	12.0	12
11.	Uttar Dinajpur	15	1	7	9	9	41	8.2	7
12.	Dakshin Dinajpur	14	2	6	7	4	33	6.6	3
13.	Malda	16	4	5	13	1	48	9.6	8
14.	Jalpaiguri	11	15	11	6	5	48	9.6	8
15.	Darjeeling	7	16	3	5	7	38	7.6	6
16.	Coochbehar	8	3	14	1	2	28	5.6	1
17.	Purulia	13	12	2	2	3	32	6.4	2

Table G**Sub Group : Rural Water Supply and Sanitation**

No.	District	Water Facility	No. of Population per spot Source	Coverage of Villages in RWS	Score	Index	Rank
1.	Burdwan	7	11	7	25	8.33	7
2.	Birbhum	14	5	5	24	8.00	6
3.	Bankura	17	4	8	29	9.67	9
4.	Midnapore	15	14	12	41	13.67	14
5.	Howrah	3	10	3	16	5.33	4
6.	Hooghly	4	6	2	12	4.00	1
7.	24 Parganas (N)	2	12	4	18	6.00	5
8.	24 Parganas (S)	9	16	13	38	12.67	13
9.	Nadia	6	7	5	18	6.00	5
10.	Murshidabad	12	9	11	32	10.67	11
11.	Uttar Dinajpur	11	3	1	15	5.00	3
12.	Dakshin Dinajpur	11	2	1	14	4.67	2
13.	Malda	13	13	10	36	12.00	12
14.	Jalpaiguri	8	15	6	29	9.67	9
15.	Darjeeling	5	17	9	31	10.33	10
16.	Coochbehar	10	8	8	26	8.67	8
17.	Purulia	16	1	14	31	10.33	10

Table H
Sub Group : Health

Sl. No.	Districts	Bed per ten thousand population	Availability of doctors in blocks	Infant Mortality rate (IMR)	Under weight babies	Safe delivery percentage	Index	Rank
1.	Burdwan	10	8	6	6	8	7.6	7
2.	Birbhum	5	3	10	16	3	7.4	6
3.	Bankura	4	6	6	14	5	7.00	5
4.	Midnapore	12	7	7	15	9	10.00	10
5.	Howrah	11	4	2	8	2	5.4	2
6.	Hooghly	7	5	3	9	4	5.6	3
7.	24 Parganas (N)	15	14	8	7	6	10.0	11
8.	24 Parganas (S)	16	15	8	4	10	10.6	13
9.	Nadia	3	10	9	10	1	6.6	4
10.	Murshidabad	8	17	8	4	12	9.8	10
11.	Uttar Dinajpur	17	12	10	1	17	11.4	14
12.	Dakshin Dinajpur	13	13	10	5	11	10.4	12
13.	Malda	14	16	11	3	16	12.0	15
14.	Jalpaiguri	9	11	9	2	13	8.8	9
15.	Darjeeling	2	1	5	11	7	5.2	1
16.	Coochbehar	6	9	11	12	15	10.6	13
17.	Purulia	7	2	4	13	14	8.6	8

Table I
Sub Group : Education

Sl. No.	District	Male literacy rate	Female literacy rate	Per Teacher no. of students in Primary School	Per Teacher no. of students in Jr. / Jr. High School	Per Teacher no. of students in Secondary / H.S. School	No. of Colleges	Index	Rank	
1	Burdwan	7	6	13	2	12	4	44	7.33	7
2	Birbhum	14	12	8	10	7	10	61	10.16	10
3	Bankura	8	13	16	13	11	9	70	11.66	13
4	Midnapore	1	4	7	16	6	2	36	6.00	4
5	Howrah	3	2	14	12	1	6	28	4.66	3
6	Hooghly	4	3	6	6	10	5	34	4.50	2
7	24 Parganas (N)	2	1	3	8	3	1	18	3.00	1
8	24 Parganas (S)	6	8	2	17	4	3	40	6.67	6
9	Nadia	13	7	4	3	2	8	37	6.17	5
10	Murshidabad	15	14	1	14	8	7	59	9.83	9
11	Uttar Dinajpur	16	16	10	4	15	13	74	12.33	14
12	Dakshin Dinajpur	12	10	11	5	9	14	63	10.50	11
13	Malda	17	15	9	9	5	12	67	11.16	12
14	Jalpaiguri	11	11	12	1	14	10	59	9.83	9
15	Darjeeling	5	5	15	7	13	9	54	9.00	8
16	Coochbehar	9	9	5	11	16	11	61	10.16	10
17	Purulia	10	17	17	15	13	11	83	13.83	15

Advantage of Rank Scoring

This exercise of using the average rank scores of the districts is useful in many ways. First, the method is very simple and can be communicated with ease to the elected people's representatives so that they can appreciate the status of development of their respective locality even without formal training in index number construction. This will help them and the development administrators to undertake and plan various development programmes more effectively for the districts or the locality concerned. Second, some information used in our combined score can be replaced when more updated information about a component becomes available, so that

the district planning officers/statistical officers can update district scores on a continuous basis if required data are available in the format suggested above. Third, it is possible to replicate this exercise at the block or even at the village level, if the habit of retaining these information at such disaggregate level is formed and maintained with the help of beneficiaries, particularly the educated unemployed youth. Over a foreseeable future, this would provide the micro-foundation of the economic and social database of the West Bengal economy, and similar exercise may be conducted every five years to gauge the comparative scenario of progress or retardation over the years. □

Chapter 5

Concluding observation

In this report, we have tried to portray a comprehensive picture of the nature and extent of development and deprivations in the districts of West Bengal. We have scanned through the information obtained in respect of number of indicators and sometimes have made modifications in the indices used to accommodate the non-availability as well as inaccuracies in the data system which does not necessarily guarantee consistent micro-foundation based aggregates to be used for studying the development patterns in the districts. The revealing and encompassing nature of these variables, rather than their conventional usage have prompted our choice of the indicators used in comprehensive ranking. It has been found during the course of the study that often slight modifications in the data and/or the indices reveal more clearly than they conceal, and this has been the major motivation behind our exercise in making the imperfect data talk about the districts of the State. In this study, we have often indicated the inadequacies or inaccuracies of some data and emphasised the need for their preservation, so that they become useful not only to the researchers, but also to the policy makers and development administrators.

The methodology adopted in this report has been to keep the analytical framework relatively simple and straightforward so that the sub-group as well as the combined indices are easily comprehensible. The flexibility of the

method is that if data on any of the component (s) are available in an updated form, the combined score could be easily revised, and a disaggregate database for these variables can be created for the block or the village levels. If serious attention is paid on this suggestion, then data system in the state is likely to be improved considerably over the next few years. A periodic comparison of the disaggregated and aggregative figures would also indicate our success or otherwise in actually benefiting the people living in different districts of the state.

Following this ranking method, on the basis of the available statistics a block can rank all gram panchayats under its jurisdiction and district authority can rank all the blocks in the districts. There from the block development index and district development index can be calculated through simple average. In course of allocating fund on different schemes the ranking of the gram panchayats and blocks may be taken into consideration by the respective authorities. For example if an amount of fund F is to be sub allotted within the districts for a particular development aspect (say pacca road connectivity) then a formula may be developed for fixing the allotment of a particular district

from the fund. The formula is

$$F_i = F \frac{R_i}{\sum R_i} \quad , \quad \text{where } F = \sum_{i=1}^{18} F_i$$

and R_i indicates the rank value of a district in respect of an attribute. This

sort of allotment process will help to achieve a balance in respect of fund availability because a district with lower rank value means higher development and more funds for the less developed district can be allocated. This is a pointer towards the policy implication of the present study. Similarly, if a given size of development fund in a district is to be allocated among activities we can use the relative weight of that particular attribute to the total score of the district. This method of fund allotment implies allotment of funds on the basis of backwardness i.e. funds for a district with higher rank value. In the fund allotment process, fund utilisation by the implementing agencies also may be considered for giving weightage to the efficiency of the implementing agencies.

A final word about the development perspective that comes out from the report. Although there have been a

general perception that instead of top to bottom 'trickle down' approach, one should adopt a more decentralized and 'development from below' approach. All are not well in the districts, and our hunch is that more we go downwards in the layers of administrative units; more alarming nature of deprivations may become transparent. Somewhere there has been some mismatch between our perceptions of development and their actual realizations. Some of the essential ingredients of decent and civilised living are still lacking in this State, although by many criteria the performance of some districts appear good and healthy. There is indeed the urgent need for serious introspection by all concerned in this matter, and the present report, we hope, provides some essential inputs for such introspection and delineation of the contours of public action for true development and progress for a better humane West Bengal. □

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